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Assessing the potential use of Financial Instruments in Cyprus

A study in support of the *ex-ante* assessment for the potential future use of Financial Instruments for SMEs, ICT, and the Low-Carbon Economy in Cyprus

Final Report

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List of Acronyms

AAL	Ambient Assisted Living
BA	Business Angels
BB	Broadband
CDR	Commission Delegated Regulation
CP	Cohesion Policy
CPI	Consumer Price Index
CPR	Common Provision Regulation
CRM	Customer Relationship Management
CSF	Common Strategic Framework
CYPEF	Cyprus Entrepreneurship Fund
DEC	Department of Electronic Communications
DECI	Digital Economy and Society Index
DG EPCD	Directorate General for European Programmes, Coordination and Development
EaSI	European Commission's Programme for Employment and Social Innovation
EBA	European Banking Authority
EC	European Commission
EE	Energy Efficiency
EFSI	European Fund for Strategic Investments
EIB	European Investment Bank
EIF	European Investment Fund
ELA	Emergency Liquidity Assistance
EPMF	European Progress Microfinance Facility
ERDF	European Regional Development Fund
ESCO	Energy Service Company or Energy Savings Company
ESF	European Social Fund
ESIF	European Structural and Investment Funds

ESM	European Stability Mechanism
FA	Funding Agreement
FI	Financial Instrument
FoF	Fund-of-Funds
FTTH	Fibre To The Home
GBER	General Block Exemption Regulation
GGE	Gross Grant Equivalent
HF	Holding Fund
ICT	Information and Communication Technologies
IFI	International Financial Institution
IMF	International Monetary Fund
IPE	Investment Plan for Europe
ISPs	Internet Service Providers
MA	Managing Authority
MECIT	Ministry of Energy, Commerce, Industry and Tourism
NGN	Next Generation Networks
NPB	National Promotional Bank
NPLs	Non-Performing Loans
OP	Operational Programme
PA	Partnership Agreement
PE	Private Equity
PF4EE	Private Finance for Energy Efficiency
RDI	Research, Development and Innovation
RE	Renewable Energy
RPPI	Residential Property Price Index
SBA	Small Business Act
SF	Structural Funds
SMEs	Small and Medium-sized Enterprises

TA	Technical Assistance
TFEU	Treaty on the Functioning of the European Union
TO	Thematic Objectives
VC	Venture Capital Funds

Progress achieved to date

Date	Key Activities	Comments
06/12/2016	Kick-off Meeting	Meeting held
16/12/2016	Inception Presentation	Delivered
28/02/2017	Interviews	Completed
03/03/2017	Online survey	Completed
28/04/2017	Draft Interim Report	Submitted
30/05/2017	Interim Report	Submitted
16/06/2017	Draft Final Report	Submitted
21/07/2017	Final Report	Submitted

Executive summary

Context and objective of the study

This report has been prepared as part of the "Ex-ante study to assess the potential future use of Financial Instruments (FIs) for Small and Medium Enterprises (SMEs), Information and Communication Technologies (ICT), and the low-carbon economy in Cyprus".

The aim of this ex-ante assessment is to provide the Directorate General for European Programmes, Coordination and Development (DG EPCD) with evidence-based analysis and guidance to support the use of FIs within the Operational Programme (OP) "Competitiveness and Sustainable Development" over the 2014-2020 programming period in Cyprus. The methodology used in the analysis follows the guidelines of the ex-ante assessment methodology published by the EC, as defined in article 37 (2) of the Common Provision Regulation (CPR).

The objective of this report is to identify existing market failures and suboptimal investment situations, and to estimate the financing gaps, for the following investment areas:

- SMEs, including those involved in the tourism sector, as well as start-ups, in particular for women and youth entrepreneurship and for Research, Development and Innovation (RDI).
- Energy efficiency, smart energy management and renewable energy, for the public and private sector, including SMEs.
- ICT products, services, e-commerce and broadband.

Building upon these findings, this report proposes an investment strategy, which includes targeted financial instruments and governance options.

SMEs access to finance

The Cypriot SMEs generate 72% of the value added of the national economy and employ 83% of the workforce in the non-financial sector. 66,900 SMEs exist in Cyprus, corresponding to 99.9% of the total companies. The vast majority of SMEs (94%) are microenterprises, the remaining are small (5%) and medium-size (1%) enterprises. 60% of the workforce employed by SMEs is active in only five sectors. The wholesale and retail trade employs the highest share of the workforce (24%), followed by the construction sector (11%), the professional scientific and technical activities (10%) and the accommodation and food services and manufacturing (8% each).

Financing gaps

Loans

Loans are the predominant source of financing of SMEs. In the aftermath of the 2011-2015 financial crisis, the traditional system of collateral used to secure the loans, based on personal guarantees, broke down. Due to stricter collateral requirements, SMEs faced reduced access to finance. Following the crisis, lending to SMEs is recovering, but remains below pre-crisis levels. The loan disbursement rate is following a positive trend, however the volume of loans disbursed remains below pre-crisis levels. The desk research showed that banks disburse to greatest extent long-term loans, followed by short-term and medium-term loans. The survey results showed that SMEs prefer medium- and long term over short-term debt. More specifically, substantial financing gaps were identified for micro and small enterprises, particularly for medium-and long term loans; smaller gaps were identified for short-term loans as well.

The viable annual financing gap identified for **micro enterprises**, is strongest for long-term loans (EUR 85 - 135m), over short-term loans (EUR 50 - 65m). This gap is motivated mostly by the collateral requirements set by the commercial banks, which are a major hurdle for SMEs access to finance. This concerns long-term loans in particular, but it affects to a minor extent also the market for short-term loans. The study has confirmed that micro enterprises face systemic challenges accessing finance in Cyprus, mostly due to the lack of dedicated financial products and the requirements set by the banks to access credit. This situation has worsened in the aftermath of the financial crisis as the traditional system of personal guarantees has broken down. The credits offered by commercial banks are not tailored to micro enterprises, which have little knowledge or visibility of the types of microproducts that exist outside Cyprus and which could potentially meet their financing needs.

For **small-size enterprises**, the viable annual financing gap amounts to EUR 115 - 175m, including EUR 50 - 95m for long term loans and EUR 65 - 80m for short-term loans. Small enterprises face substantial barriers in access to finance, including due to collateral constraints. Where credit is available, many firms are less likely to make use of it due to unattractive terms and conditions.

No viable annual financing gap was identified for **medium-size enterprises**, neither for short, nor for long-term loans. Medium size enterprises are a market segment comprising only a few hundred firms. Thus, the survey results, despite having a disproportionately high number of respondents from this group, could not be considered as a robust estimate of demand for finance. However, the available data indicates that medium size enterprises do not face systemic issues in accessing finance. This was also corroborated during the interviews. Since no annual financing gap could be identified for these enterprises, no FI has been defined for medium size enterprises.

Equity

The recent financial crisis has also created greater need for equity finance. First, for businesses with little collateral, equity can be a valuable alternative to traditional bank lending. Second, the economic downturn has created conditions for a fledgling start-up culture, but it needs capital, coaching, and the right conditions to grow. So demand for equity is growing, as reflected by the survey results, which indicate a viable demand of EUR 30 - 35m. The general lack of experience and common scepticism on equity means there could be additional hidden demand.

Unfortunately, the supply of financing is underdeveloped in Cyprus. There are Private Equity, Venture Capital and one Business Angel networks in place in Cyprus, but their investment size remains limited. Although there are some established equity finance providers operating in Cyprus, there was not sufficient information available to estimate the total supply. Hence, the supply could be estimated at less than ten million annually, i.e. a fraction of the demand identified.

Microfinance

Microfinance supply is currently not available in Cyprus, due to the lack of a clear regulatory framework. There is currently no legal or regulatory framework on microfinance and none is forthcoming. The non-existence of any supply implies a very low awareness of microfinance and equity products on the demand side. The lack of any framework for microfinance limits the ability of this financing opportunity to be utilised.

The estimated demand for short term financing in Cypriot micro enterprises indicates that the lack of a microfinance option is a severe impediment in the development of micro enterprises. The annual financing gap identified for microfinance is of EUR 225 - 270m. Despite the financing gap identified, since no regulatory framework is in place and none is planned, the potential future implementation of a FI for this type of financing cannot be envisaged.

Viable annual financing gaps for SMEs

		Demand (€m)	Supply (€m)	Annual financing Gap (€m)
Micro enterprises	Short-term loans, bank overdrafts and credit lines	95 - 105	40 - 45	50 - 65
	Medium and long-term loans	225 - 250	115 - 140	85 - 135
	Microfinancing (a subset of total micro enterprise demand for finance)	245 - 270	0	245 - 270
Small size enterprises	Short-term loans, bank overdrafts and credit lines	115 - 125	45 - 50	65 - 80
	Medium and long-term loans	205 - 225	130 - 155	50 - 95
Medium size enterprises	Short-term loans, bank overdrafts and credit lines	N/A	140 - 160	0
	Medium and long-term loans	N/A	415 - 495	0
All SMEs	Equity Finance	30 - 35	N/A	N/A

Low-carbon economy

The **energy sector** in Cyprus is almost completely dependent on imported petroleum products. As a result, energy prices are sensitive to variations in oil prices. In addition, the power grid in Cyprus is isolated, which makes it more exposed to fluctuations in the energy supply. In this context, the development of renewable energy sources (RES) could be an important opportunity for energy diversification, to improve the security of supply, lower energy production costs and curb Greenhouse Gas (GHG) emissions. Despite the rapid increase in the recent years, the production of energy from RES in Cyprus is still limited. In 2015, it accounted for 8.5% of final energy consumption. In 2015, the final electricity production was dominated by onshore wind power, which produced 221 GWh. PV's growth continued, reaching a production of 126 GWh. Biogas remained the smallest player, with a generation of 37 GWh. As part of the National Renewable Energy Action Plan (NREAP), the target share of renewable energy sources to be achieved by 2020 has been set at 13%.

Enhancing the energy efficiency of buildings and public infrastructure in Cyprus is crucial to ensure the achievement of the country's Primary Energy Saving targets of 14.5% in 2020. The residential and commercial sector accounts for 37% of total energy consumption. The Cypriot building stock is composed of approximately 441,000 buildings. The vast majority of these buildings (91%) are residential, corresponding to 58% of the total building surface. Of these, 81% are permanently occupied dwellings. Almost 90% of the residential buildings were constructed after 1970. 29% of all buildings were built in the first decade of the 21st century, during the credit and property boom. Only 8% of buildings were built once energy standards for buildings were already in place and the vast majority of these buildings has not undergone a thorough technical renovation. Almost half of the energy used for heating and domestic hot water (DHW) electricity, which is a highly inefficient source of thermal energy, such as air conditioner or electric heating appliances for heating.

Electricity consumption of street lighting makes up 2% of total national electricity consumption in Cyprus. Despite the low influence on the total energy consumption, street lighting corresponds to an annual expense of 5 to 10% of the annual budget of local authorities. In this context, many municipalities in Cyprus have developed strategies to upgrade the street lighting infrastructure.

Financing gaps

For the low-carbon economy, annual financing gaps have been identified for both energy efficiency and renewable energy. The gaps are greatest for energy efficiency, in particular for households and SMEs. The gaps for renewable energy investments are most pronounced for SMEs.

Annual financing gaps for EE and RE

		Demand (€m)	Supply (€m)	Annual financing gap (€m)
Households	Energy efficiency in buildings	7 - 13	1	6 - 12
	Renewable Energy	20	1	19
Public authorities	Energy efficiency in public infrastructure	8 - 18	2	6 - 16
	Renewable Energy	0	0	0
SMEs	Energy efficiency in buildings	11 - 47	2	9 - 45
	Renewable Energy	25	9	21

For households, the gap in energy efficiency investments in buildings is motivated by the strongly limited interest of the financial sector to provide dedicated financial products to finance these investments. The supply of the past years was mostly driven by the grant schemes implemented by the national authorities. The interviews and desk research showed that the demand for financing in both energy efficiency and renewable energy in Cyprus is extremely important. Constituting 91% of the total building stock and 71% of the building surface, renovating residential buildings could substantially boost energy efficiency levels of the Cypriot building stock. Thanks to the net-metering scheme and the low cost of PV installations, there is also a growing demand from households to invest in renewable energy, mainly in small-scale PV.

Energy efficiency investments for residential building renovations are currently facing important financial constraints. On the one hand, the vast majority of financial institutions do not seem to be interested in proactively developing financing products for EE measures. These investments, which are typically financed by banks through commercial loans, are less attractive than commercial investments due to their low profitability and long maturity. Furthermore, the financial sector lacks the knowledge or expertise to assess the potential financial savings achieved through EE measures.

In the past years, following the launch of a dedicated governmental subsidy scheme, the interest in the energy renovation of residential buildings surged. While the programme sparked for the first time large-scale investments in EE in housing, its funds were exhausted within one year, well before its planned end. The results of the quantitative analysis, which have been corroborated through the interviews and the premature closing of the subsidy programme, show that there is still an important potential demand for energy renovation of residential buildings. Due to the scarce availability of financial products, however, these investments are currently mostly financed through personal savings. The information collected as part of the grant scheme showed that only low-income households had to rely on access to credit, in order to finance renovation works. This group has however limited access to finance, since it cannot provide the guarantees required. There is therefore evidence of the importance to further enable dedicated subsidies for this category of households. The quantitative analysis, which was based on desk research and interviews, led to a financing gap ranging between EUR 6 and EUR 12m. This gap is motivated, on one side, by the strongly limited availability of financing from the financial sector, coupled, on the other side, with a demand which is strongly driven by grant instruments.

Renewable energy investments carried out by households concern mainly small-scale PV installations. The surge in investments has been driven by the setup, in 2013, of the "Net Metering Scheme", allowing households to feed the electricity produced back into the grid, while generating financial savings. The low cost of investments in PV installations coupled with high energy prices in Cyprus makes this a profitable investment. For RE investments, there are few dedicated financial products. The banks charge high interest rates and require high guarantees also for small loan amounts.

The demand for financing in RE investments is stimulated by the setup of the "Net Metering Scheme," which makes small scale PV a profitable investment for households. The investment in PV installations is mostly financed through loans. The total investment is comprised between EUR 6,000 and 10,000.

The financing gap, estimated at EUR 19m, is generated because most of the banks disregard investments in small scale PV, mostly due to their low tickets. Hence, the proposed loans have high interest rates and relatively high guarantee requirements compared to the low size of the RE investments.

Public authorities

The interviews and the desk research showed that public authorities do not generally finance directly RE projects, they rather act as facilitators. The demand for financing of public authorities for EE in public buildings is limited, since most of the buildings used by public authorities are privately owned. The potential demand for financing for EE investment in public lighting is more

important, since these investments are carried out directly by the public authorities. Based on the estimated supply and demand for finance, the gap identified for public authorities in EE amounts to EUR 6 to 16m. This gap is due to the amplitude of the investment needed to upgrade the public infrastructure under their management and the precarious financial situation of public authorities.

SMEs

For SMEs, in particular micro and small SMEs, facing significant difficulties in access to credit, EE investments are of secondary importance compared to financing the operational expenses and income-generating investments. The gap of financing for EE investments ranges between EUR 9 and 45m. This gap is due to the lack of interest of the banks to provide loans with long maturities, for volumes that are well below those of mortgages. The gap varies among sectors. Demand for financing is highest for SMEs with high operational costs due to the use of buildings, such as hotels and retail buildings.

The financing gap in RE investments amounts to EUR 21m. RE investments could allow SMEs to have alternative sources of income and achieve financial savings. These investments concern both small scale installations covering the operational power needs of the SMEs, as well as investments in large scale installations. A limited number of dedicated loans exist for these enterprises.

ICT and broadband

The **ICT sector** contributed around 5% to Cyprus' GDP in 2014. The interviews conducted provided evidence that the financing constraints faced by these firms were in line with those faced by the SME population at large. Despite efforts made for the promotion of e-commerce in Cyprus by the Ministry of Energy, Commerce, and Tourism, performance remains well below the EU-28 average. In 2015, only 32% of internet users were involved in e-commerce transactions and 13% of the Cypriot SMEs offered e-commerce services. Reasons for the low uptake of e-commerce, on the supply side, are that most products and services offered by SMEs are not suitable for online sales and that introducing the essential mechanisms for conducting web sales involves high costs for the companies. On the demand side, the Cypriot consumers do not have a preference for online shopping.

Hence, there is not an existing market for financing of ICT firms or ICT products and services as such. The number of firms operating in the ICT sector is limited, and those that do face essentially the same financing conditions as other firms. For these reasons, there seems to be no distinctive gap for SMEs operating in the ICT sector, which would justify from a separate analysis from other categories of SMEs. Similarly, investment in ICT products and services is generally treated as any other kind of spending, and thus faces the financing conditions as other investment. As such, no dedicated financing gap was identified for the ICT sector.

Expanding the **broadband services** and high-speed networks in Cyprus is a key objective that Cyprus is pursuing as part of the "Digital Strategy for Cyprus", aiming to achieve access to a high-speed connection of 30 Mbps (high-speed networks) for all households and enterprises and to a connection of 100 Mbps for 50% of households and enterprises by 2020. Currently, 69% in households have a broadband connection and networks capable of providing at least 30 Mbps are available to 84% of Cypriot households.

The interviews provided evidence that demand for financial support exists for broadband, but not for a specialised FI. No significant financing gap was identified in the broadband sector. In interviews, several stakeholders representing broadband providers stated explicitly that they were not interested in public financial support.

Proposed investment strategy

In order to address the financing gaps identified above, and based on the lessons learned in implementing FIs in Cyprus and in other MS, we propose the following investment strategy for the SMEs and ICT sectors, and the low-carbon economy.

Investments strategy for SMEs and ICT

FI 1 – Capped portfolio guarantee

Considering the current problems of limited access to finance of SMEs, a portfolio guarantee can help support these enterprises by covering part of the credit risk of financial intermediaries, thus increasing their risk-taking capacity and the loan amounts disbursed to these borrowers. Moreover, the SMEs targeted could benefit from more advantageous terms for their loans, reducing in particular their needs for individual guarantees or provision of collateral.

For the portfolio guarantee, it would be recommended to use an off-the-shelf product, which should ensure an expedited launch and sound functioning of the FI.. Alternatively, a contribution to the SME Initiative, which is going to be extended to 2020, should be considered

Characteristics of the FI 1 – Capped portfolio guarantee

ESI Funds allocations	Proposed amount of financing through the ERDF: EUR 40m TO 3: Strengthening the Competitiveness of SMEs
Expected leverage effect	3x to 4x
Amounts of financing for the targeted SMEs	Based on the above funds allocation and the potential leverage effect, between EUR 120m and 160m
Objectives	Limit the constraints linked to the access to finance faced by SMEs, for short, medium and long term loans

An alternative to the capped portfolio is an uncapped portfolio guarantee, providing capital relief to the financial intermediaries. It offers the financial intermediary an enhanced credit risk protection as there is no cap on the losses incurred on the portfolio. This could be offered through the SME Initiative, an EU-level FI.

FI 2 - Co-investment facility

This financial instrument aims to support all SMEs, with a focus on start-ups. Support would be provided through an equity and quasi-equity contribution.

This instrument would finance the development phases with an increased risk profile. To ensure that the MA has the maximum possible alignment between the public and the private contribution, this instrument needs to have an obligation to co-invest with private investors. In the Cypriot financial environment, which is still predominantly based on debt instruments, it

could be beneficial to expand the equity instrument also to quasi-equity financing. This option should be further assessed during the market testing which will be carried out with the Cypriot banks.

In this context, the application of the off-the-shelf instrument could be advantageous to ensure a fast launch and a streamlined implementation. Compared to a VC fund, the co-investment mechanism is better suited for less developed equity markets and more compatible for Business Angel investors. It nevertheless requires an active fund management team, preferably located in the country, identifying potential companies to invest in and to mobilise private co-investors. .

Characteristics of the FI2 - Co-investment facility

ESI Funds allocations	Proposed amount of financing through the ERDF: EUR 20m TO 1: Strengthening the research, technological development and innovation TO 3: Strengthening the Competitiveness of SMEs
Expected leverage effect	2x
Amounts of financing for the targeted SMEs	Based on the above funds allocation and the potential leverage effect, EUR 40m
Scope of the FI and target beneficiaries	**Scope of the FI:** Co-investment facility for equity and quasi equity investments **Target beneficiaries:** All SMEs, with a focus on those in the start-up phase

Technical support for SMEs

Based on the lessons learned both in Cyprus and in other MS, the study has identified a clear need to pair the proposed FIs for SMEs with additional support. An equity should only be implemented after the supporting mechanism is in place and working. Because Cyprus has not traditionally had a strong entrepreneurial culture, there is a lack of native know-how and institutional structures in place to support SMEs, and especially early-stage start-ups. This kind of support could be offered through an accelerator, which could provide coaching to enhance the entrepreneur's skills in pitching for financing and give access to a network of equity providers for fundraising. The accelerator allows enterprises to rethink and significantly improve the financial and commercial strategy of the organisations, and to improve the competences of the team.

Investment strategy for the low-carbon economy

FI 3 - Funded loan instrument for RE and EE investments

Based on the analysis of the financing issues faced by SMEs, households and public authorities when investing in EE and RE, a soft loan instrument could improve the credit conditions applicable to EE and RE investments.

More specifically, this instrument would allow for loans with lower interest rates, an extended payback period, which could also include payback grace periods. If associated with grants, they can also widen the access to financing to financially vulnerable beneficiaries, such as low-income households. The steps for granting, analysing, documenting and allocating loans to the borrowers should be carried out by the financial intermediary (ies) according to the procedures

developed internally for EE and RE financing. The financial intermediary (ies) will retain a direct credit relationship with each borrower.

Alternatively, this financing could be allocated to the PF4EE programme, which may be implemented in Cyprus by the end of 2017 and is set to finance a portfolio guarantee, a long-term loan instrument and to provide technical assistance to a selected financial intermediary. In this case, the funds would be allocated to an EU level instrument, but the amounts from ESIF would be ring-fenced for Cyprus. This option depends upon the actual signature of the agreement between the financial intermediary and the EIB.

Characteristics of the FI3 - Funded loan instrument for RE and EE investments

Nature / type of product	Soft loan for RE and EE investments
ESI Funds allocations	Proposed amount of financing through the ERDF and CF: EUR 40m TO 4: *Supporting the shift towards a low-carbon economy in all sectors*
Expected leverage effect	2 -3x
Amounts of financing for the targeted SMEs	Based on the above funds allocation and the potential leverage effect, EUR 80 - 120 m
Scope of the FI and target beneficiaries	**Scope of the FI:** Loan amounts starting from 0 EUR (maximum amount to be defined) Loan with low interest rates, extended payback periods, payback grace periods This financial instrument has a broad area of intervention and a large target population, since the market gap identified for the loans covers private persons, public authorities and SMEs Applicable to investments in EE in housing and public infrastructure and in RE, as specified under the TO4 Can be put in place by one or several financial intermediaries **Target beneficiaries:** All private persons, public authorities and SMEs eligible under the TO4

Technical support for EE

In order to promote the successful uptake of an EE FI, it is advisable for the MA to subsidise energy audits to assess the potential savings which can be achieved through the renovation and, ultimately, the profitability of EE investments. Energy audits are also very useful for the financial evaluation of loan applications. Energy audits provide information on the investments needed and on the energy and financial savings achievable. Putting in place subsidised energy audits requires to carry out a nation-wide awareness raising campaign.

Currently, there are several engineering offices providing energy audit services in Cyprus. At the national level, the Cyprus Energy Agency seems to be a valid candidate to carry out the implementation of the technical assistance for energy efficiency.

Proposed governance structure of the Financial Instruments

The assessment identified the following three potential governance options available to the MA under Article 38 of the CPR:

1. Fund-of-Funds managed by the EIB Group,
2. Fund-of-Funds managed by an entity set up by the MA, or
3. Fund-of-Funds managed by a national financial institution.

Of the three governance propositions outlined above, the FoF managed by the EIB Group (option 1) is the recommended option for Cyprus. Indeed, neither of the other two options put forward can be considered viable. Governance propositions 2 and 3 would both require the creation of a new entity under the supervision of the MA. However, the MA lacks sufficient financial and administrative capacity to oversee this process directly. Furthermore, the set-up of such an entity would introduce significant delays to the implementation of FIs. Given the time constraints involved in delivering ESI funding through FIs, such delays may be prohibitive.

Governance proposition 1 is thus preferable as it would allow the MA to rely upon the administrative capacity of the EIB Group, and substantially reduce the time needed to implement the FIs.

Next steps in the implementation of the financial instruments

The implementation of the FI can be facilitated through the predefined steps indicated below. While they do not refer to the EU regulatory framework and do not constitute a prerequisite for the ex-ante assessment, these stages are crucial for the successful implementation of the FIs.

- Accept the ex-ante assessment
- Decide on the instrument to be implemented and on the envelope of allocations to FIs
- Decide on the Technical Assistance for SMEs and energy efficiency

Development of national capacity

In addition to the above mentioned implementation steps, it is also recommended that the MA take steps to address the fundamental issue of lack of financial and administrative capacity to implement FIs, namely by establishing a national capacity to manage FIs. This can be done either through a dedicated national investment fund or a dedicated unit within the MA.

With the current programming period already half over, there is not sufficient time to build up the necessary local investment capacity before implementing FIs. It is recommended that action is taken now to ensure that such capacity will be available to implement any future FIs in the next programming period.

In order to do so, the MA will need to define the strategy to be pursued, preferably in collaboration with the EIB, which can contribute both subject matter expertise to inform the debate and define the options available, as well as administrative capacity to support DG EPCD staff. The strategy should then be used as a starting point for the definition of a work plan, entailing the relevant objectives, activities, the budget and the staff required.

The strategy setting process should provide a setting for the MA and other relevant policymakers to discuss the potential options for the setting up of the investment vehicle.

Once the strategy is in place, set-up and implementation should begin with the goal to have the investment vehicle in place and able to begin actively managing FIs by 2020 in order take over management for the FIs in 2021.

1 Introduction

The economy of Cyprus has emerged from an extended downturn to a relatively robust recovery. However, despite recent improvements Cyprus has substantial investment needs that continue to be hampered by issues of access to finance and limited public funding. The purpose of this study is to assess how the potential use of Financial Instruments (FIs) could help to mitigate these issues and accelerate investment in Small and Medium-sized Enterprises (SMEs), in the low-carbon economy, and in the Information and Communication Technology (ICT) and broadband sectors.

1.1 Objectives and scope of the study

This study is designed to support the Directorate General for European Programmes, Coordination and Development (DG EPCD) in its role as the Managing Authority (MA) for the Operational Programme (OP) Competitiveness and Sustainable Development to evaluate the extent to which FIs can be used to support the objectives laid out in the OP. To this end, it will look at the SMEs, low-carbon economy and ICT and Broadband sectors to estimate the supply of and demand for financing in order to establish whether a financing gap exists that the introduction of FIs could help to address. Finally, it will propose high-level recommendations for how FIs could be deployed to address any market failures or suboptimal investment situations and financing needs.

The objective of the study is to provide DG EPCD with evidence-based analysis and guidance to support the use of FIs in Cyprus in the 2014-2020 programming period.

SMEs are the backbone of the Cypriot economy, playing a more important to the "non-financial business economy" than in the EU on average. They produce around 75% of the value added of the non-financial business economy, in contrast with a 58% EU average. Further SMEs generate 83% of jobs in the non-financial business economy compared with an EU average of only about two thirds.[1] Because of this, promoting growth and investment by among SMEs is a top EU policy priority.[2] This includes facilitating SMEs' access to finance, and in particular, to risk capital, micro-credit and mezzanine finance, and developing a conducive legal and business environment.

Access to finance is crucial to business growth as businesses cannot invest or be innovative without adequate financing. It is generally accepted that lack of access to finance is the primary obstacle for the development of many businesses, particularly for SMEs.

Following the financial crisis, financial intermediaries have been limited by solvency constrains, and by the need to apply strict risk management standards, making it difficult for SMEs to qualify for access to finance. SMEs in Cyprus are overly dependent on bank lending, and alternative financing options such as Venture Capital (VC), Business Angels (BA) and crowd funding are limited. Cypriot and Greek companies are more reliant on bank loans compared to other MS.[3] This significantly hampers their capability to invest and grow. According to a 2016 survey, 25% of

[1] The value added is the contribution of a private industry or government sector to overall GDP. The components of value added consist of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.

[2] Think Small First - A Small Business Act for Europe (COM (2008) 394 of 23.6.2008).

[3] European Commission, European Semester Thematic Fiche (2015). Small and Medium Sized Enterprises' Access to Finance

Cypriot SMEs cited difficulties in access to finance as their most important concern, the highest across EU.[4] As such, the introduction of FIs could be a good means to develop businesses in Cyprus.

Preventing climate change is a strategic priority for the EU. The EU 2020 sustainable growth framework is based on developing a more competitive **low-carbon economy**, forming new green technologies, establishing efficient smart electricity networks in a way that is consistent with the growth of small and medium size enterprises. The shift to a low-carbon and energy-secure economy necessitates substantial investments in Europe. These investments would have an immense effect on EU's competitiveness through the growth in the economic activity and employment. For the EU to meet the suggested climate and energy targets by 2020 (i.e. reduced greenhouse emission, increased renewable energy and energy efficiency) a significant growth of investments in the aforementioned areas is needed and those investments should be aligned with individual countries strategies [5]

For Cyprus, which is relying almost entirely on imported fossil fuels for its energy consumption, developing renewable energy technologies and improving energy efficiency are key objectives to ensure a more secure energy supply, lower the energy costs of businesses and households, while creating local employment and cutting greenhouse gas emissions.

Additionally, the EU points out that there is a clear association among the digital economy and innovation, thus investments in high-speed broadband and promotion of market-driven solutions.[6] The 2014-2020 policy framework promotes collaborations among Cohesion Policy (CP), Horizon 2020 and other EU programmes to advocate for specialisation strategies at national and regional level. In Cyprus, **the ICT sector** was one of the few in which added value increased during the recession, due to growing usage of ICT products by consumers and businesses.

A number of FEIs were implemented in recent years, to somewhat mixed results. With the support from the European Investment Bank (EIB), the Cyprus government put in place three FIs to foster entrepreneurship and increase access to finance for SMEs. However, the use of these instruments has been limited. As such, an updated and more detailed overview of the SME environment is necessary to better assess the conditions and existing barriers SMEs face, and how they could be addressed by FIs.

1.2 Relevant regulation

The CPR lays down provisions for the ESIF. According to these provisions, European Structural and Investments (ESI) funds may be used to support FIs under one or more Programmes to be implemented during the 2014-2020 programming period. FIs are consequently becoming necessary tools for the successful implementation of EU policies such as the Europe 2020 Strategy objectives for smart, sustainable and inclusive growth. They are seen as a valuable

[4] European Commission, European Semester Thematic Factsheet (2016). Small and Medium Sized Enterprises Access to Finance.

[5] European Commission (2014). How Cohesion Policy is helping to tackle the challenges of CLIMATE CHANGE and ENERGY SECURITY, September 2014. http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/cp_investments_energy2014_2020.pdf

[6] Sixth report on economic, social and territorial cohesion: investment for jobs and growth (COM (2014) 473 of 23.7.2014) http://www.europarl.europa.eu/meetdocs/2014_2019/documents/com/com_com(2014)0473_/com_com(2014)0473_en.pdf

complement to traditional grant schemes and are meant to leverage existing experience with the use of FEI acquired during the programming period 2007-2013.

In the 2014-2020 programming period, FIs can be used in all TOs covered by ESIF.

2 Methodology

The study is built based on data and information collected through several channels, including:

- **Desk research** covering existing documentation for the sectors analysed, including past sectorial assessments and evaluations, statistical data, policy documents, etc.
- **Interviews** with the relevant stakeholders, covering both the demand-side and the supply-side, including the representatives of DG EPCD and other Ministries.
- An **online survey** directed to the Cypriot SMEs.

2.1 Desk research

The desk research has the objective of collecting existing information on the financing needs of SMEs in Cyprus, including those involved in the ICT sector and the low-carbon economy.

- Information on the macroeconomic market environment in Cyprus.
- The priorities of the Managing Authority for the Programming Period 2014-2020.
- Information on the legal context affecting the SMEs, the low-carbon economy and the ICT sector, as well as the development of the financial instruments in Cyprus.
- The lessons learnt from past experiences with financial instruments in Cyprus.

The list of the documentation analysed as part of the desk research can be found in Annex F of the report.

2.2 Interviews

As part of the assessment, a total of 34 interviews have been conducted. The interviews were carried out with both financial institutions, representing the supply side and with associations, private companies, which represented the demand side.

Moreover, meetings were held with relevant organisations, including:

- Governmental authorities representing the Ministry of Finance, the Ministry of Commerce, Energy, Industry and Trade, including the Department of Energy;
- Regulatory authorities;
- Industry and business associations, such as the Employers' Association, the Chamber of Commerce and the Cyprus Association for Renewable Energy;
- Representatives of the private sector, such as project contractors and developers;
- International organisations: i.e. the International Monetary Fund.

The interview list is provided in Annex E.

2.3 Online survey

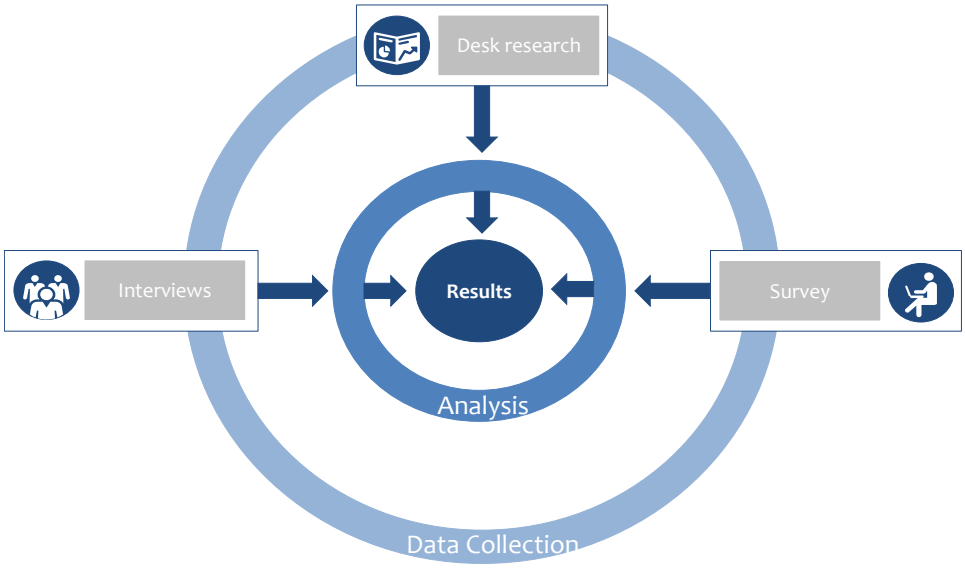
The online survey was directed towards the Cypriot SMEs. The survey was composed of 30 questions in total. Of these, 23 questions covered the investment needs of SMEs. Five questions addressed specifically topics relevant to the ICT sector and broadband development and two questions focused on energy efficiency, renewable energy and smart energy management.

A total of 17,400 enterprises were invited to take part in the survey, representing 26% of the total SME population, of which 385 respondents participated. The sample stratification reflected well the population analysed, in terms of SME size and industry and consequently can be considered acceptable for a statistical point of view. The detailed sample methodology is presented in annex D. The survey was conducted from 24 January 2017 to 3 March 2017.

2.4 Data analysis

The data gathered through the desk research, the interviews and the online survey have been cross-checked between each other, ensuring that the results obtained are based on more than one source of information. Figure 1 below illustrates the concept of triangulation.

Figure 1: Triangulation principle



Source: PwC, 2017

3 The market environment

3.1 Characteristics of the economy

This section provides an overview of the most important characteristics of the Cyprus political environment, economy, and demographics. These elements make up the background and context in which the potential use of FIs is to be assessed, and will need to be taken into account in the subsequent analysis.

3.1.1 Political environment

Cyprus has been divided into two parts since 1974 when Turkish forces occupied the northern third of the island. Negotiations between the two communities (Greek Cypriots and Turkish Cypriots) for a solution to the "Cyprus problem" have lasted for more than 40 years. The latest round of negotiations is currently ongoing, as is a parallel discussion on security issues involving three guarantor powers, Greece, Turkey and the UK.

3.1.2 Economic environment

Over the last two years the Cyprus economy has experienced a solid recovery from the deep recession that started in the third quarter of 2011. The downturn involved the contraction of GDP of more than 10%, historically high unemployment rates, and a high level of public and private debt relative to the GDP level. The recession centred on the banking sector. Despite their deleveraging efforts, Cyprus banks still face high levels of non-performing loans (NPLs), and hence credit remains scarce.

Cyprus completed its economic adjustment programme in March 2016, two months earlier than the initially agreed timeframe. Both the IMF and the EC have commented positively on the performance of Cyprus and especially on the successful fiscal consolidation and the improvement in the banking sector. Loan restructuring efforts accelerated and NPLs, at least in nominal terms, are on a downward trend. The capital controls imposed during the banking crisis in 2013 have been completely removed, making the Cyprus economy more attractive to both foreign and local investment.

Real GDP Growth

Real GDP grew by 2.8% in 2016, a marked acceleration from the 1.7% growth experienced in 2015, and well above the IMF forecast of 1.4% 2016.[7] From an expenditure point of view, private consumption was the main contributor to the economic recovery in 2016. Particularly, household consumption was particularly important, swinging from a 5.9% contraction in 2013 to a 1.9% expansion in 2015, and continuing to accelerate into 2016 (see Table 3).

For many decades, the tourism industry has been the primary engine of Cyprus' economy. More recently, the provision of professional services has emerged as a secondary driver. Both of these sectors have played a key role in the recent recovery as well.

[7] International Monetary Fund (2015). Eight review under the extended arrangement fund facility and request for modification of performance criteria, September 2015.

The fact that gross fixed capital formation is recovering is a positive indication for the economic recovery, as during the crisis years declined at a significant extent. Another positive indication is the increase in exports in 2016 which is mostly driven by the exports of tourism services.

The real GDP growth by expenditure (seasonally adjusted) is presented in Table 3.

Table 1: Real GDP growth by expenditure, seasonally adjusted (% change annually)

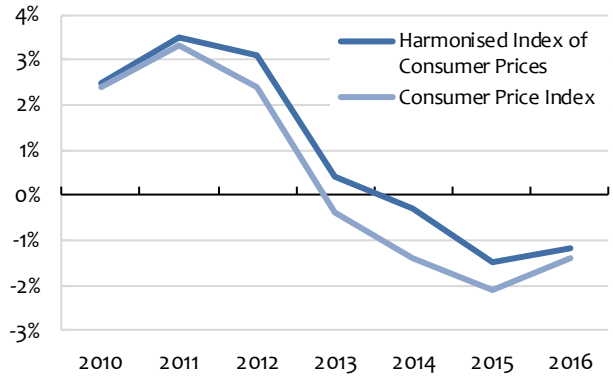
Real GDP growth by expenditure, seasonally adjusted (% change annually)					
	2012	2013	2014	2015	2016
Private Consumption	-1.3	-5.9	0.7	1.9	2.9
General Government Consumption	-2.3	-8.2	-7.9	-0.6	-1.4
Gross fixed capital formation	-20.5	-12.9	-17.5	12	25.9
Exports of goods and services	-2.7	2.1	4.2	0	3.6
Imports of goods and services	-4.4	-4.8	4.6	2.1	5.3

Source: Cystat, 2016

Inflation

The Cyprus economy is experiencing a deflationary period. Both the Consumer Price Index (CPI) and Harmonised Index of Consumer Prices (HICP) have been declining since 2011. However, as shown in Figure 2, HICP has followed a slower pace of decline due to the different structure of the two indices. The annualised CPI has dropped by a cumulative of 5.2% (in the period 2013-2016), while the annualised HICPI has declined by almost 3% in the same period. The main drivers of this decline were the categories of housing and transport.

Figure 2: Inflation rate



Source: Cystat, 2016

Labour Market

The seasonally adjusted unemployment rate of Cyprus was 12.9% in the fourth quarter of 2016, down substantially from its peak of 16.5% in the third quarter of 2014. However, the unemployment rate remains above the euro area average at around 10%.[8]

According to Eurostat data, the number of unemployed persons in Cyprus in the third quarter of 2016 was approximately 59,000. Compared to the 71,000 unemployed persons in the end of 2014 this is a significant improvement (Table 4). However, it must be noted that despite the

[8] Eurostat (2017). Unemployment by sex and age -http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_q&lang=en

improvement in the unemployment rate, employment improved at a slower pace - from 359,000 employed persons in 2014 to only 371,000 in the third quarter of 2016 (Table 4).

Table 2: Employment and Unemployment

Employment and unemployment (rounded figures)								
	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016
In thousands at end period								
Unemployed	71	69	64.0	61	57	53.0	52	59
Employed	359	354	360	354	362	352	367	371
Labour Force	430	423	424	415	419	405	411	422
Changes in thousands on quarter-over-quarter								
Unemployed	0	-2	-5	-3	-4	-4	-1	-1
Employed	-5	-5	6	-6	8	-11	16	3
Labour force	-5	-7	1	-9	4	-15	15	2

Source: Eurostat, 2016

Fiscal Performance

Fiscal performance was better than expected after the implementation of the economic adjustment program. It was forecasted that as a result of the economic adjustment programme, a steep reduction on the revenue and a milder reduction in expenditure would be expected. However, the fiscal adjustment on the expenditure side was effectively contained and revenue did not fall at the expected extent.

Particularly, total expenditure in value terms were 17% lower in 2015 than they were in 2011. Total revenue on the other hand was only 4.2% lower as the improvement in the economy contributed to the government outperformance of the originally fiscal targets set. If the costs of recapitalising the "cooperative credit" sector are excluded (EUR 1.5bn at the end of 2014 and EUR175 m at the end of 2015) the government budget was effectively balanced and primary surpluses were 2.6% of GDP and 2.7% of GDP in 2014 and 2015 respectively (Table 5).

Table 3: General government budget as a percentage of GDP

General government budget as a% of GDP							
	2012	2013	2014	2015	H1 2015	H2 2015	H1 2016
Total Revenue	36.1	36.5	39.8	39.5	36.3	42.6	36
Total Expenditure	41.9	41.4	40.1	39.6	36.7	42.4	36.5
Balance	-5.8	-4.9	-0.2	-0.1	-0.4	0.1	-0.5

General government budget as a% of GDP							
Interest payable	2.9	3.1	2.9	2.8	2.7	2.9	2.6
Primary budget balance	-2.9	-1.8	2.6	2.7	2.4	3.1	2.1

Source: Cystat, PwC Analysis 2016

As expected during the crisis period, public debt increased substantially. Specifically, it rose from just under 80% of GDP in 2012 to 109% of GDP in September 2016. As the economy recovers faster than expected, public debt as a percentage of GDP is expected to decline.

The improvement in the economy and in public finances is reflected in the most recent credit rating agencies evaluations. All the credit rating agencies underlined in their evaluations the successful fiscal consolidation as well as their positive expectations for the performance of the Cyprus economy performance leaving open the possibility of more upgrades (Table 6). Further rating upgrades, will enhance the sovereign credibility of Cyprus and might contribute to lower yields in the Cyprus government debt. This will also be more evident if the creditworthiness of Cyprus is upgraded to the investment grade level.

Table 4: Public debt credit ratings for Cyprus in 2016

Public debt credit ratings (2016)			
Credit rating agency	**Rating**	**Last Evaluation**	**Distance to investment grade (notches)**
Standard & Poor's	BB	16/9/16	2
Fitch	BB-	21/10/16	3
Moody's	B1	11/11/16	4

Source: Credit rating agencies, 2016

The fact that total government expenditure is still greater than total income limits the capacity of the government to invest. Therefore, investments are heavily depended on private initiatives. Those initiatives are further encouraged by the aforementioned positive ratings of the credit rating agencies.

Tourism sector

According to Cystat (2016), total arrivals were around 3.19 m persons, 19.82% higher compared to the previous year. It is widely claimed by tourism experts that the improvement in tourist's arrivals is largely driven by the quality of the Cypriot tourism product, as well as tourist flows directed to Cyprus from neighbouring competing destinations (Syria, Turkey, Egypt) because of the current geopolitical tensions to those countries, including the migrant crisis.

3.1.3 Banking system

The Cyprus banking system experienced a deep crisis, which resulted in the resolution of the Cyprus Popular Bank, one of the major banks in Cyprus, in 2013. The level of NPLs remains significantly higher in Cyprus in comparison to the other countries in Europe that also experienced banking sector instability. Nevertheless, there has been substantial improvement

and loan restructurings have accelerated in 2016. Confidence, in the system has returned, as indicated by the increase in the deposits and better economic conditions that contribute to the steady reduction in the NPLs level.

Due to the financial crisis, the two larger Cypriot Banks - Cyprus Popular Bank and Bank of Cyprus (BoC) - were restructured by folding Cyprus Popular Bank into BoC and by using 47.5% of BoC's uninsured deposits to rebuild their capital. More specifically, the depositors of the Cyprus Popular Bank lost their unsecured deposits above EUR 100,000, while the 47.5% of unsecured deposits of the BoC depositors was converted into Class A BoC shares.

The first effect of the bail-in was the shrinking of the Cypriot banking sector. Secondly, Central Bank of Cyprus imposed stricter procedures and regulations aiming to safeguard the credibility of Cypriot banks. As a result, Cypriot banks introduced more complex and time consuming procedures for approving loans.

According to the Central Bank of Cyprus,[9] total annual deposits for the period January 2016 to November 2016 increased by around 6% and reached a level of approximately EUR 49bn from approximately EUR 46bn recorded in 2015 for the same period. Deposits by non-financial corporations rose 20%, reaching EUR 7.5bn in 2016, compared to EUR 6.2bn for the same period last year. On the other hand, household deposits remained stable throughout this period. Deposits from euro area residents increased by 18%, while deposits from non-European countries decreased by 10%.

Loans

Banks are facing a deleveraging phase, as the reduction of loans in the banking system accelerated in the end of 2015. Significant declines have taken place in both the resident and non-resident loans.

Particularly, total loans of the banking system declined by 14% from the end of 2015 until November 2016. The non-financial company loans declined the most, from a level of EUR 26.3bn at the end of 2015 to a level of approximately EUR 22.63bn in November 2016. On the other hand, housing loans decreased only by 4% and other household loans by 7%.

It is worth noting that the households and non-financial corporations are indebted. As of September 2015, households and non-financial corporation's debt reached 358.1% of GDP, 127.7% and 230.4% respectively.[10]

As reported by the Central Bank of Cyprus, NPLs peaked in April 2015 at EUR 28.9bn in absolute terms or 46.6% of total gross loans and dropped at a level of around EUR 24bn or 48.5% of gross loans at the end of October 2016 (Table 7 and Table 8). Although the non-performing to gross loans ratio remains at a high level there has been an improvement in loans restructurings.

[9] Central Bank of Cyprus Monetary and Financial Statistics November 2016. Available at: http://www.centralbank.gov.cy/nqcontent.cfm?a_id=9837&lang=gr

[10] Central Bank of Cyprus (2016).Households and Non-financial indebtedness report, May 2016.

Table 5: Loans, non-performing and restructured loans as at end of October 2016

Total Loans, NPLs and restructured loans (€m)						
	Dec-14	**Sept-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Oct-16**
Non-performing loans (EBA definition)	27,328	26,685	25,695	24,699	24,122	24,085
Restructured Loans	12,860	13,956	14,154	13,894	13,700	13,602
Restructured loans (Classified as non-performing)	9,234	10,402	10,713	10,589	10,234	10,101
Total Loans	**57,224**	**57,129**	**58,204**	**53,122**	**49,950**	**49,631**

Source: Central Bank of Cyprus, 2016

This high level of NPLs to gross loans ratio can be attributed to the faster reduction of gross loans in comparison to the NPLs, which are declining at a slower pace. If the alternative definition of a non-performing loan as a loan that is non-performing for at least 90 days (a widely used definition by banks for reporting purposes) is used, NPLs to gross loans ratio is more than 12% lower from the reported rate of NPLs (see Table 8).

Table 6: Loans and non-performing loans ratios as at end of October 2016

Loans and non-performing ratios as at end of October 2016 (%)						
	Dec-14	**Sept-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Oct-16**
Non-performing loans to Gross Loans Ratio (EBA definition)	47.76	47.79	45.85	48.37	49.45	48.53
Past due 90 days to Gross-loans ratio	38.4	38.6	36.09	37.04	36.95	36.3
Restructured loans to Non-performing loans Ratio	47.06	51.07	53.04	53.32	55.02	56.47

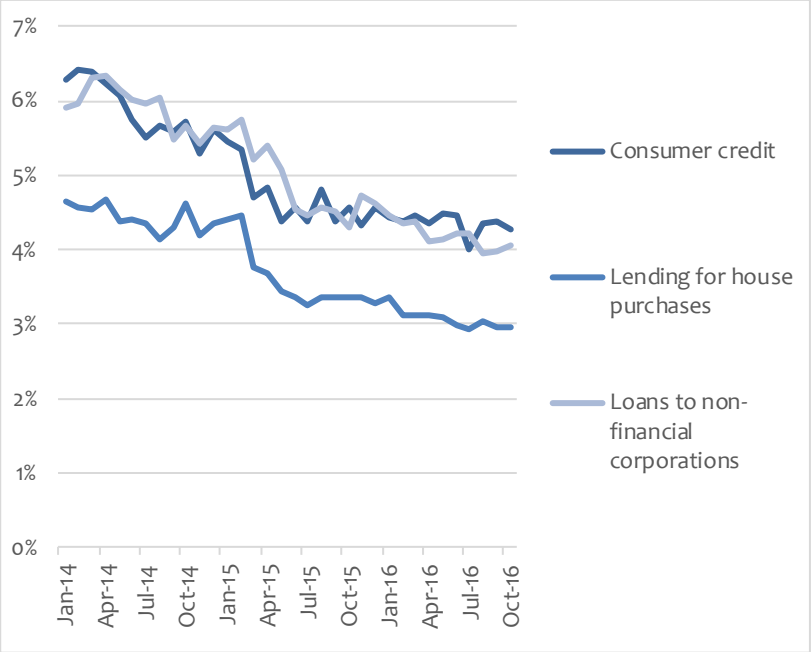
Source: Central Bank of Cyprus, 2016

This difference between these two ratios is mainly due to the regulations of the European Banking Authority (EBA). According to these regulations, a restructured loan must be a performing loan for one year before it is classified as a performing loan. According to Table 8 more than 40% of the NPLs are restructured loans classified as NPLs. Although it is not certain that all restructured loans will be eventually classified as performing, the data point to a declining path of NPLs.

Bank lending rates

As the banking system is the only well-developed source of financing in Cyprus, the level of bank lending interest rates level is important for the economy. Bank lending rates have declined at a significantly extent after the end of 2013 (see Figure 3), marking a turning point towards the continuous decline of the interest rates. This was expected as, due to the crisis, demand for new loans has dropped dramatically.

Figure 3: Bank lending rates



Source: Central Bank of Cyprus, 2016

There has also been an improvement in funding conditions, especially throughout 2016, due to the increase of deposits, the repayment of the Emergency Liquidity Assistance (ELA) by the largest lender in the island as well as due to the improvement of the economic conditions.

However, interest rates in Cyprus remain at high levels relative to the average of the other Eurozone countries as there are still risks mainly stemming from the high NPLs levels.

3.2 SME characteristics and environment

SMEs are significantly more important for the Cypriot economy compared to other MS. According to the Small Business Act (SBA) for Europe publication for 2015, the contribution of SMEs to the Cyprus value added was around 72%, compared to the EU average of 57%. In terms of employment, SMEs in Cyprus employ around 83% of workers in the non-financial business sector, significantly higher than the European average of 67%.[11]

SMEs in Cyprus were negatively affected by the financial crisis. In the period 2010-2015 the value added of SMEs declined by around 23%. Micro firms, as expected, were the most affected as their value added reduced by 32%. Despite the negative effects of the crisis, employment by SMEs in the non-financial business economy reduced only by 13%.

As the economy further recovers, the value added of SMEs is expected to grow. As mentioned in the SBA report, the value added of SMEs is expected to increase by the end of 2017 by around 6% compared to the respective of 2015, while employment in SMEs is predicted to increase by more than 9,000 jobs at the end of 2017. 72% of the employees in Cyprus are employed by SMEs, whilst in the EU-28 is around 67% (Table 9).[12] Another observation on the same table is that the share of employees to total employees in the micro firms in Cyprus is significantly higher than the EU-28 average, whilst on the contrary the share of employees in large firms is lower in Cyprus in comparison to the EU-28 average.

[11] European Commission (2015) – Internal Market, Industry. Entrepreneurship and SMEs. SBA Fact Sheet-Cyprus

[12] The data are not directly comparable as on the one hand, there is a difference between National statistical services and Eurostat data on SMEs, and on the other hand, the data on the SBA report exclude financial services, agriculture, education, and health.

Table 7: SME distribution by size and number of employees

	SME distribution by size and number of employees					
	Number of Enterprises			Employed		
	Cyprus		EU-28	Cyprus		EU-28
	Number	Share%	Share%	Number	Share%	Share%
Micro	62,990	94.09	92.8	114,317	35.0	29.5
Small	3,382	5.05	6.0	63,454	19.4	20.2
Medium-sized	569	0.85	1.0	58,060	17.8	17
Total SMEs	**66,941**	**99.86**	**99.8**	**235,831**	**72.3**	**66.8**
Large	96	0.14	0.2	90,569	27.7	33.2
Total	**67,037**	**100**	**100**	**345,863**	**100**	**100**

Source: Cystat, 2015

Table 10 presents the number of enterprises per industry sector according to the statistical classification of economic activities in the European community (NACE Rev. 2). As expected due to the structure of the economy, the most dominant sectors in terms of both the number of enterprises and the employed staff are the "wholesale and retail trade, repair of motor vehicles and motorcycles", "accommodation and food services activities", the "professional scientific and technical activities" and the "construction sector". Particularly, more than 50% of the SMEs operate in these four sectors and almost 50% are employed. From these data the category "Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use" is excluded.

Table 8: Number of enterprises by sector and number of employees

Enterprise distribution by sector and number of employees							
Economic activity (industry sector)	**Number of employees**					**Employed**	
	0-9	**10-49**	**50-249**	**Total**	**%**	**Total**	**%**
Agriculture, forestry and fishing	3,522	88	6	3,616	5.40	7,997	3.13
Mining and quarrying	28	16	0	44	0.07	427	0.17
Manufacturing	4,595	419	63	5,077	7.58	23,827	9.33
Electricity, gas, steam and air conditioning supply	60	0	0	60	0.09	75	0.03
Water supply; sewerage, waste management and remediation activities	164	28	7	199	0.30	1,620	0.63
Construction	7,044	276	27	7,347	10.98	19,290	7.56

Enterprise distribution by sector and number of employees							
Wholesale and retail trade, repair of motor vehicles and motorcycles	15,344	829	94	16,267	24.30	54,160	21.21
Transportation and storage	2,844	145	42	3,031	4.53	11,504	4.51
Accommodation and food service activities	4,979	451	106	5,536	8.27	31,493	12.34
Information and communication	1,047	111	18	1,176	1.76	5,993	2.35
Financial and insurance activities	2,165	101	51	2,317	3.46	11,299	4.43
Real estate activities	790	28	1	819	1.22	2,017	0.79
Professional, scientific and technical activities	6,035	370	33	6,438	9.62	21,506	8.42
Administrative and support service activities	2,256	112	27	2,395	3.58	8,364	3.28
Public administration and defence; compulsory social security	329	67	34	430	0.64	6,066	2.38
Education	2,273	81	24	2,378	3.55	7,731	3.03
Human health and social work activities	3,335	114	17	3,466	5.18	9,187	3.60
Arts, entertainment and recreation	1,619	67	10	1,696	2.53	4,636	1.82
Other service activities	4,561	79	9	4,649	6.95	8,634	3.38

Source: Cystat, 2015

3.3 Low-carbon economy

The energy sector in Cyprus is almost completely dependent on imported petroleum products, despite the recent growth in renewable energy production. As a result, energy prices are quite sensitive to variations in oil prices. In addition, the power grid in Cyprus is isolated, which makes it more exposed to fluctuations in the energy supply.

The energy consumption in Cyprus is strongly interconnected with the economic activity. As such, it fell sharply during the recession from 2011 to 2013, and it bounced back since 2014, reaching 1.6 million tonnes of oil equivalent (mtoe)[13], the equivalent of 18.6 Terawatt hours (TWh). In this context, the development of renewable energy sources could be an important opportunity for energy diversification, to improve the security of supply, lower energy production costs and curb Greenhouse Gas (GHG) emissions.

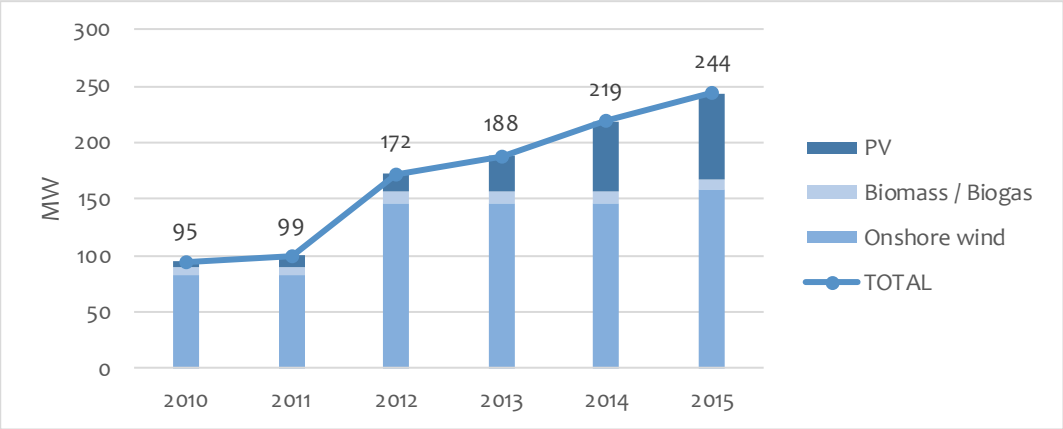
In 2015, the total installed power generation was 1.74 GW. Of these, 84% were generated by the Electricity Authority of Cyprus (EAC), in three central power stations.[14] The EAC is currently responsible for power generation, transmission, and distribution and as such has a monopoly on the electricity market in Cyprus. The liberalisation of the Cypriot energy market has to be implemented by 2021[15]. Other key developments, which will influence the future Cypriot power sector, are the recent discovery of indigenous gas reserves in the Cyprus Exclusive Economic Zone and the development of a grid interconnection between the Cypriot, Israeli and Greek power grids; the Euro Asia interconnector.

3.3.1 Renewable energy technologies

Despite the rapid increase in the recent years, the exploitation of Renewable Energy Sources (RES) in Cyprus is still limited. In 2015, it accounted for 8.5% of final energy consumption, producing 385 GWh of power. As part of the National Renewable Energy Action Plan (NREAP), the target share of renewable energy sources to be achieved by 2020 has been set at 13%[16]. As illustrated in Figure 4, the RES capacity installed climbed from 95 MW in 2010 to 244 MW in 2015, which corresponds to a 2.5 fold increase.

[13] Eurostat (2017): Final energy consumption by country
[14] Zacharidis and Hadjikyriacou (2016): Social Costs and Benefits of Renewable Electricity Generation in Cyprus
[15] European Commission (2014): Country Report Cyprus. Available online from: https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_cyprus.pdf
[16] Ministry of Energy, Commerce, Industry and Tourism (2014): Third National Energy Efficiency Action Plan Cyprus. Available online from: https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans

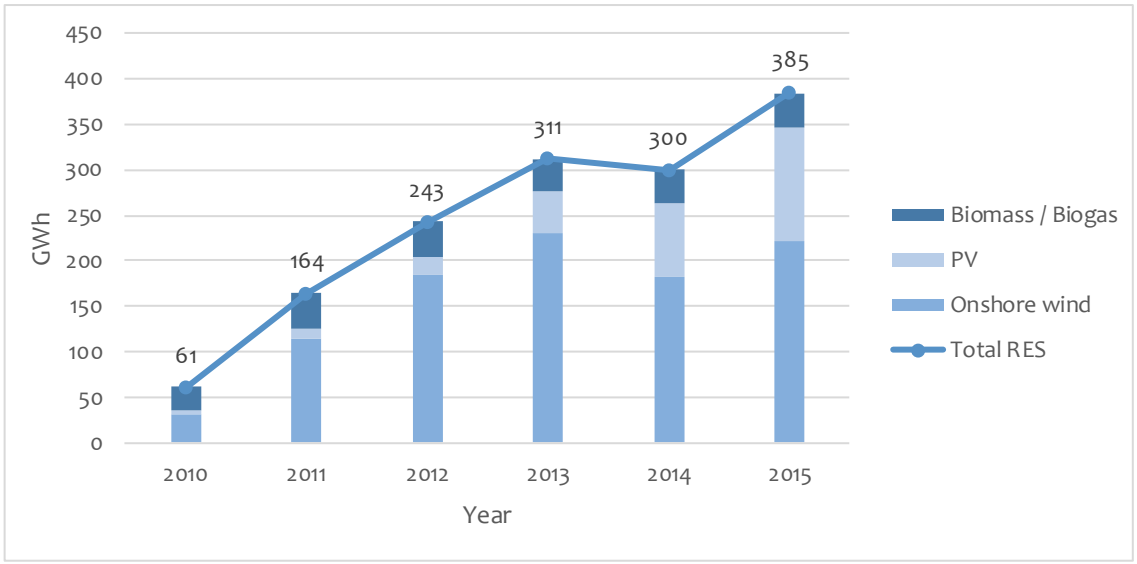
Figure 4: Installed capacity from Renewable Energy Sources (MW)



Source: CERA Annual Report 2015

In 2015, the final electricity production was dominated by onshore wind power, which produced 221 GWh. PV's growth continued, reaching a production of 126 GWh. Biogas remained the smallest player, with a generation of 37 GWh.

Figure 5: Annual power from Renewable Energy Sources in Cyprus (GWh)



Source: CERA Annual Report 2015

As shown in the above figures, the renewable energy technologies, which have been developed and may experience further growth in Cyprus for the production of electricity, are wind power, photovoltaics (PV) and biogas. Solar thermal energy, which is currently used primarily for water heating, could become a major energy source in the future energy mix, as a result of the development of the Concentrated Solar Power (CSP) technology.

The viability of these different RE technologies to the Cypriot context are proposed below.

Wind

Onshore wind potential in Cyprus is not particularly high, but in certain and limited areas, it is satisfactory (6 - 7 m/s)[17] to develop wind parks[18]. At the end of 2015, there were six onshore wind farms in Cyprus, with a total capacity of 158 MW[19]. Until 2012 this technology was heavily promoted through generous Feed-in-Tariffs (FiT) although these have since then been substantially lowered, making investments in wind less profitable. To date, no offshore wind farms have yet been developed.

Solar PV

Due to the extremely high solar irradiation levels (approximately 2000 kWh/m^2/year), the low prices of PV panels and the relatively high cost of grid electricity in Cyprus, electricity production from PVs is a financially viable option[20]. Large-scale PV farms, which were initially promoted through FiTs, today now face strict regulatory restrictions and do not benefit from preferred tariffs. Rooftop PV, on the other hand, has been promoted for both the residential sector and for businesses, through a net-metering scheme, which allows selling excess electricity to the grid at the final end user price. However, the capacities which can be installed as part of the scheme are capped at a ceiling, currently set at 23MW of personal solar PV, or 5kW per household, that can be sold back to the grid.

Solar thermal energy

Cyprus has among the highest concentration worldwide of solar water heater installations, which are used for domestic hot water (DHW) heating. This mature and well-established technology, mostly deployed as small rooftop units, produced approximately 750 GWh$_{th}$ in 2015.[21]

Solar thermal energy could also be used in Cyprus as a means of producing electricity by concentrating sunlight into a small area through the use of mirrors to power a heat engine. Albeit, this technology is still only in its early commercialisation phase. Two CSP projects have been granted licenses and should be developed in Cyprus by 2018. They benefit from funding of the EU scheme NER 300, which finances innovative renewable energy technologies. Assuming these projects are implemented, the total installed capacity of CSP will reach 101 MW and could produce approximately 330 GWh per year, well above the target set in the NREAP for CSP technology.

Biomass/ biogas

In Cyprus, the most abundant organic resource is liquid biomass, which includes waste from agricultural, animal and industrial activities and municipal waste. This is processed through

[17] Zacharidis and Hadjikyriacou (2016) Social Costs and Benefits of Renewable Electricity Generation in Cyprus

[18] As stated in the JRC Status Report (2014), wind power plants require a minimum average wind speed of 5.5 m/s for profitable operation

[19] Cyprus Energy Regulatory Authority (2016): National Report to the European Commission. Available online from: http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/National_Reporting_2016/NR_En/C16_NR_Cyprus-EN.pdf

[20] Joint Research Centre (2017): Photovoltaic Geographic Information System. Yearly Irradiation on horizontal plane Available online from: http://re.jrc.ec.europa.eu/pvgis/apps4/pvest.php

[21] IRENA (2015): Cyprus Roadmap Report 2015. Available online from: http://www.irena.org/DocumentDownloads/Publications/IRENA_Cyprus_Roadmap_Report_2015.pdf

anaerobic digestion, to produce methane[22]. Typically, biogas plants set up by farmers using the organic resources produced in a close proximity to the plant: these include farming and biodegradable organic waste. In 2015, 13 biogas plants were installed in Cyprus, accounting for a total installed electrical capacity of 10 MW[23].

RE objectives

The target RE capacity to be reached by 2020 is specified in the NREAP, the roadmap defining the sectorial targets and the technology mix envisaged (Table 11).

Table 9: Current and target renewable energy mix of Cyprus

Technology	Current capacity 2015 (MW)	Target capacity 2020 (MW)
Wind	158	300
Photovoltaic	31	192
Concentrated Solar Power	0	75
Biomass	10	17

Source: NREAP Cyprus

Combined Heat and Power

The use of Combined Heat and Power (CHP) technology is extremely limited in Cyprus. CHP is an economically viable solution for SMEs, industry and agriculture, for micro (up to 50 kW), small and medium sized units (up to 10 MW), when run with biomass or diesel oil. However, it is not economically viable for large installations of more than 10 MW. In 2011, CHP technology contributed just 0.9% of the total gross electricity production in Cyprus. 94% of CHP units operated with biofuels, the remaining 6% with fossil fuels. Most of these CHP installations are used in the agricultural sector.

In Cyprus, the development of CHP is hampered by various technical and economic barriers. District heating systems, which are required to distribute the heating production of large scale CHP units, do not currently exist on the island. The use of gas-fuelled small and medium-sized CHP technology would require a natural gas supply and grid infrastructure, which currently is not available. Furthermore, the development of trigeneration, which involves producing cooling as well as heating from the exhaust heat, cannot be envisaged, due to the lack of knowledge in this technology. [24]

3.3.2 Energy efficiency

Enhancing the energy efficiency of buildings in Cyprus is crucial to ensure the achievement of the country's Primary Energy Saving targets of 14.5% in 2020. Energy consumption from the residential and commercial sector accounts for 37% of total energy consumption. As a result of

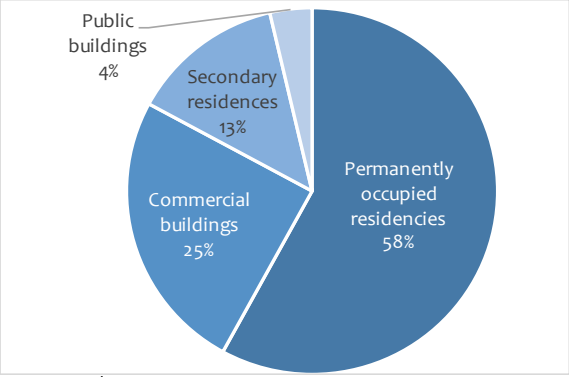
[22] Zacharidis and Hadjikyriacou (2016): Social Costs and Benefits of Renewable Electricity Generation in Cyprus

[23] Cyprus Energy Regulatory Authority (2016): National Report to the European Commission. Available online from: http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/National_Reporting_2016/NR_En/C16_NR_Cyprus-EN.pdf

[24] Cogeneration Observatory and Dissemination Europe (2014): D5.1 Final cogeneration Roadmap Member state: Cyprus. October 2014. Link: http://www.code2-project.eu/wp-content/uploads/Code-2-D5.1-Cyprus_FINAL1.pdf

regulations adopted in 2010, it is now compulsory for buildings to benefit from thermal insulation. However, given that this regulation is quite recent, there is still an important potential to increase energy savings in the residential sector through energy efficiency measures like thermally insulating buildings built before this date. It is estimated that this could see energy savings ranging between 25% and 50% from the current consumption levels.[25]

Figure 6: Share of residential, commercial, and public buildings based on total surface



Source: 3rd NEEAP

The building stock in Cyprus is composed of approximately 441,000 buildings. Residential buildings constitute 91% of the total building stock. Of these, 81% are permanently occupied dwellings, whereas 19% are secondary residences.

The area of these buildings varies according to their scope. When this is taken into account, permanently occupied residential buildings represent 58% of the total building surface, secondary residences 13%, whereas commercial buildings constitute 25% of the total and public buildings 4%.

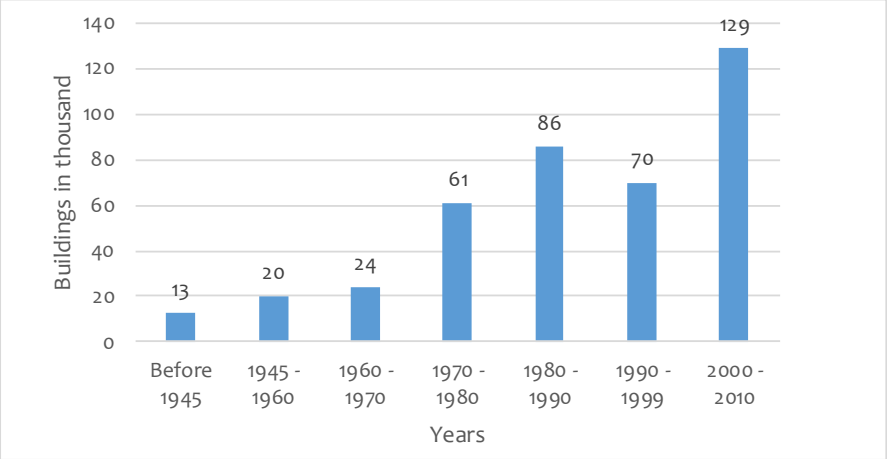
As illustrated in Figure 7, almost 90% of the residential buildings were constructed after 1970. 29% of all buildings were built in the first decade of the 21st century, during the credit and property boom. Only 8% of buildings were built once energy standards for buildings were already in place. This statistic has been developed based on the figures available for residential buildings, since this data is not available for the non-residential building stock. However, the NEEAP considers that non-residential buildings should follow a similar distribution over time.

The building envelopes has a significant potential of energy improvement. Half of the buildings do not dispose of any thermal insulation, 40% benefit from double glazing and 12% have undertaken the thermal insulation of the roof or the exterior walls[26]. As such, there is an important opportunity to improve energy efficiency in Cyprus because of the strong potential for energy savings in residential and commercial buildings.

[25] Ministry of Energy, Commerce, Industry and Tourism (2014): Third National Energy Efficiency Action Plan Cyprus. Available online from: https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans

[26] Ministry of Energy, Commerce, Industry and Tourism (2014): Third National Energy Efficiency Action Plan Cyprus. Available online from: https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans

Figure 7: Number of residential buildings by year of completion

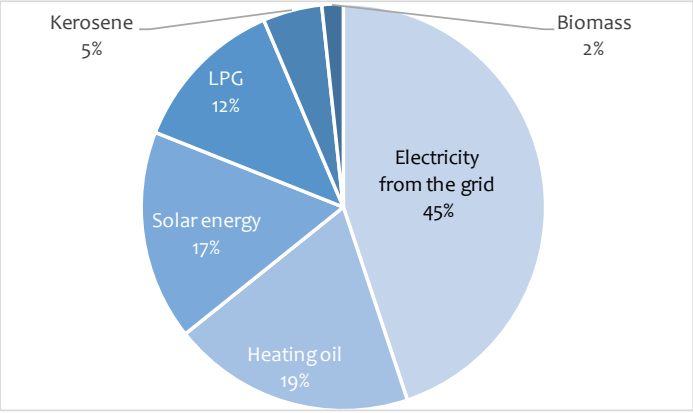


Source: EU buildings database

Residential buildings

As explained above, residential buildings represent the majority of the building stock. Hence, they also present the potential to improve energy efficiency. This section provides an overview of the technical installations used in residential buildings. More than half of the residential buildings are single-family houses. Two-family houses and apartments constitute each 20% of the total dwellings. Regarding the ownership status, approximately 90% of all residences are owned by the residents, and only 10% are rented.

Figure 8: Energy sources used for heating and DHW in the residential buildings in percentage



Source: 3rd NEEAP

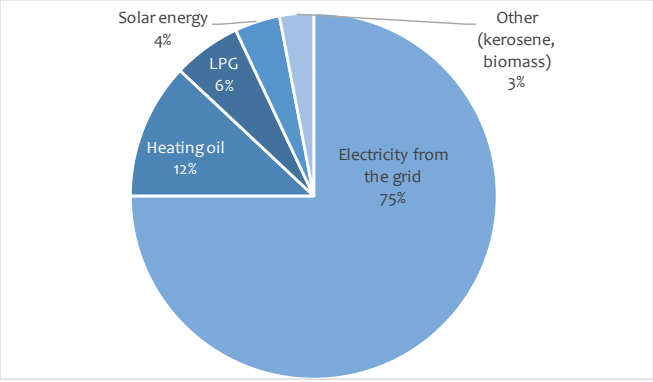
As shown in Figure 8, almost half of the energy used for heating and domestic hot water (DHW) electricity, which is a highly inefficient source of thermal energy. Heating oil accounts for 19% and solar energy accounts for 17% of all energy used for heating.

This is driven by the fact that some 40% of residences use air conditioner appliances or electric heating appliances for heating purposes, whereas only 30% make use of the more energy efficient central heating facilities.

Non- residential buildings

In non-residential buildings, electricity is the most prominent source of energy, which is largely due to the need for air conditioning during daylight hours, compared to residential buildings, there is considerably less use of renewable energy to meet commercial energy requirements.

Figure 9: Energy sources used in non-residential buildings, in percentage



Source: 3rd NEEAP

The data presented in Figure 9 shows that significant energy saving potentials can be achieved also by upgrading the technical appliances used for heating, cooling and DHW production.

Energy efficiency in street lighting

Electricity consumption of street lighting accounts for 2% of total national electricity consumption in Cyprus, corresponding to 372 GWh per year. For local authorities, street lighting accounts for 5 to 10% of their annual budget. Most of the costs of street lights do not arise from the initial investment, but rather from the maintenance. A longer service life ensures considerable reductions in maintenance costs. Upgrading street lighting has also become a priority due to regulatory obligations. The Directive 2009/125/EC sets out that high-pressure mercury lamps should have been phased out by 2015, and medium efficiency metal halide lamps by 2017. Replacing these older and less efficiency technologies with LED lights brings multiple benefits: it allows a longer service life, and energy savings. Furthermore, it enables smart operability, for example LED lights that can be controlled with high precision, dimmed rapidly, and adjusted continuously, thus ensuring further energy saving potential.[27] In this context, many municipalities in Cyprus have developed strategies to upgrade the street lighting infrastructure[28].

3.3.3 Key actors involved in energy efficiency and renewable energy projects

The key actors involved in the development of renewable energy and energy efficiency projects are:

- **Government bodies**, i.e. the **Ministry of Energy, Commerce, Industry and Tourism (MECIT);**
- **Implementing and monitoring bodies**, responsible for the implementation of EE/RE policy guidance and the disbursement of funding, i.e. the Department of Energy of the MECIT;
- **Non-governmental bodies** and **professional associations**, such as:
  - The **Cyprus Renewable Energy Association**, promoting renewable energy development in Cyprus;
  - The **Employers' Association (OEB)**, supporting the enterprises working in the renewable energy and in the construction sectors, including those undertaking house renovation works;

[27] EIB (2013) Energy efficient street lighting. Link: http://www.eib.org/epec/ee/documents/factsheet-street-lighting.pdf
[28] Cyprus Energy Agency (2013): Energy performance contracts street lighting pilot project. Link: http://www.lca.org.mt/userfiles/Street%20Lighting%20VE2.pdf

- The **Electricity Authority of Cyprus (EAC)**, controlling the electricity generation, supply, transmission and distribution;
- The **Cyprus Energy Regulatory Authority (CERA)**, which is responsible for regulating and monitoring the electricity and the gas market;
- The **Cyprus Energy Agency**, promoting sustainable energy and energy efficiency practices;
- **Energy Services Companies (ESCOs)**, which can provide energy performance contracting services;
- **Financing institutions**, including:
  - Commercial banks (e.g. Bank of Cyprus, Hellenic Bank, Central Cooperative Bank);
  - Multi-lateral banks: EIB, EBRD and other International Financial Institutions (IFIs);
- Potential **project promoters and developers** and **manufacturers**:
  - Asset owners (e.g. enterprises, households, municipalities, landlords);
  - Companies working in the energy efficiency and renewable energy sectors;
  - Building managers.

3.4 ICT sector and broadband

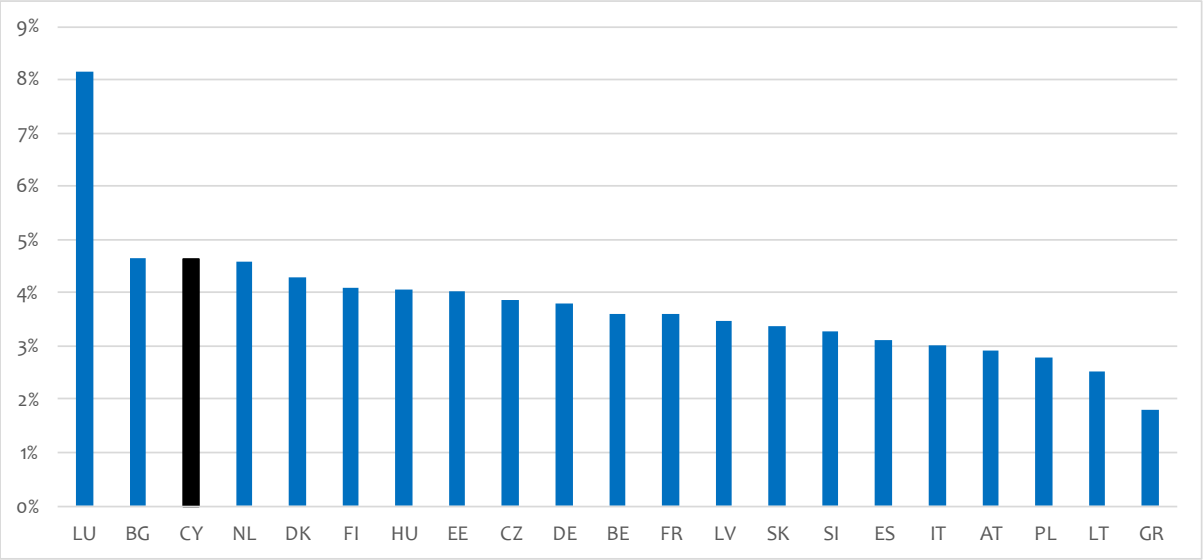
3.4.1 ICT

It is widely recognised that the use of ICT plays a crucial role in the productivity growth and economic growth of any country. ICT development is important for almost all sectors of an economy. More specifically for Cyprus, in the coming years, ICT capabilities are expected to gain in importance in the health, education, retail and tourism sectors. Thus, terms like e-government, e-business, e-learning, and e-health are expected to become more relevant to Cyprus in the near future. [29]

As Figure 10 suggests, the ICT sector contributed around 4.7% to Cyprus' GDP in 2014, whereas the percentage of the ICT personnel on total employment was around 2.29%. Compared to other EU MS for which data were available, the contribution of the sector to the country's value added is considered high, as Cyprus was the third country with the highest contribution of the ICT sector to the country's value added. Furthermore, according to Eurostat data, ICT personnel as a percentage to the total employment is in line with most other European countries.

[29] Cystat (2015). ICT Usage and E-commerce survey in Enterprises. http://www.investcyprus.org.cy/el/growth-sectors/cyprus-investment-sectors/information-and-communication

Figure 10: Contribution of ICT sector to the value added



Source: Eurostat, 2014

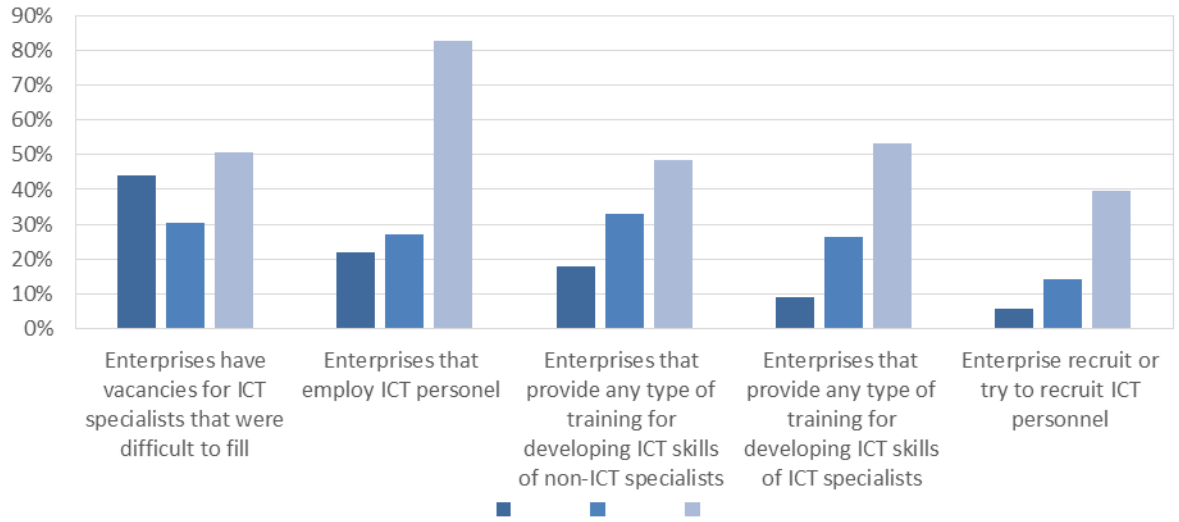
Employment of ICT specialists and skills

According to the respective Cystat data in 2015, the majority of large companies employ ICT personnel, while only 21.9% of small enterprises employ ICT specialists (Figure 11).[30] In addition, according to the same source, only 7.6% of all companies (small, medium and large), recruited or tried to recruit ICT personnel.

As Figure 11 shows, small enterprises had the lowest in-take of ICT personnel (only 5.6% of small enterprises recruited or tried to recruit ICT personnel), whereas medium enterprises demanded significantly more ICT personnel (almost 15% of medium enterprises recruited or tried to recruit ICT personnel). Most importantly, 45% of firms that recruited or tried to recruit ICT personnel reported that they faced difficulties in finding personnel to cover their needs. This could possibly be attributed to the low availability of specialised ICT personnel in Cyprus.

[30]Cyprus Investment Promotion Agency website: Statistical Service Cyprus (2015), ICT Usage and E-commerce Survey in Enterprises, Dec. 2015

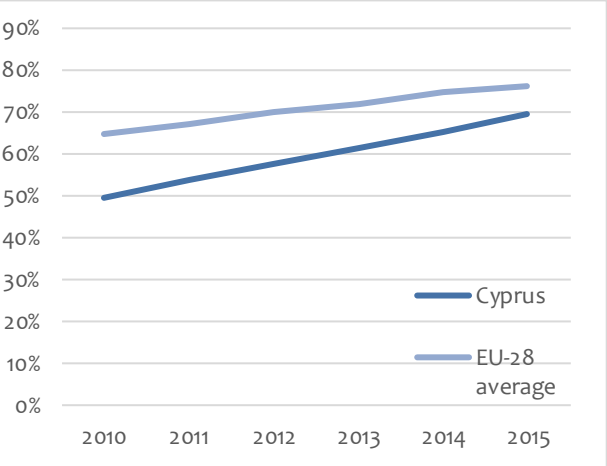
Figure 11: Enterprises that employ ICT personnel



Source: Cystat, 2015

Internet usage

Figure 12: Frequency of internet usage



Source: European Commission, Digital Single Market, 2015

Almost 70% of the population of Cyprus aged between 16 and 74 was using the internet frequently, whilst the EU-28 average of frequent internet usage was around 76.5%.

Despite this percentage being lower than the European average, the gap has been minimised significantly in the years 2010 to 2015, by almost 7.5% points. This improvement is mostly attributed to the development of new generation networks (NGA). Despite this improvement, however, 26% of the population has never used the internet, a figure much higher than the respective average of the EU-28 of 16.4%.

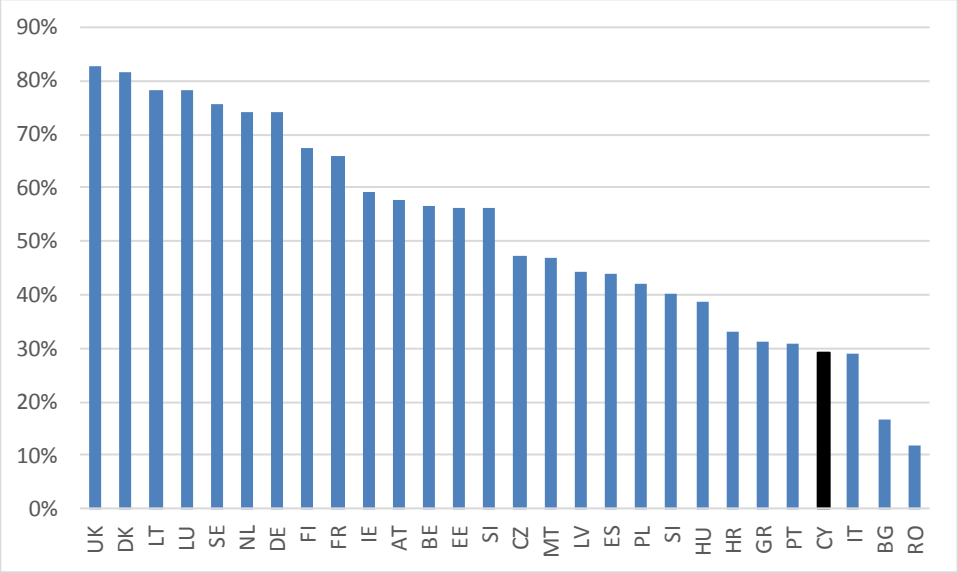
This high percentage mostly represents the age categories of 55-64 and 65-74 (30% and 40% respectively). It can be inferred that this percentage is also attributed to the fact that these age groups in Cyprus do not have the same digital skills as their younger counterparts. Hence, more than a quarter of the population does not have the basic digital skills needed to contribute to the digital economy.

E-commerce

Despite efforts made for the promotion of e-commerce in Cyprus by the Ministry of Energy, Commerce, and Tourism, performance remains well below the EU-28 average. Specifically in 2015, only 32.2% of internet users were involved in e-commerce transactions, whilst in the EU, the same percentage amounted for 65.3% of internet users. Hence, although online purchases have

increased, Cyprus remains significantly below the European average. Figure 13 below illustrates the position of Cyprus (4th from last) with regards to the size of on-line orderings placed by individuals. However, despite the fact that e-commerce is underdeveloped in Cyprus, online cross-border transactions in Cyprus was the only transaction that was higher than the EU average as a percentage of the individuals who participated in e-commerce transactions.[31]

Figure 13: Individuals ordering of goods or services online



Source: European Commission, Digital single market, 2015

The size of the Cypriot market can be attributed as the main reason for the abovementioned preference. Because Cyprus is a small island, consumers and suppliers are in close proximity to one and other and finding it more convenient to buy their products and services directly from these stores, rather than ordering them online. Furthermore, the relationships between customers and enterprises in such a small market are very strong, as well as very important, thus contributing to the low level of e-commerce transactions in Cyprus.

[31] Source: European Commission, Digital single market, 2015

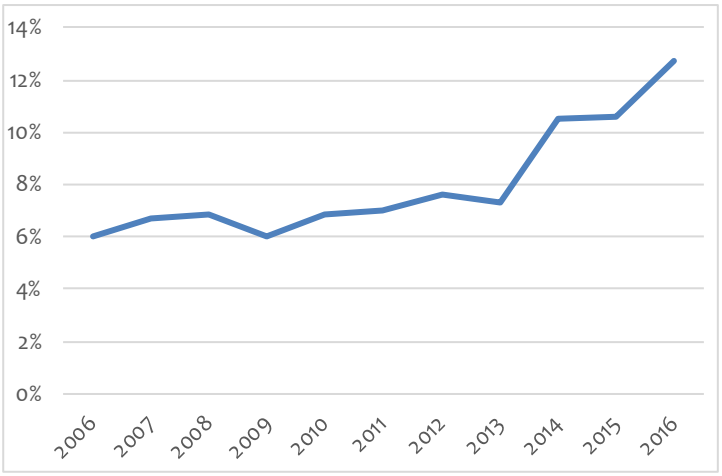


Figure 14: Share of enterprises selling online in Cyprus

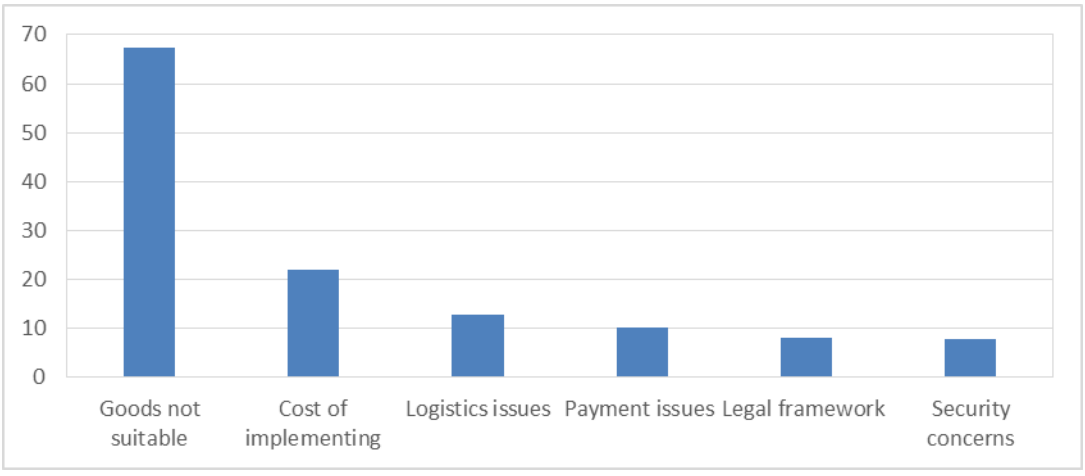
Source: European Commission, Digital single market, 2015

E-commerce can enhance the productivity of SMEs by exposing them to new opportunities and new markets. As previously mentioned, despite the fact that e-commerce is well developed in the EU, smaller countries are lagging behind. According to the EC's single digital market data, only 12.7% of the SMEs in Cyprus in 2016 offer the functionality to buy their products and services online (Figure 14). Although this percentage is low compared to the rest of the EU, there is a positive trend as more and more enterprises offer online service facility.

It is worth mentioning that, according to Eurostat (215/2015), only 4% of enterprises that already sell their products or services online, reported that they will not continue using e-commerce in the next 12 months, compared to a respective European average of 6%. This denotes that enterprises currently using e-commerce are satisfied.

As shown in Figure 15, a major obstacle to the expansion of e-commerce in Cyprus is the fact that products and services offered by enterprises are not suitable for online sales. Specifically, 67.3% of enterprises responded that this was their main reason for not choosing e-commerce as a channel to sell their products and services.[32]

Figure 15: Obstacles to e-commerce expansion



Source: Cystat, 2015

32 ibid

A second important constraint to e-commerce expansion in Cyprus, is the high cost of introducing the essential mechanisms for conducting web sales, as 21.9% of enterprises responded that they considered the costs of introducing online sales mechanisms much higher than the expected benefits. Furthermore, almost 13% responded that problems relating to logistics are another important obstacle. Other factors include possible problems related to payments, ICT security, and the legal framework.

As Cyprus is a services-oriented economy and a small market, the results of the survey are not surprising. Services are not as easily sold through the internet as products are. As previously mentioned, the fact that consumers have easy access to various stores in Cyprus also plays an important role as to why the costs of introducing online sales are considered higher than the benefits.

When business do invest in e-commerce capacity, Cypriot banks typically treat those investments as working capital rather than as long-term investments.

3.4.2 Broadband services and high-speed networks

Broadband internet, one of the most important elements of Digital Agenda of Europe, is considered to be the fuel of the European digital economy, having a growth rate seven times that of the rest of the European economy. Broadband internet plays a vital role in the Digital Single Market, since the up-take of very high capacity networks could potentially expand the use of products, services and applications. Nevertheless, data shows that citizens of Europe, and especially those living in rural areas, often lack high-speed broadband. As a result, the European Commission promotes both private and public investment in fast and ultra-fast networks through various initiatives.

The European Union has already met the target of providing basic broadband to all its citizens. This target was met with the creation of a satellite broadband capable of providing 100% coverage in every Member State. Targets that follow for EU Member States regarding broadband include a) coverage of NGN (Next Generation Networks) of 30 Mbps or more for all States and b) uptake of 100 Mbps subscriptions or higher in 50% of households by 2020.[33]

Digital Strategy and Broadband Plan in Cyprus

The "Digital Strategy for Cyprus" is in line with the objectives and actions proposed in the Digital Agenda for Europe, as well as in the new EU strategy of a Digital Single Market.[34] The vision of the Digital Strategy of Cyprus is for the "Information and communication technologies to support the development and the competitiveness of the economy, and citizen participation in the social, cultural, and political domains." Digital Strategy consists of six general objectives, each supported through various measures and initiatives.

The first general objective, "Connect Cyprus," is a prerequisite of the success of the Cypriot Digital Strategy and is further developed in the "Cyprus Broadband Plan 2016 - 2020."[35]

[33] European Commission (2014), The European Union Explain. Digital Agenda for Europe.
[34] Ministry of Transports, Communications and Works, Department of Electronic Communications (2012). Digital Strategy for Cyprus.
[35] Ministry of Transport, Communications and Works. Department of Electronic Communications (2016), Cyprus Broadband Plan 2016 – 2020.

"Connect Cyprus" aims to:

- Promote a stable regulatory framework, in order to attract and encourage Market forces to invest in electronic communications infrastructure.
- Ensure the rollout and up-take of broadband for all European citizens, at increasing speeds, through both fixed and wireless technologies. The Government will provide the Market with the opportunity to utilise all possible technologies based on technological neutrality.
- Promote competition in electronic communications and reduce prices of broadband services/products.
- Connect the whole of Cyprus with high and ultra-high speed networks, so that all undertakings, public institutions, and individuals (including vulnerable people) have access to information society services in order to benefit from the use of Information and Communications Technology (ICT) and bridge the digital divide.
- Address cyber threats and strengthen security in the digital network, in general.
- Enhance the international sub-marine cable network, connecting Cyprus with Europe, Middle East, and Africa with the aim to achieve effective competition, necessary resilience, and capacity, and to make Cyprus a telecommunications hub/gateway serving populations in neighbouring countries.

In the context of "Connect Cyprus," two national targets were adopted:

- By 2020, all households and enterprises to have access (coverage) to the Internet with at least 30 Mbps (high-speed networks).
- By 2020, 50% of all households and enterprises to have subscription (up-take) to the Internet with at least 100 Mbps (ultra-high speed networks). To achieve this, the following two parameters need to be satisfied: adequate coverage (supply side) and required up-take (demand side).

The importance of expanding the broadband services and high-speed networks in Cyprus is reflected in the OP "Competitiveness and Sustainability," which emphasises the need to identify and address whether a Financial Instrument (FI) for Electronic Communication Providers is required. The main purpose of this FI will be to incentivise the Electronic Communication Providers to develop ultra-high speed broadband in Cyprus. For example, with the transition to "Fibre To The Home" (FTTH) and other supporting actions in urban and semi-urban areas for both: business and houses.[36]

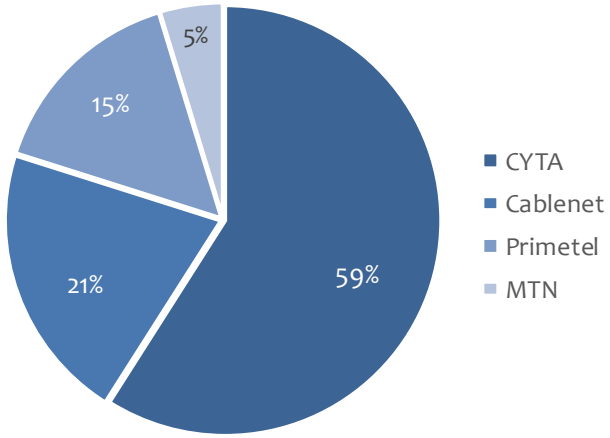
Currently, there are four Telecommunications carriers which provide broadband via a broadband platform; Cyta, Cablenet, Primetel, and MTN. As illustrated in Figure 16the dominant broadband provider is CYTA, with a coverage of around 59% of the market.

In 2015, the fixed broadband coverage was 100% in both urban and rural areas in Cyprus, the highest coverage of all EU countries. This is the result of the implementation of the digital national strategy for the provision of 100% coverage with 30 Mbps until 2020 and 50% absorption

[36] Republic of Cyprus, Operational Programme Competitiveness and Sustainable Development 2014 – 2020, Nicosia 2014

rate of 100 Mbps. However, the fixed broadband up-take was 69% in households (72% EU28 average), leaving a 31% of households have with no access to fixed broadband.[37]

Figure 16: Broadband subscribers (December 2016)

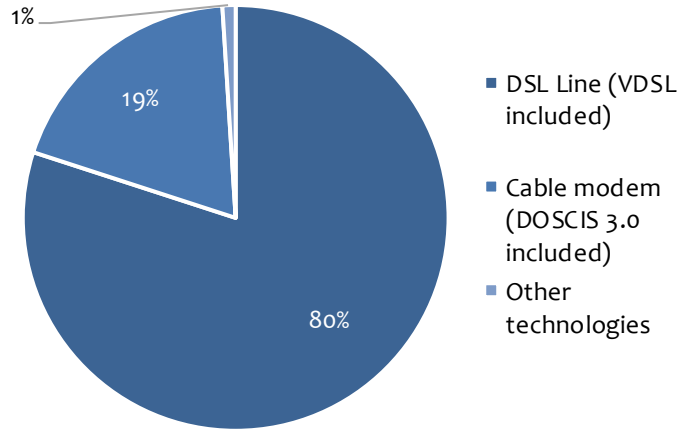


Source: Office of the Commissioner of Electronic Communications and Postal Regulations website

Furthermore, on average, Cyprus performs better than the rest of the EU in high-speed internet access, since networks capable of providing at least 30 Mbps are available to 84% of Cypriot households (71% EU28 average). However, only 4.3% of fixed internet subscriptions concern high-speed connections. Moreover, the number of people subscribed to mobile broadband is limited to 66 out of 100.

In conclusion, it is clear that the up-take of mobile broadband is low, with the use of fast fixed broadband being even lower; solid facts possibly hindering the ability of Cyprus to further exploit the benefits of the digital economy.

Figure 17: Broadband Technologies



Source: Republic of Cyprus, Cyprus Broadband Plan 2016

ADSL Internet connectivity has been available in Cyprus since 2001 and is now available in most urban and suburban areas, as well as in several rural areas at speeds that range from 256Kbps to 8Mbps.[38] The two major Telecommunications carriers, CYTA and Primetel, offer ADSL platforms over which a number of Internet Service Providers (ISPs) provide broadband internet connectivity to home and business users.[39]

As presented in Figure 17, in 2015, the dominant technology was DSL line (VDSL included) which represented 80% of Cyprus' broadband subscriptions. The cable modem (DOSCIS 3.0 included) represents 19% of subscriptions and 1% represents other technologies.[40]

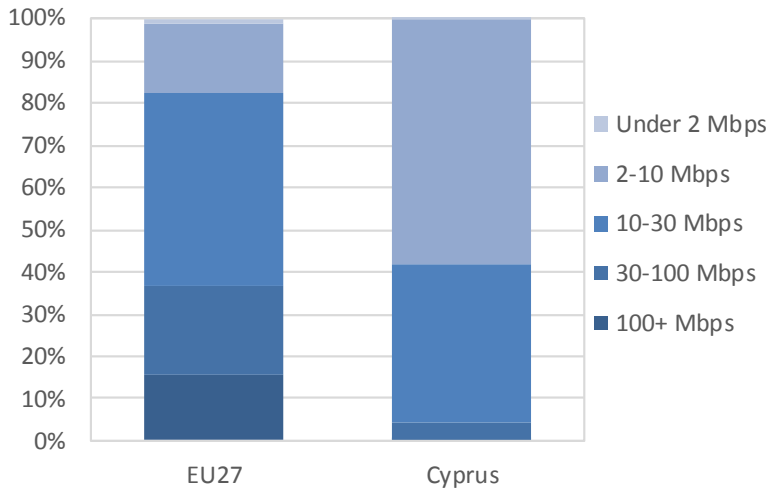
[37] European Commission (2016) – Digital Economy and Society Index 2016.

[38] ADSL is a specific type of DSL connection that divides the frequencies used to transmit data, which provides significantly improved download speeds at the cost of slower upload speeds.

[39] CYTA is the only incumbent telecommunications company in Cyprus. An incumbent telecommunications company is a former monopoly that still has a dominant market share.

[40] Ministry of Transport, Communications and Works (2016), Cyprus Broadband Plan 2016 – 2020.

Figure 18: Fixed broadband subscriptions by maximum advertised download speed, 2016



Source: European Commission, Digital Economy and Society Index 2016

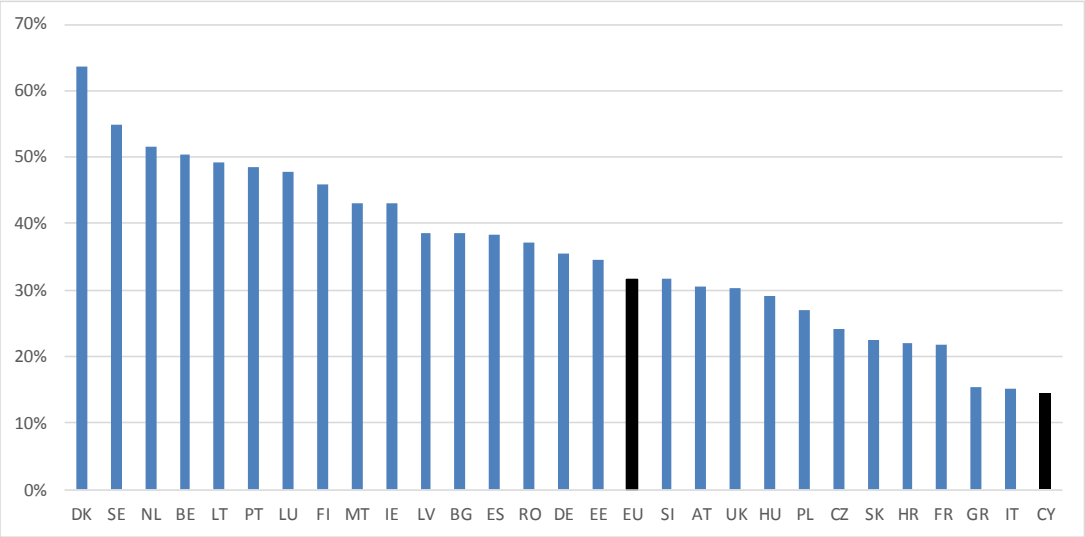
The bulk of fixed broadband subscriptions in 2016 were at least 2 Mbps but below 10 Mbps (Figure 18). Connections of between 10 and 30 Mbps represented 38% of subscriptions and those of between 30 and 100 Mbps were only 4%. Just a fraction of connections were 100 Mbps and above. It is obvious therefore, that demand or technical availability for high-speed connectivity in Cyprus is limited.

Further analysis for the reasons of low up-take of high speed Broadband in Cyprus is presented in section 8.6.1.

Broadband usage by SMEs

Cypriot SMEs have increased their access to higher internet speed in the last years. In 2014 only 5.3% of SMEs had access to fixed fast broadband connection, but by the end of 2016, only 14.4% of them had access to fixed broadband connection. Despite this improvement, SMEs do not use fast internet connection to the same extent compared to the rest of the EU (31.7% of EU-28 SMEs have access to fast fixed broadband connection). According to the Cyprus Broadband Plan 2016 - 2020 the target for Cypriot enterprises is by 2020, 50% of all households and enterprises to have subscription (up-take) to the Internet with at least 100 Mbps (ultra-high speed networks). As Figure 19 below illustrates, Cyprus is the last country in the EU regarding access of SMEs to fast fixed internet connections.

Figure 19: SMEs with fast fixed broadband connection

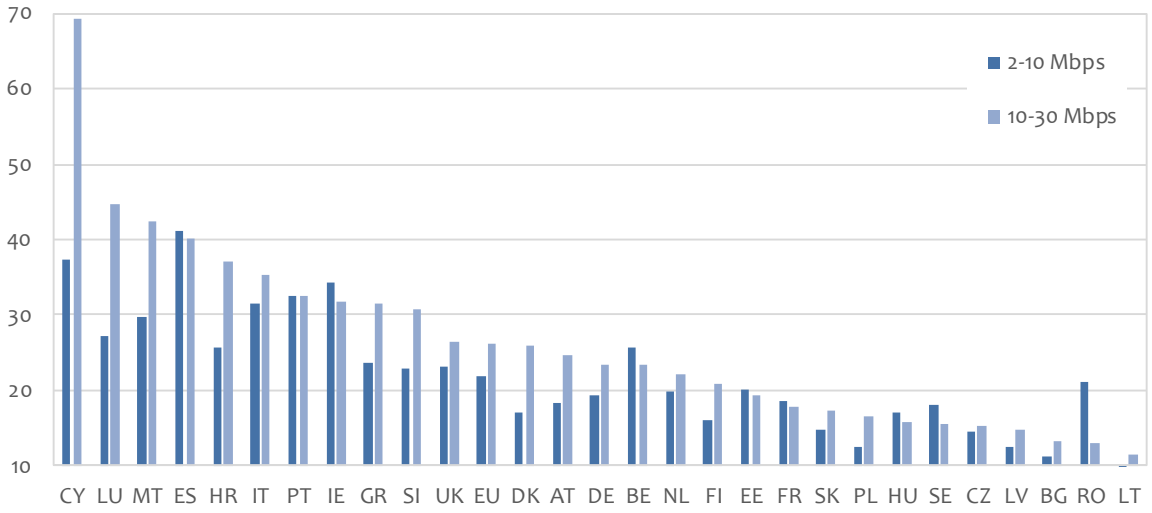


Source: European Commission, DESI 2016

Cost of Broadband connection

The cost of broadband in Cyprus is one of the highest in the EU (Figure 20). Recent years have seen a decline in prices however this has not yet resulted in a levelling of prices between countries.

Figure 20: Monthly price of internet subscriptions



Source: European Commission, DESI, 2016.

In Cyprus, the cost of lower speed (2-10 Mbps) subscriptions fell by more than 50% between 2011 and 2016, and around 13% for 30-100 Mbps. The most important reason for this reduction in prices is the opening of the market to new private companies that now offer same internet services making this the market more competitive.

3.5 Cross-cutting topics

Traditionally, SMEs in Cyprus were primarily financed through banking institutions with personal guarantees or collaterals. Banks due to the deterioration of the real estate market where at the same time the inability of potential borrowers to provide personal guarantees are unwilling to provide financing.

Additionally, banks due to stressed liquidity and capital adequacy position, together with the high non-performing loans level and the quality of assets have resulted in the tightening of credit standards where this is more profound for micro-enterprises and SMEs. The financing environment is yet extremely rigid as banks, especially after the financial crisis, continue to be unwilling to take risks.

Due to the financial crisis, a large number of SMEs lost their capital and the ability of SMEs to invest and expand was hindered. The entrepreneurs enter into a new unknown area of limited access to this customary form of financing. Even though the economy has indicated signs of recovery over the last couple of years' access to finance is still limited. Additionally, long payment times (among the top-three in the EU) have turn out to be normal in Cyprus and have a multiply effect on the entire business environment.

The banking institution treat medium size enterprises as large due to the size of the economy. Medium sized enterprises can access banking finance more easily than smaller enterprises.

Following the end of the economic adjustment program growth recommenced in 2015, with real GDP growth for the year reaching 1.6%. Real GDP is forecasted to have increased by 2.9% in 2016. In 2017, real GDP is projected to grow by 3.1%. Taking into account the turnout of the Economy and the rising household consumption SMEs have a positive sentiment about future turnover and business cycle.

Energy efficiency is an area of growth potential in Cyprus for the forthcoming years. This is leads to investment potential for SMEs in this sector. A thriving sector is tourism that has experienced exceptional revenues over the last few years with a 12% increase in revenue during 2016. During those years, hoteliers have invested in renovation and expansion of existing facilities but also have invested in energy efficiency projects so as to decrease their operating cost.

A further area that is likely to experience growth is waste management, and especially biomass plants. However, banks do not consider that as an opportunity since they cannot identify the economic benefits associated with the energy investment projects and for that reason, they require alternative collaterals. This is one of the major barriers that entrepreneurs face in this sector. Hence there is need for an alternative form of financing.

There is a market for start-ups especially after the financial crisis, but because of the lack for seed capital for new companies most of them seize to exist in quite early stage. An additional point of notice for start-up is that they have the ideas but they do not only lack financing but also business knowledge. Hence, there is a need for platforms that will bring start-ups to investors, such as equity investors, venture capitalist and business angels, and provide professional advice to them so to help them to flourish.

Currently there is a lack of equity finance and complete lack of formal bond market making it more difficult for micro firms and SMEs in general to access finance. Taking into account the need

for such market since economies become ever more dependent on innovation and entrepreneurship for achieving sustained growth, policy makers should take into consideration to deploy a set of policy instruments at both the demand and the supply side.

An additional point of notice is the procedures that take place in the financing process. Due to time-consuming bureaucracy traditional financing in many cases is not the optimum form of financing. Because it takes a long time to proceed with a loan application the innovations cannot be realised. However, although businesses do prefer grants o loans, several of the governmental grant schemes implemented to date have not been particularly popular with enterprises because of the heavy administrative and bureaucratic burden that they entail. In some cases, it has taken more than two years to design a grant scheme and launch the call for proposals. Additionally, it has been observed that there are significant delays in disbursing funds to successful applicants. These delays sometimes causes serious cash flow problems to the companies, mainly because the total investments made by the SMEs precede the disbursement of the grant allocated to the beneficiaries SMEs. As described above for loans application, this can also be a major barrier for companies, especially for those focusing on research, development, and innovation.

4 Investment priorities in the 2014-2020 programming period for SME financing, ICT and the Low Carbon Economy in Cyprus

In the 2014-2020 programming period Cyprus has four OPs.[41] For the purposes of this study, only the OP "Competitiveness and Sustainable Development" is relevant.[42] In the following three sub-sections, the sectors SMEs, Low-carbon economy, ICT and broadband services are analysed. Thereafter, the overall envelope of resources, eventually available for deployment via FIs in relation to the three investment areas under analysis in this study, is outlined.

The OP "Competitiveness and Sustainable Development" is financed by the European Regional Development Fund (ERDF), the Cohesion Fund and co-financed by the Republic of Cyprus. The programme aims to boost competitiveness and growth of the Cypriot economy, while contributing to the achievement of Europe's 2020 strategy. The total budget of the program is EUR661m with EU contribution reaching EUR 562m.

4.1 SME access to finance

Cypriot SMEs are supported by various investment priorities of the OP Competitiveness and sustainable development.

Table 12 below presents important information about the objectives of each IP and the allocation of resources that are related to SME Financing. It is important to stress, that the usage of FIs for SMEs is anticipated for both IPs.

[41] The four Cypriot OPs are OP Competitiveness and Sustainable Development; OP Employment, Human Resource and Social Cohesion; Rural Development Programme; and the OP for Maritime and Fisheries.

[42] Republic of Cyprus (2014). Partnership Agreement 2014 – 2020; Republic of Cyprus (2015). Operational Programme Competitiveness & sustainable development, December 2015.

Table 10: SMEs Financing in OP Competitiveness and Sustainable Development 2014 - 2020

SMEs Financing in OP Competitiveness and Sustainable Development 2014 - 2020									
Thematic Objective	**ESIF**	**IP**	**Recourses allocated per IP (€)**	**Objective**	**Resources allocated per TO (€)**	**Target group**	**Planned use of FI**	**Description of common and special result**	**Indicator (2023)**
TO 1: Strengthening the research, technological development and innovation	ERDF	IP 1b. Promoting entrepreneurial investment in research and innovation	N/A	1b.1 Increasing the private investment in research and innovation activities (Innovative SMEs)	82,352,941	SME	YES	Innovative Companies	55%
TO 3: Strengthening the Competitiveness of SMEs	ERDF	IP 3a. Promoting entrepreneurship, especially by facilitating the financial exploitation of new ideas and the support of new SME creation, also through incubators	N/A	3a.1 Strengthening the development of SMEs in national and international level in the fields of manufacturing and professional services	72,941,177	Existing and new SMEs, including individuals who want to do business Public Entities (e.g. Cyprus Tourism Organisation)	YES	3a.1 Gross Added Value on the sectors of Processing and Professional Services	EUR 2,410m
			N/A	3a.2 Improving tourism's product competitiveness				3a.2 Per capita expenditure of tourists in Cyprus	EUR 1,000
			N/A	3a.3 Promoting of creations and development of new entrepreneurial activity from special population groups.				3a.3 Establishment of new companies	25,000 people
	ERDF	IP 3a. Promoting entrepreneurship, especially by facilitating the financial exploitation of new ideas and supporting new SME creation, also through incubators	9,411,765	3a. 1 Enhancement of entrepreneurial activity in urban areas of intervention	N/A	SMEs and physical persons active or new in urban intervention territories Local Authorities or other relevant bodies	YES	3a.1 Establishment of new business in urban areas	0 people

Source: Republic of Cyprus, OP "Competitive and Sustainable Development 2014 - 2020, 2014.

4.2 Low-carbon economy

As part of the OP "Competitiveness and Sustainable Development," EUR 53 m have been allocated to TO 4 "*Supporting the shift towards a low-carbon economy in all sectors.*" This includes the investment priorities:

- 4b) "*Promoting the energy efficiency and use of renewable energy sources in SMEs*", which pursues the objective:
  - 4b.1 - increasing the energy savings of SMEs;
- 4iii) "*Supporting energy efficiency, smart energy and renewable energy in public infrastructure and residential sector.*" The objectives associated with this priority are:
  - 4iii.1 - increasing the energy savings in public buildings; and
  - 4iii.2 - increasing the energy savings in housing.

The thematic objective 4b.1 "*Increasing the energy savings of SMEs*" aims to strengthen the competitiveness of the SMEs through the reduction of energy costs and by limiting their dependence from fossil fuels. Potential beneficiaries are SMEs undertaking energy renovation works and/or introducing renewable energy sources for the energy production. The objective is to reach primary energy savings of 61 ktoe, equivalent to 709 GWh. In total, EUR 15 m are allocated for this priority.

As part of the investment priority "*Supporting energy efficiency, smart energy, and renewable energy in public infrastructure and housing sector,*" the energy measures supported include:

- Energy renovation works (insulation works, change of window frames, upgrading of the technical equipment);
- The installation or upgrading of smart energy management systems (monitoring and building control systems, smart meters);
- The installation of energy storage technologies and of high performance CHP technology.

The funding allocated to this investment priority amounts to EUR 37 m.

For the objective "*Increasing the energy savings in public buildings,*" potential beneficiaries are public institutions. The expected primary energy savings are approximately 21 ktoe, the equivalent of 244 GWh.

For the objective "*Increasing the energy savings in housing*," eligible beneficiaries are physical persons, owning residential buildings. The expected primary energy savings amount to 72 ktoe, the equivalent of 837 GWh. Table 13 illustrates the most relevant aspects of the investment priorities analysed as part of TO 4.

Table 11: Allocation of resources from the OP 2014-2020 for the low-carbon economy

Low-carbon economy Financing in OP Competitiveness and Sustainable Development 2014 - 2020									
Thematic Objective	**ESIF**	**IP**	**Recourses allocated per IP (€)**	**Objective**	**Resources allocated per TO (€)**	**Target group**	**Planned use of FI**	**Description of common and special result**	**Indicator (2023)**
TO 4: Supporting the shift towards a low-carbon economy in all sectors	ERDF	4b) Promoting the energy efficiency and use of renewable energy sources in SMEs	15,294,118	Increasing the energy savings of SMEs	15, 294,118	SMEs	Yes	4b.1 Primary Energy Savings in the business sector (services and industry sector)	61 ktoe / 709 GWh
		4iii) Supporting energy efficiency, smart energy management and renewable energy in public infrastructure and housing sector	37,647,059	Increasing the energy saving in public buildings	N/A	Public bodies / institutions	Yes	4iii.1 Primary energy savings in the public sector	21 ktoe / 244 GWh
				Increasing the energy saving in housing	N/A	Physical persons (owners of residential buildings)	Yes	4iii.2 Primary energy savings in the residential sector	72 ktoe / 837 GWh

4.3 ICT and broadband

OP "Competitiveness and Sustainable Development" devotes roughly 12% of funds allocated to Thematic Objective 2 "Enhancing the Access, Usage and Quality of ICT" is 12%, which is the second highest percentage of all TOs.

Table 12 presents the relevant information regarding Thematic Objective 2.

Table 12: ICT sector financing OP Competitiveness and Sustainable Development 2014 - 2020

Financing of ICT sector in OP Competitiveness and Sustainable Development 2014 - 2020									
Thematic Objective	**ESIF**	**IP**	**Recourses allocated per IP (€)**	**Objective**	**Resources allocated per TO (€)**	**Target group**	**Planned use of FI**	**Description of common and special result**	**Indicator (2023) (%)**
TO 2: Enhancing the access, usage and quality of ICT	ERDF	IP 2a. Expanding the broadband services and high-speed networks and supporting the adoption of emerging technologies and networks of digital economy	N/A	2a.1 Improving the access in ICT through the modernisation of the ICT infrastructure	86,470,589	Electronic communication providers	YES	2a.1 Percentage of coverage of residential houses with stable, high speed broadband connections (>100 Mbps)	50
		IP 2b. Developing ICT products, services and e-commerce and reinforcing the demand of ICT	N/A	2b.1 Promoting digital entrepreneurship		SMEs	YES	2b.1 Percentage of SMEs active in e-commerce	11
		IP 2c. Strengthening ICT applications for e-Government, e-Learning, e-Inclusion, e-Culture and e-Health	N/A	2c.1 Utilising ICT for improving the public services		Public Organisations and organisations of The Republic of Cyprus Local Authorities	NO	2c.1 Percentage of the population that uses eGovernment services	40
								2c.2 Percentage of businesses that use eGovernment services	91

Source: Republic of Cyprus, OP Competitiveness and Sustainable Development 2014 - 2020, 2014

5 Financial instruments and grant support for SMEs, the Low Carbon Economy, and ICT

5.1 National, ESIF and EU level grant schemes

This section presents available EU and national sources of grant finance in Cyprus that are targeted at SMEs, the low carbon economy, and ICT and broadband in Cyprus.

Grants are categorised in three groups: national grants, ESIF (European Structural and Investment Funds) grants and European level grants. National grant schemes are those provided and supported solely by the Republic of Cyprus. ESIF grants are those deriving from ERDF, European Social Fund (ESF), Cohesion Fund (CF), European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFF). Finally, EU level grant and financial instrument schemes are designed and coordinated directly by the EU, and are available not only to EU organisations but also to organisations based in Third countries. In most cases, Cypriot SMEs can apply for these only if they are part of a consortium.

5.1.1 Grant schemes for SMEs

National grant schemes[43]

Grant Scheme for recruiting graduates in Business

This scheme supports SMEs by providing funding to employ graduates of higher education.[44]

Grant Scheme for the long term unemployed

This grant supports SMEs in recruiting unemployed individuals covering their recruitment needs.[45]

Grant Scheme for promoting medical tourism

Medical Tourism is promoted by Cyprus Tourism Organisation and it is included in the strategic measures that aim to alleviate the seasonality issue. Aiming to promote the Medical Tourism product of Cyprus abroad, Cyprus Tourism Organisation offers grants to incentivise travel agents, private hospitals, dentists, and representatives of the Cyprus Health Promoting Agency to promote their medical services abroad.[46]

Grant Scheme for Promoting Sports Tourism

The main goal of this grant scheme is to encourage Cypriot travel agencies and sports federations to promote the Sports Tourism product of Cyprus abroad through business trips.[47]

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[43] For more details regarding the National grants please see Annex F.
[44] Human Development Authority of Cyprus (2016). Grant Scheme for recruiting graduates in Business. Policy guide and Procedures.
[45] Human Development Authority of Cyprus (2016). Grant Scheme for recruiting long term unemployed individuals to business, organisation. Policy Guide and Procedures.
[46] Cyprus Tourism Organisation website:
http://www.visitcyprus.biz/wps/portal/b2b/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3hXNofHYE8TIwMLxzAnAyNLNyczH6cgIwN_U_3g1Bz9gmxHRQA2Vq6l/
[47] ibid

Grant Scheme for Promoting Conference Tourism

The main target of the scheme is to enhance the Cypriot tourism product by promoting conference tourism. This can be achieved through encouraging the organisation of in-person meetings between conference tourism professionals from Cyprus and potential foreign clients.[48]

Grant scheme for agricultural firms to participate in trade shows

The SMEs can utilise this grant in order to promote their agricultural products in foreign markets. [51]

Grant scheme for companies participating in trade shows abroad

As part of the efforts for promoting Cypriot agricultural and industrial products, the Ministry of Energy, Commerce, Industry and Tourism covers the costs of Cypriot companies for participation in trade fairs abroad.[49]

Grant scheme for manufacturing firms to participate in trade

Cypriot companies, which are active in the field of process manufacturing, are eligible for financial support through this scheme for participating in trade fairs abroad. [52]

ESIF grant schemes

Grant scheme for the enhancement of youth entrepreneurship

The grant scheme for "Enhancement of Youth Entrepreneurship" offers financial support to young people in creating and developing of their own companies. The primary objective of the scheme is the development of new sustainable, dynamic, and competitive SMEs. [50]

The scheme was successful during the previous programing period 2007 - 2013 with EUR 12m being distributed to 443 companies. Since the adoption of the current programming period 2014-2020, the scheme has attracted huge levels of interest from young entrepreneurs, resulting in 581 applications being submitted during the first call, of which 287 were approved.[51] As a result, the initial budget of the first call was increased from EUR 8m to EUR 10m. The second call of proposals is expected to be announced during 2017.

Grant scheme for the enhancement of women entrepreneurship

The aim of this grant is to give support to female entrepreneurs to create their own company. The amount of funds allocated to this grant is lower as in the previous programming period, EUR 3.6m were distributed to 126 companies.[56]

During the first call of the current programming period, 287 applications were submitted, of which 113 were approved. Funds provided to these projects amounted to EUR 3.75m. The second call for proposal is expected to run during 2017.

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[48] Ministry of Energy Commerce Industry and Tourism website: http://www.MECIT.gov.cy/MECIT/MECIT.nsf/All/9097394350BF2C1DC2257EB4004A0668?OpenDocument

[49] Ministry of Energy Commerce Industry and Tourism website: http://www.MECIT.gov.cy/MECIT/MECIT.nsf/All/9097394350BF2C1DC2257EB4004A0668?OpenDocument

[50] Ministry of Energy, Commerce, Industry and Tourism (2015). Grant Scheme for Enhancement of Youth Entrepreneurship, February 2015.

[51] Christos Phodiates (2017). "Grant Schemes 2014 - 2020" , presentation in the Third Annual Conference of European and Structural Funds, February 2017

Grant scheme for the enhancement of competitiveness of manufacturing SMEs

This grant scheme aims to support the development of SMEs that are involved in manufacturing sector and other targeted economic activities. During the previous programming period 331 companies have been awarded this grant from the Ministry of Energy, Commerce, Industry and Tourism. The total budget amounted to EUR 18.5m.

The total budget assigned to the current programming period is EUR 17.7m. During the first call for proposals, 403 applications were submitted, of which 287 were approved (127 applications for investments under EUR 100,000 and 160 for investments above EUR 100,000). The total budget already distributed is EUR 13.1m.[52]

Grant Scheme for the manufacturing, marketing, and development of agricultural products

This grant scheme aims to support new and existing companies, which are actively involved in commercialisation and processing of agricultural products.

During the previous programming period, 194 companies received funding with the total of EUR 14.4m. The total budget for the first call for proposals of the current programming period reached EUR 10 m.[53]

Grant scheme for strengthening business innovation

This scheme aims to support and strengthen start-ups and existing companies, which invest in a new or significantly improved development of product, service or process (innovation).[54]. Particular emphasis is placed on the development of products, services, and processes that may be protected by patents or industrial designs and can be successfully introduced to the international markets.

During the last programming period, 37 companies received the total amount of EUR 14.3 m through this scheme. The total budget for the new programme period is increased to EUR 18m. The grant scheme appeared to be very popular, since during the first call for proposals 204 applications/projects were submitted through which 266 companies applied to receive funding from the grant (since more than one companies can participate in one project/application).

RESTART programmes for research, technological development, and innovation 2016 - 2020

The RESTART Programmes are Multi-annual Framework of Programmes that support Research, Technological Development, and Innovation (RTI) in Cyprus.[55] SMEs active in the research and innovation field are eligible to participate in all the sub-programmes of RESTART. Furthermore, many sub-programmes exclusively target SMEs.

[52] Ministry of Energy, Commerce, Industry and Tourism (2015). Grant Scheme for Enhancement of Competitiveness of SMEs Belonging to Manufacturing sector and Other Targeted Activities, March 2015.
[53] Cyprus Agricultural Payments Organisation (2016). Status 4.2 Unit Implementation Guide – Applicants Information, Development and Modernisation of related to Manufacturing Marketing & Development of Agricultural Products, March 2016.
[54] Ministry of Energy, Commerce, Industry and Tourism (2014). Grant Scheme for Strengthening Business Innovation.
[55] Research Promotion Foundation (2016). Restart 2016-2020 Programmes.

As a result, a company can apply for any of the sub-programmes of RESTART without limiting itself by its specific needs. The following sub-programmes are offered to the companies within the Restart framework.

- Research in enterprises
- Research in newly established enterprises
- Investigation of industrial application technology, know-how
- EUREKA and EUROSTARS
- DOCTOR (PhD holders)
- SME Instrument[56] - Second Opportunity
- Innovation vouchers
- Participation in events for international networking purposes
- Commercialisation of research results by the enterprises

Grant scheme for enriching and modernising tourism products

This grant scheme supports the strategy of the Cyprus Tourism Organisation of sustainable development of the tourism sector in Cyprus.[57] Activities eligible for this grant are:

- Development of stand-alone projects or specific additions to the hotels such as conference centres, sports and coaching centres for football and swimming.
- Modernisation of existing hotels and tourism accommodation spaces.
- Modernisation, upgrade extension and renovation of existing buildings, facilities such as hotel conference rooms, sport centres for football, swimming and biking.

Grant Scheme for enhancing the competitiveness of the wine industry

The grant scheme supports the material and non-material investments in facilities, wine infrastructure, and, or wine trading, which will result in enhancement of wine's industry competitiveness.

EU level grant schemes

Overall Participation of Cyprus for 2014 - 2020

More than EUR 120bn will be distributed to various organisations in Europe and Third Countries in form of grants through the Competitive European Programmes. Cypriot organisations have been participating in most of these programmes mostly as parts of European or international consortia. For the period of 2014 - 2015 organisations that are based in Republic of Cyprus have

[56] SME Instrument is a programme of Horizon 2020. It supports SMEs in marketing innovative products, services, processes in international markets. It consists of three phases. At Phase 1, successful SMEs receive EUR 50,000 for developing a business plan. At phase 2 SMEs receive up to EUR 2.5 m (EUR5m for clinical research) for further development and commercialisation their product, service, process. At phase 3, SMEs receive business support in the form of consultancy services in order to access risk finance.

[57] Cyprus Tourism Organisation (2016). Grant Scheme for Enriching and Modernising the Tourism Product Aiming to Extend the Tourism Season, December 2016.

managed to absorb EUR 73.3m. During the current programming period (2014 - 2020), DG EPCD expects the absorption of EUR 300m by Cypriot organisations.[58]

European Grants for SMEs

SMEs can participate in various European Competitive Programmes. However, the programmes relevant to the scope of this report are those that enhance the competitiveness of SMEs. SMEs enhance their competitiveness by supporting the development of their product, services, process or by facilitating their access to markets. These programmes are Horizon 2020, Creative Europe, and COSME.

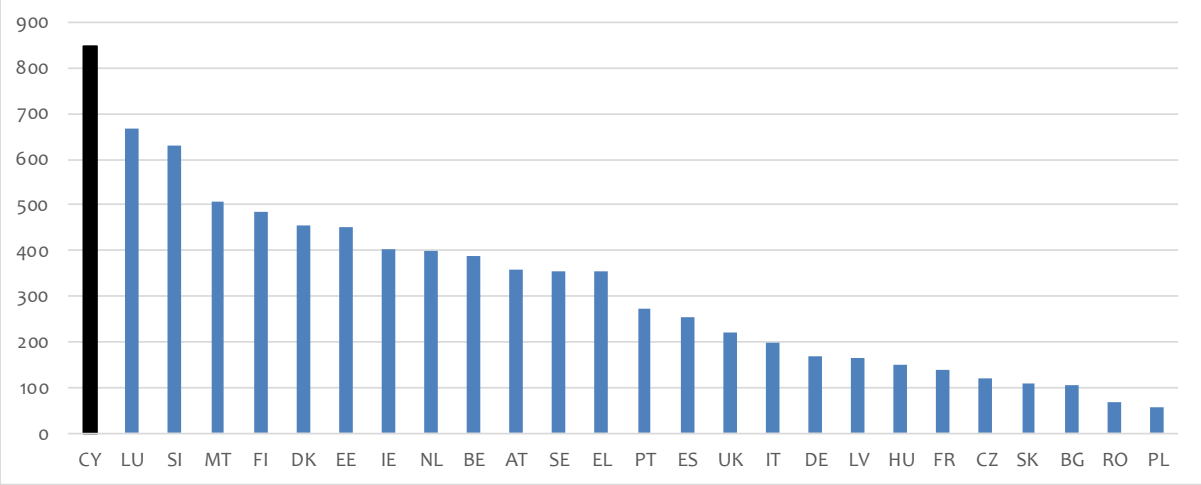
Horizon 2020

Horizon 2020 is seen as the funding instrument for implementing other European initiatives, such as the Innovation Union or Europe 2020, which are aimed to secure Europe's global competitiveness. It is the EU's biggest research and innovation programme ever introduced with nearly EUR 80bn of available budget for the period of 2014 - 2020.

Horizon 2020 stimulates the SME participation across the whole programme, but with a particular focus on close-to-market support. It is expected that SMEs will absorb EUR 8.6bn. This means that SMEs are directly encouraged for Research and Innovation activities mostly as part of a consortium. The SMEs can claim grant up to EUR 5m. The percentage of the expenses covered by the subsidy depends on the type of the action (e.g. Innovation action, research and innovation action, coordination and support actions etc.) and ranges from 70% - 100%.

Cypriot organisations have been actively participating in Horizon 2020 programme by extensively submitting their applications. Cyprus holds the first place regarding the number of eligible applications submitted per capita (Figure 21). Nevertheless, the percentage of Cypriot organisations that received granting from Horizon 2020 is 11%, which is below the EU average of 13% per country.

Figure 21: Number of eligible applications to Horizon 2020 per capita

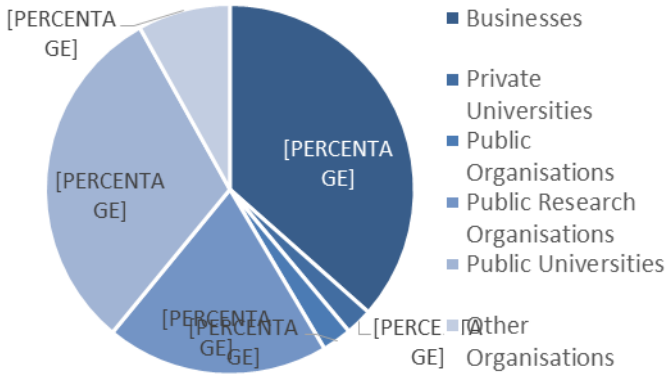


Source: European Commission, Horizon 2020: First Results, 2015.

[58] Georgia Christophidou (2017). "Funds Absorption from EU Competitive Programmes," presentation in the Third Annual Conference of European and Structural Funds, February 2017.

Until 2016, 1,301 proposals that include at least one Cypriot organisation were submitted.[59] The majority were submitted by a consortium and not by a single organisation. Sometimes, more than one organisation from the same country is participating in a consortium. The total number of Cypriot organisations participating in these proposals is 1,585, of which 591 organisations were SMEs. 141 proposals were successful. The number of successful proposals is 141 of which 39 had a Cypriot organisation as a coordinator. 7 coordinators (of those 39) were SMEs. The data presented in Figure 21 is the number of applications per million inhabitants. The average number of eligible applications per capita for the EU as a whole is 293. Some smaller MS, in particular Cyprus, Luxembourg, and Slovenia, are particularly active.

Figure 22: Horizon 2020 funding distribution amongst the Cypriot Organisations



Source: Research Promotion Foundation, Results regarding the participation of Cyprus in Horizon 2020, 2016.

SME Instrument

SME Instrument is one of the financial initiatives of Horizon 2020 that is designed exclusively for Innovative SMEs, which cannot have access to financing due to their high-risk nature. With a budget of EUR 3bn allocated for the period of 2014 - 2020, SME Instrument is expected to support more than 7,500 companies.

SME Instrument consists of three phases. At Phase 1, successful SMEs receive EUR 50,000 for development of a business plan. At phase 2, SMEs receive up to EUR 2.5m (EUR 5 m for clinical research for the validation of biomarkers and/or diagnostic medical devices) for the further development and commercialisation of their product, service, and process. At phase 3, SMEs receive business support in the form of consultancy services with the purpose of access to risk finance.

In Cyprus, only six SMEs were successful in receiving a grant through SME Instrument. Five companies succeeded at Phase 1 and one company succeeded at Phase 2.

Creative Europe

Creative Europe is the framework programme for supporting the culture and audio-visual sectors. It consists of two sub-programmes: Culture and Media.[60] Through the Media sub-programme,

[59] Most of the times, the proposals submitted are by a consortium and not by a single organisation. Sometimes, more than one organisation from the same country is participating in a consortium. Almost any type of private or public organisation is eligible to participate in Horizon 2020.

[60] Creative Europe website: https://ec.europa.eu/programmes/creative-europe/

SMEs in the field of the creative industries can access new international opportunities, markets, and audiences.[61] This can enhance the design and development of new products such as documentaries, video games, and films. The total budget for this sub-programme is EUR 1.46bn and it covers from 50% to 80% of the costs. The subjects of the proposals to be submitted under this Programme are the following:

- Access to Markets;
- Audience development;
- Development of single projects and slate funding;
- Distribution support;
- Distribution - online;
- International coproduction funds;
- Film Festivals.

COSME

COSME, the EU programme for the Competitiveness of Enterprises and SMEs, supports SMEs in:

- Facilitating access to finance through the Loan Guarantee Facility and the Equity Facility for Growth;
- Supporting internationalisation and access to markets through various initiatives namely the Enterprise Europe Network, the Your Europe Business portal which provides practical information on doing business within Europe, and IPR (Intellectual Property Rights) SME Helpdesks;
- c)Creating an environment favourable to competitiveness by encouraging SMEs to adopt new business models and innovative practices;
- Encouraging an entrepreneurial culture by strengthening entrepreneurial education, mentoring, guidance, and other support services.

The total available budget for the current programming period is EUR 2.3 bn.

Currently, the financial instruments provided by COSME are not promoted by Cypriot Banks. However, one Cypriot Bank plans to utilise those instruments in the near future[62]. The Bank does not disclose any additional details but only indicates that the possible application for COSME will be linked to the bank's growth strategy and the complementarity of the existing products already provided by the Bank.

[61] According to the EC Green Paper on Cultural and Creative Industries (2010) "Cultural industries" are "those industries producing and distributing goods or services which, at the time they are developed, are considered to have a specific attribute, use or purpose, which embodies or conveys cultural expressions, irrespective of the commercial value they may have. Besides the traditional arts sectors (performing arts, visual arts, cultural heritage – including the public sector), they include film, DVD and video, television and radio, video games, new media, music, books, press and Creative industries "Creative industries" are those industries which use culture as an input and have a cultural dimension, although their outputs are mainly functional. They include architecture and design, which integrate creative elements into wider processes, as well as subsectors such as graphic design, fashion design, or advertising."

[62] Information provided during stakeholder interview

5.1.2 Grant schemes for the Low–Carbon Economy

This section presents the national, ESIF and EU level grant programmes implemented in Cyprus, which provided funding for the low-carbon economy as of 2014. National grant schemes

The main schemes which have been in place in recent years for the promotion of energy efficiency in housing and renewable energy are the "I save and upgrade" support scheme, the "Net Metering Scheme" and the "Solar Energy for all" programme.

The first scheme was a source of investment in energy renovation works and solar thermal energy. The last two programmes aimed to stimulate the development of small-scale PV installations in households and SMEs.

"I save and upgrade" support scheme

The "I save and upgrade" support scheme was managed by the MECIT. It was financed through the OP Competitiveness and Sustainable Development. The scheme has been in place from April 2015 and was due to last until December 2016[63]. In February 2016, it had to close prematurely due to the exhaustion of available funding. The specific conditions applying to the different categories eligible for funding, i.e. households, vulnerable households, and SMEs are provided below.

"I save and upgrade" support scheme for households

Energy efficiency works are eligible provided they achieve a rating of category B of the Energy Performance Certificate (EPC) or energy savings of up to 40%. The type of works which can be financed through this instrument are energy efficiency renovation works, such as the insulation of walls or roofs, the replacement of windows and the installation of solar thermal heating and domestic hot water.

Public funding, in the form of a grant, could cover up to 50% of the total required amount for the works, up to a maximum EUR 15,000 for each building and up to EUR 10,000 for each building unit. In case a heating or cooling system based on renewable energy technology is installed, the grant amount can be doubled. The share of public funding can be increased to 75%, for a total amount of up to EUR 25,000, if the dwelling is converted into a Nearly Zero Energy Building (NZEB) after the renovation works.

"I save and upgrade" support scheme for vulnerable households

For vulnerable households, the grant mechanism covers 75% of total cost of the works eligible as part of the scheme. The total funding can reach up to EUR 25,000 per building and EUR 20,000 for each building unit. The eligibility criteria applying to vulnerable households are the same as for normal households. [64]

[63] Ministry of Energy, Commerce, Industry and Tourism (2015): "I save and I upgrade scheme – Residential buildings." 1st call for applications (Greek version). Available online from: http://www.MECIT.gov.cy/MECIT/MECIT.nsf/All/835CD1638D3D0B8AC2257E0B00492EBA?OpenDocument

[64] Ministry of Energy, Commerce, Industry and Tourism (2015): "I save and I upgrade scheme - Guide for the implementation Residential buildings"

"I save and upgrade" support scheme for businesses

To be eligible for funding, the energy renovation works undertaken should allow for the achievement of the category B of the EPC or should generate energy savings of at least 30%. The funding covered 50% of the total energy renovation cost and up to EUR 200,000 for each SME.

For energy renovation works enabling the achievement of NZEB requirements, the subvention could reach up to 75% of the total investment. This funding was however not available for SMEs in the fisheries and agricultural sector.[65]

Net-metering scheme and "Solar energy for all" subsidy

These schemes, introduced by the MECIT, are specifically designed to finance and stimulate investments in the deployment of small-scale PV installations for households and companies. The "Solar energy for all" support scheme is specifically designed for vulnerable households. The different schemes are as follows:

The **Net-metering scheme** is a billing mechanism that credits the owners of the PV installations for the electricity injected into the grid. On a monthly basis, the power produced by the PV installations is deduced from the electricity consumption. If there is a deficit, i.e. the electricity consumed is higher than what has been produced; the difference is billed to the household or business. In case of an electricity surplus, this can be affected to the upcoming month. However, surpluses cannot be carried on from one year to the next and excess electricity production will not be paid out. Until the end of 2015, this scheme was open only to households and for installations of up to 3 kW. Since 2016, the scheme is open also to companies and the maximum capacity has been increased to 5 kW per unit. The maximum aggregate installed capacity is reviewed on a yearly basis and is currently set at 10 MW[66]. Of these, 1.2 MW are reserved for the beneficiaries of the "Solar energy for all" support scheme.

The **"Solar energy for all" support scheme** was designed to fund the purchase and installation of PV units for vulnerable households. The funding covers the total investment. The capacity funded should not exceed 3 kW per household and 2,700 EUR for each installation. A maximum capacity of 1.2 MW can be funded as part of the programme, leading to a maximum envelope of EUR 1.08 m. PV installations set up as part of this scheme are included in the Net-metering scheme (presented above). [67] This programme is financed partly through a dedicated tax on the electricity bill and partly through governmental funds[67].

[65] Ministry of Energy, Commerce, Industry and Tourism (2015): "I save and I upgrade scheme - Guide for the implementation Commercial buildings"

[66] RES Legal EU (2017): Net-metering Cyprus Country Factsheet. Available online from: http://www.res-legal.eu/search-by-country/cyprus/tools-list/c/cyprus/s/res-e/t/promotion/sum/116/lpid/115/

[67] Ministry of Energy, Commerce, Industry and Tourism (2014): "Solar Energy For All" Programme for the promotion of the installation of PV systems

Table 13: National support schemes for energy efficiency and renewable energy projects

Title of the measure	Type of measure	Status	Period of duration	Executive body	Source of funding	Financing total (€m)	Type of works eligible for funding	Eligibility criteria	Max. total grant (€)	Share of total financing (%)
	Grant	Closed	From 4/2015 to 2/2016	MECIT	ERDF / Government	10.5	Renovation works to improve energy efficiency in buildings, installation / replacement of solar thermal installations	<u>Normal households:</u> Building upgrade to B category of the EPC, energy savings of up to 40%	Single family houses: EUR 15,000 Apartments: EUR 10,000 Increase by EUR 10,000 for REN-powered heating /cooling installations	Normal households: 50%
								<u>Vulnerable households:</u> Implementation of specific measures for energy efficiency	Single family houses: EUR 25,000 Apartments: EUR 20,000	Vulnerable households: 75%
								Achievement of Nearly Zero Energy Buildings standards	Single family houses: EUR 25,000 Apartments: EUR 20,000	75%
	Grant	Closed	From 4/2015 to 2/2016	MECIT	ERDF / Government	8.7		Building upgrade to B category of the EPC, energy savings of up to 40%	EUR 200,000	50%
								Achievement of Nearly Zero Energy Buildings standards	EUR 200,000	75%
	Grant	Open	N/A	MECIT	Government funds Consumer tax on electricity	1.08	Purchase and installation of PV	PV Installation of up to 3kW Vulnerable households	Subsidy of EUR 900/kWp with maximum grant EUR 2,700	Up to 50%
	Billing mechanism	Open	N/A	MECIT, under approval of CERA	No specific funding allocated for this measure	N/A	Purchase and installation of small-scale PV	Households participating to the "Solar Energy for all" scheme, SMEs and households having installed small-scale PV equipment	N/A	N/A

ESIF grant schemes

The ESIF grants promoting RE and EE projects in Cyprus are financed by the ERDF, through the Interreg programme.

A majority of these target public authorities and aim to develop an environment that will stimulate RE and EE investments. The initiatives provide capacity building to local authorities, reinforce actions undertaken through SEAPs and support the development of innovative fiscal approaches for RE investments.

One of these initiatives, the **ELIH-MED project**, focuses on low-income households, and aims to assess the potential energy and financial savings achievable through energy renovation works. In Cyprus, the initiative targeted 25 households with low income, owning buildings with very high energy consumption levels. Interventions to improve EE were tailored to the technical situations of the different dwellings. These included interventions on the building envelope (insulation of roof and walls, replacement of windows), the technical installations (heating and cooling), installation of renewable energy technology (solar thermal energy and PV) and smart meters. The refurbishment costs amounted to EUR 250,000.

Investment in smart net metering for PV systems was also promoted through a dedicated programme until 2016.

Only two of these programmes, the PV-NET and the ELIH-Med project, fund actual investments for the implementation of energy efficiency, smart energy management and renewable energy projects.

The list of these programmes is presented in Table 16 below.

Table 14: ESIF grant schemes for energy efficiency and renewable energy projects

Title of the measure	Area	Target group	Status	Period of duration	Source of EU funding	Funding total (€)	Type of works eligible for funding
	EE and RE	Low-income households	Open	From 2011	ERDF (Interreg MED Programme)	517,800	Interventions to improve EE in low-income households. This includes: energy audits and energy renovation works, including the installation of RE technologies and smart meters
	EE	Local authorities	Open	From 2016	ERDF	205,000	Development of integrated large-scale joint actions for EE, implementation of a web platform and a geo-database of EE measures adopted by the municipalities within SEAPs or other local energy plans, to improve the efficacy of EE measures for public buildings and foster PPPs
	RE	Public authorities	Closed	From 2010 to 2013	ERDF (Interreg MED Programme)	220,000	Investigate and evaluate the impacts that a non-regulated diffusion of RES could cause on Mediterranean territories (landscape alteration and cultural heritage)
	RE	Local authorities	Open	From 2016	ERDF (Interreg MED Programme)	205,340	Support to Local Authorities to define and implement innovative local fiscal policies, intended to promote RES both in the public and private sector and households, mainly in the framework of the Sustainable Energy Action Plans adopted by Local Authorities signatories of the Covenant of Mayors
	RE	Public and private sector	Closed	From 2013 to 2016	ERDF (Interreg - MED Programme)	121,660	Promotion of smart net metering to allow cost-effective RES incorporation into the energy mix. Implementation of installations to collect data useful for improving energy efficiency and informing prosumers
	EE	Public authorities	Closed	From 2012 to 2015	ERDF (Interreg)	135,400	Surpassing energy efficiency targets through energy efficiency in public buildings. Exchanging experiences and testing initiatives that help improve levels of energy efficiency in different typologies of publicly owned or managed buildings
	EE	Public authorities	Open	From Jan. 2017 to Dec. 2021	ERDF (Interreg)	135,000	Institutional capacity of public administrations and public services related to implementation of ERDF or actions supporting ESF institutional capacity initiatives for the energy efficient renovation of historical buildings by preserving the historical heritage of the buildings

EU level grant schemes

The EU level grants supporting RE and EE investments have a wide range of target groups, including households, local authorities, farmers and private developers.

The RE grants aim to promote less mature technologies, including biogas, as well as innovative technologies such as CSP and algae for bioenergy production. They also seek to develop smart grids and smart metering.

Most of these initiatives focus on:

- Reinforcing the technical capacity in the planning and delivery of projects;
- Foster economies of scales in the implementation of EE and RE actions;
- Develop new approaches to EE renovation of buildings.

The table below illustrates these programmes. Of these, only the NER 300 Programme funds the investment phase of smart metering and RE projects. This Programme is presented in detail in this section.

Table 15: EU-funded grants for energy efficiency and renewable energy projects

Title of the measure	Area	Target group	Status	Period of duration	Source of EU funding	Funding total (EUR)	Type of works eligible for funding
	RE	Public authorities	Open	From 2014	EC (Intelligent Energy Europe)	85,000	Implementation of 23 bankable sustainable energy projects in SEAPs. Reinforced technical capacity of public authorities in the efficient delivery of SEAP actions and creation of regional support structures. Creation and dissemination of guidelines for strategic implementation processes including best practice for implementation of SEAP actions
	EE	Households	Closed	From 2012 to 2015	EC (FP7)	40,950	Carry out research to develop a single practical approach to the renovation of homes with the potential to contribute significantly to reducing energy consumption
	EE	Schools	Open	From 2013	EC (Intelligent Energy Europe)	70,500	Information and awareness raising in the schools on energy saving practices
	RE	Farmers	Closed	From 2011 to 2013	EC (Intelligent Energy Europe)	65,400	Technical support to farmers for the development of biogas projects: support in drawing the feasibility studies, business plans and strategies for investment in biogas facilities
	RE	Public and private sector	Closed	From 2011 to 2014	EC (ENPI Programme)	90,000	Enhance regional and cross border collaboration for the development of a new generation of biofuels from microalgae through the development of dedicated laboratories
	RE	Private developers	Open	From 2011	EC (NER 300)	117,000,000	Funding of innovative renewable energy projects in the EU. In Cyprus, two CSP projects and one smart grid project were awarded funding (see dedicated table for more information)

The **NER 300 Programme** provides funding to innovative low-carbon energy demonstration projects. These include carbon capture and storage, innovative renewable energy technologies and smart grids. The renewable energy technologies supported by the scheme are bioenergy, CSP, PV, geothermal, wind, ocean and hydropower. The grants cover up to 50% of the total investment.[68] In Cyprus, the NER 300 Programme has awarded funding to two CSP projects and one smart grid project, providing a total funding of EUR 117m.

Table 16: Projects funded under the NER 300 scheme in Cyprus

Project	Technology	Power installed / No. of beneficiaries	Planned Yearly production	Call for proposals	Max. Funding NER 300 (EUR m)	Status
	Concentrated Solar Power	50.7 MWe	160 GWh	First call for proposals	46	Funding Approved
	Concentrated Solar Power	50 MWe	170 GWh	Second call for proposals	60	Funding Approved
	Smart Grids	25,000 customers	N/A	Second call for proposals	11	Funding Approved

Source: NER 300, EC[69]

The beneficiaries of this scheme are capital-intensive companies, which, for the size of the annual turnover, cannot be considered SMEs[70].

Conclusions

The EU level and ESIF grant schemes presented above show that support is given throughout all project phases, including the preliminary stage of developing an attractive environment for EE and RE investments.

In general, instruments financing the actual EE and RE investments are very limited in number and volume. Most instruments are developed for public authorities, some have been put in place for households.

[68] European Commission (2017): NER 300 Programme. Available online from: https://ec.europa.eu/clima/policies/lowcarbon/ner300_en

[69] European Commission (2017): Questions and Answers on the outcome of the second call for proposals under the NER 300 Programme. Available online from: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

[70] The EC definition of SMEs being a company with less than 250 employees, an annual turnover of less than EUR 50m and a balance sheet of less than EUR 43m

5.1.3 Grant schemes for ICT

National and ESIF grant schemes

No national or ESIF grant schemes exist today in Cyprus that are specifically designed for ICT companies. However, ICT companies can benefit from other grant opportunities, mentioned above.

Therefore, ICT companies can apply to the following national grants:

- Grant scheme for recruiting graduates in companies;
- Grant scheme for recruiting long term unemployed people to companies and organisations.

The ESIF grants that ICT companies or ICT entrepreneurs can apply for are:

- Enhancement of Youth Entrepreneurship;
- Enhancement of Women Entrepreneurship;
- Scheme for Strengthening Business Innovation;
- Restart Programmes for Research, Technological Development and Innovation 2016 - 2020.

ICT companies, especially the ones that develop innovative products, are mainly participating in the "Grant Scheme for Strengthening Business Innovation." According to the Ministry of Energy, Commerce, Industry, and Tourism statistics, 50% of the applications submitted during the first call of the current programming period were related to ICT products and services while 30% of the applications involved ICT support. Only 20% of applications did not suggest or promote any ICT products or services.

ICT is also widely promoted through Restart programmes as part of the two horizontal priorities of the Smart Specialisation Strategy.[71] This suggests that ICT companies are expected to strengthen the competitiveness of every sector that is promoted through the Smart Specialisation Strategy, which are bioenergy, tourism, agriculture, food industry, construction industry, transportation or health sector. It is expected that ICT companies will be the main participants of Restart programmes compared to the companies engaged in other activities or fields.[72]

Finally, the Ministry of Energy, Commerce, Industry, and Tourism recently announced that new grant schemes for strengthening the competitiveness of SMEs through ICT technology would be implemented in the nearest future. These schemes are:

[71] Restart is the main financial instrument which promotes the Smart Specialisation Strategy in Cyprus

[72] Information provided during the stakeholders interview

- E-commerce Grant Scheme: companies will receive grants for setting up a website or/ and an e-shop.
- Cloud Services Technologies Grant Scheme: SMEs are incentivised to use cloud technologies.

The two grant schemes mentioned above are the direct results of the Cyprus Broadband Plan. They are part of a wide spectrum of measures that the Cypriot Government promotes in order to stimulate demand for broadband services. These measures incentivise SMEs for digitalisation, adoption of cloud services technologies and creation of websites and/or e-shops.

EU level grant schemes

Horizon 2020

Cypriot SMEs, which are active in ICT research and innovation field, are eligible to receive funding from Horizon 2020. Most specifically Cypriot SMEs are eligible to participate to projects related to breakthrough solutions for society's main challenges such as growing needs for sustainable healthcare, better security and privacy, lower carbon economy, intelligent transport and delivery of new business revolutions. As shown in Figure 23, ICT is a part of the three strategic pillars of Horizon 2020. More than 133 call for proposals related to the ICT for the period 2016–2017 are expected, in which Cypriot SMEs can participate.[73]

Figure 23: Horizon 2020 structure and ICT

Excellent Science	Industrial Leadership	Societal Challenges
Frontier Research (ERC)	Leadership in enabling & industrial technologies	Health, demographic change & wellbeing
Future & Emerging Technologies (FET)	ICT	Food security, sustainable agriculture & the bio-based economy
Skills & career development (Marie Sklodowska-Curie)	Nanotech, Materials, Manuf. & Processing	Secure, clean and efficient energy
Research Infrastructures	Biotechnology	Smart, green and integrated transport
	Space	Climate action, resource efficiency and raw materials
	Access to risk finance	Inclusive, innovative and reflective societies
	Innovation in SMEs	Secure societies

Source: European Commission, A guide to ICT related activities in WP 2016 - 2017.

[73] European Commission, A guide to ICT related activities in WP 2016 – 2017

5.2 International, EU and national financial instruments

5.2.1 Financial Instruments for SMEs

EU Financial Instruments

The JEREMIE Initiative in Cyprus

During 2010 - 2013 period, Cypriot SMEs had the opportunity to receive loans and guarantees through the JEREMIE initiative ("Joint European Resources for Micro to Medium Enterprises"). This initiative was developed by the European Commission (EC) and the European Investment Fund (EIF). The initiative was taken for enabling EU Member States to use the Structural Funds for financing SMEs by means of equity, loans, or guarantees through a revolving Holding Fund acting as an umbrella fund.

JEREMIE Loans were active during the period of 2010 - 2015. The amount of loans provided to SMEs was up to EUR 300,000 while the interest rates ranged from 2.66% to 3.33% and the term of a loan could be from 24 to 120 months. The JEREMIE loans required the amount to be secured by collateral. New or existing customers of Bank of Cyprus owing Cyprus-registered companies, various SMEs, or registered self-employed individuals could benefit from such loans.[74] JEREMIE loans provided financial support to help companies in their expansion or for the development of the company and working capital.

According to the interviews held with stakeholders, JEREMIE loans were one of the most successful FI for SMEs. The historically low interest rate on JEREMIE loans for Cyprus made it competitive and preferable for SMEs. JEREMIE's impact was even greater after 2013 because it was one of the fuel engines of the collapsed Cypriot economy.[75]

The EIF signed two **JEREMIE guarantee** agreements with Bank of Cyprus in April 2011, under which the bank provides up to EUR50m of new loans to Cypriot SMEs.

This instrument offered a new opportunity to a broad range of SMEs across Cyprus, which were looking for new options of investment and expansion of their businesses. The bank offered them more relaxed collateral requirements, attractive interest rates, extended repayment and grace periods. Priority was given to enterprises that operate in the areas of information and communication advancement, research and development, renewable energy sources, cultural and social services.

Both JEREMIE products were available at the same period of time. JEREMIE loans was more attractive to potential borrowers because of the lower interest comparing to JEREMIE guarantee. Moreover, another reason for preferring JEREMIE loans was the fact that

[74] Andreas Kythreotis, "European Financial Products managed by BoC to Support the SMEs, presented in the Second Annual Conference European and SF Grant Programmes , 2015
[75] Information provided during the stakeholders" interviews

borrowers were able and willing to provide the requested collaterals as guarantees rather than paying a higher interest rate for the JEREMIE guarantee.

Also for the financial intermediary, BoC, JEREMIE loans were more attractive as in case of a defaulted loan under JEREMIE guarantee BoC was exposed to a higher risk. In cases of defaulted loans and upon liquidation of the collateral, the bank had to return 50% of the collateral value guaranteed to EIF while also losing the 10% of the total loan that was guaranteed neither by EIF nor by the borrower. Therefore, in total in case of default the bank could only recover 40% of its initial contribution to the loan. As a result, BoC promoted more actively the JEREMIE Loans.

In 2013 the non-absorbed amounts from JEREMIE guarantees were transferred to the JEREMIE loan instrument. The eligibility of SME was changed to include larger enterprises and the maximum amount of loan was increased from EUR 100,000 to EUR 250,000.

Table 19 shows the resources of JEREMIE Initiative in Cyprus.

Table 17: Resources of JEREMIE Initiative in Cyprus at closure (November 2015)

Source of Funding	Product Name	Product Type	Financial Inter-mediary	Initial Budget (€)	Leverage by Interme-diary (€)	Total available funds (€)	Disburse-ment (€)	Targeted type of SMEs	Number of SMEs supported	Start Date
ERDF	FRSP	Loan	Bank of Cyprus Public Company Ltd, Cyprus	9,843,765	9,843,765	19,687,530	19,090,743		243 (out of which 176 are micro Enterprises)	30/09/2010
ERDF	FLPG I	Guarantees*	Bank of Cyprus Public Company Ltd, Cyprus	112,283	987,717	1,100,000	680,500	Enterprises with up to 36 months business history s	20 Micro Enterprises	18/04/2011
ERDF	FLPG II	Guarantees*	Bank of Cyprus Public Company Ltd, Cyprus	450,851	3,749,149	4,200,000	2,908,713	Enterprises with more than 36 months business history	50 (of which 37 are micro Enterprises)	18/04/2011
ERDF	FRSP	Loan	Bank of Cyprus Public Company Ltd, Cyprus	8,500,000	8,500,000	17,000,000	16,841,850		196 (of which 120 are micro Enterprises)	04/12/2013

Source: DG EPCD

*For the First Loss Portfolio Guarantee (FLPG), the availability period of both agreements signed with BoC, namely FLPG-A (targeting SMEs with up to 36 months business activity) and FLPG-B (targeting SMEs with over 36 months business activity), was terminated early, in December 2012, although it was agreed that BoC could continue including in the guaranteed portfolio's SME loans up to the agreed limits of EUR 1.1mio (JEREMIE Holding Fund contribution EUR 0.5mio) for FLPG-A and EUR 4.2mio for FLPG-B (JEREMIE Holding Fund contribution EUR 2.1mio). At the end of 2015, the final disbursement to SMEs was EUR 3.6mio, where the JEREMIE Cyprus Trust drawn amount reached EUR 1.80mio (JEREMIE Cyprus Trust Drawn amount = Actual Portfolio Volume*Guarantee rate) providing guarantee to 70 SME's (20 on FLPG-A, and 50 on FLPG-B). Utilisation ratio reached to 67.6%*

European Progress Microfinance Facility

The European Progress Microfinance Facility (EPMF) was a microfinance initiative, launched and managed by EIF in the 2007-2013 programming period and funded by the European Commission and the European Investment Bank. Its financial resources have been fully deployed through selected financial intermediaries across the EU, which have provided micro-loans to micro-entrepreneurs.

EPMF aimed at supporting eligible intermediaries to enhance their capacity to provide micro-credits and guarantees on micro-credits to micro-entrepreneurs through the following products:

- Four types of funded instruments (loans and equity investments): Senior Loans, Subordinated Loans, Risk-sharing Loans and Equity Participations
- micro-credit guarantees (direct or counter-guarantees)

In the new 2014-2020 programming period, under the European Commission's Programme for Employment and Social Innovation (EaSI), EIF is managing the EaSI Guarantee Financial Instrument which is specifically dedicated to microfinance and social entrepreneurship finance.

The Cooperative Central Bank (CCB) was the only Cypriot financial intermediary which utilised the EPMF (European Progress Microfinance Facility) to provide micro-financing to SMEs in the form of loans. During the period 2011 and 2013, the CCB provided EUR 3 mil to 130 clients with an average amount of EUR 10,000 per loan. Due to the financial crisis in 2013, there was no any demand for the product and as a result the CCB stopped providing micro-financing. The initial amount of products was EUR 8 mil.

The CCB is currently evaluating the possibility to participate in EaSI which is the successor of Progress Microfinance. The CCB acknowledges the demand for micro-financing which is mainly driven by an important number of its clients such as solo-entrepreneurs, start-ups, young entrepreneurs and SMEs. Due to the inability of the bank to estimate the supply for micro-financing, their initial plan is to enter the market with a small portfolio which will be enlarged accordingly to a later stage.

EIB Development Loans

EIB has been collaborating with ten Cypriot Banks aiming to support SMEs and Midcaps with investment needs of up to EUR 25m.[76] So far, EIB signed a total of EUR 615m with about EUR 220m of that money already benefiting some 240 new investments. Table 20 shows the details of the agreements between EIB and Cypriot Banks.[77]

[76] EIB website: http://www.eib.org/infocentre/press/releases/all/2017

[77] The table does not include the last loan between EIB and Hellenic Bank that was singed in 17th of March 2017 aiming to support investments by local SMEs and midcaps. The sum of loan is € 50 m. Source: http://www.eib.org/infocentre/press/releases/all/2017/2017-061-eib-provides-EU-50-m-support-for-cyprus-smes-and-midcaps-through-financing-agreement-with-hellenic-bank

Table 18: EIB Financing to SMEs in Cyprus in collaboration with Cypriot Banks

EIB Financing to SMEs in Cyprus in collaboration with Cypriot Banks								
Instrument (A) EIB Intermediated Lending	**EIB APPROVALS**	**Amounts signed with banks**		**Available Amounts - approved still to be signed**	**Allocations Amounts signed between banks and final beneficiaries**			**Dibsursements Cash disbursed from EIB to banks**
	€m	**€m**	**Date**	**€m**	**€m**	**%**	**No.**	**€m**
2013 - 0426: COOPERATIVE CENTRAL BANK LOAN FOR SME & OTH PRIO								
CCB	25	25	Apr-14	0	**13.2**	52.8%	**89**	**17.2**
2014 - 0279: CYPRUS BANKS LOAN FOR SMES AND MIDCAPS I								
Bank of Cyprus I A and B	85							
Bank of Cyprus I A		50	Sep-14		**50**	**100.0%**	**21**	**50**
Bank of Cyprus I B		35	Dec-16					
Hellenic Bank I A and B	50							
Hellenic Bank I A		35	Sep-14		**35**	**100.0%**	**37**	**35**
Hellenic Bank I B		15	Nov-15		**15**	**100.0%**	**13**	0
2014 - 0466: CYPRUS BANKS LOAN FOR SMES AND MIDCAPS II								
Alpha Bank I A and B	40							
Alpha Bank I A		20	Dec-14		6.19	30.9%	**11**	16.04
Alpha Bank I B				20				
Eurobank	30	30	Dec-14		**30**	**100.0%**	**17**	30
NBG I A and B	25							
NBG I A		15	Dec-14		**7.2**	**48.0%**	**7**	4.3
NBG I B				10				
SGBCy	10	10	Dec-14		4.19	41.9%	9	3.69
2015 - 0147: CYPRUS BANKS LOAN FOR SMES AND MIDCAPS III								
USB	15	15	Feb-16		1.5	10.0%	1	1.5
CDB	15	15	Feb-16					
RCB Bank I	20	20	Feb-16		20	100.0%	11	12
Bank of Cyprus II	100	100	Dec-15		30.57	30.6%	10	30
Hellenic Bank II A	75	50	Dec-16	25	10.3	20.6%	14	0
2016 - 0317: CYPRUS BANKS LOAN FOR SMES AND MIDCAPS IV								
Bank of Cyprus II	100	100	Feb-17					
RCB Bank II	40	40	Dec-16					
Eurobank II	40	40	Feb-17					
	670	**615**		**55**	**223.14**	**36.3%**	**240**	**0**

Source: EIB

The companies eligible for these loans can be involved almost in any business activity.[78] There are many activities, which can be considered for financing as part of the EIB development loans; however, each Bank separately chooses the eligible activities for its clients, which might be the following:

- Purchase, renovation, or extension of tangible assets including land, only if it is technically important for the investment. Purchase of patents and licenses, whenever deemed necessary for the technical implementation of the investment.
- Investment in intangible assets, such as:

[78] Activities excluded from EIB activities can be found here: http://www.eib.org/attachments/documents/excluded_activities_2013_en.pdf

- Development, planning and financing cost during the construction phase of a tangible asset;
- Research and development expenses, fees, development costs and gross salaries directly related to the research and development;
- Building up of distribution networks in the domestic market or other markets within the EU (asset or trademark acquisition, operational costs and labour costs).

- Medium and Long-Term working capital requirements to re-establish company's liquidity ratio.
- Generation change (i.e. retirement of the previous owner) or staff-related company transmission, allowing for the continuation of the economic activity of the respective company. It is noted that the financing is limited only to those cases, where both the buyer and the entity to be sold are eligible companies, and the total financing, needed for the operation, does not exceed EUR 5m (excluding own funds). The acquisition of companies under any conditions, other than the ones described, is not eligible for financing.
- Refinancing of existing loans, provided certain conditions are met. Each Bank offers different terms of the loan, which might be up to 15 years, and different amounts of the loan, which might be up to EUR 12.5 m.
- One of the main advantages of EIB funding is related to the attractive interest rate of the loan. Beneficiaries are granted a financial advantage of at least 1% (one hundred basis points) per annum, compared to the rate of the banks that they would normally charge for the same loan facility without the support of EIB funding. Therefore, with EIB co-investment, the interest rate is 1% lower than it would be without it.

In addition, more favourable interest rate (0.50% lower) is offered to the companies that participate in the EIB's "Jobs for Youth" initiative. In order to qualify for the 'Jobs for Youth' initiative, the final recipients needs to fulfil at least one of the following three criteria:

1. The final recipient confirms to have hired in the last 6 months and still employ at least 1 young person[79] (or at least 5 for Midcap enterprises) or plans to hire at least one young person (or at least 5 for Midcap enterprises) in the coming 6 months, calculated from the signature date of the loan agreement signed with the chosen bank; or
2. The final recipient offers vocational training to young persons, or internships/training programmes for young people; or
3. The final recipient has an active cooperation agreement with a technical college or school or university to employ young persons (e.g. during summer internships).

InnovFin SME Guarantee

InnovFin SME Guarantee is one of the integrated financial tools of the "InnovFin - EU Finance for Innovators," which is a joint initiative launched by the EIB Group in cooperation with the EC

[79]A "young person" is defined as a person of more than 15 and less than 25 years of age at the time when he/she benefits from the relevant event (employment, training, or internship).

under Horizon 2020. InnovFin financing products, offered by EIB Group, cover the entire value chain of research and innovation investments aiming to support enterprises of various sizes.

The InnovFin guarantee product is being offered by Russian Commercial Bank (RCB) and it is expected to be offered by Bank of Cyprus in the near future.[80] In essence, it provides guarantees and counter-guarantees on debt financing between EUR 25,000 and EUR 7.5m in order to improve access to loan finance for innovative SMEs and small midcaps. The financial intermediaries are guaranteed or counter-guaranteed against a portion of their potential losses by the EIF. [81]

National Financial Instruments

Cyprus Entrepreneurship Fund (CYPEF)

CYPEF is a fund established by the Republic of Cyprus aiming to support and strengthen entrepreneurship in Cyprus through the facilitation of access to finance for SMEs.[82] The amounts allocated from the Cypriot government to CYPEF were funded by the EIB while the fund is managed by EIF.

In June 2016, the EIF launched a call for expressions of interest, inviting banks and financial institutions, and encouraging them to submit an application in order to become CYPEF eligible financial intermediary for provision of CYPEF's loans. The Bank of Cyprus was the only Cypriot Bank that responded to this call. The total amount of the funds is EUR 120m, which is covered by the equal financial contribution of the Cyprus Government and the Bank of Cyprus.[83] Table 21 shows the main features of CYPEF.

CYPEF offers low interest rates (2.875% for low risk costumers and 3.30% for high risk costumers) and is similar to the products provided by JEREMIE loan products, with which the market is already familiar.

Some of the complications reported by the stakeholders were the complicated reporting procedures to EIF that banks should follow. This is the main reason why only one commercial bank offers CYPEF until now. Another limitation was that only 30% of the total portfolio was eligible to be provided for loans above EUR 600,000 and demand for loans of that magnitude was only partially unsatisfied.

Table 19: Main features of CYPEF

Purpose	The scheme's overriding objective is to finance investments and expenditures aimed at developing and growing businesses through various projects.
Beneficiaries	New and current bank clients. Corporations and self-employed, established, registered, and operating in Cyprus. SMEs

[80] Information provided during the stakeholders' interview
[81] Information provided during stakeholders' interview
[82] EIF website: http://www.eif.org/what_we_do/resources/cypef/index.htm
[83] DG EPCD website: http://www.dgepcd.gov.cy/dgepcd/dgepcd.nsf/page23_en/page23_en?OpenDocument

Features of the scheme	Minimum financing of EUR 600,000 Maximum financing of EUR 1,5 m Minimum repayment period of 24 months Maximum repayment period of 144 months Grace period for principal Monthly loan instalments Currency: EURO
Pricing/Collateral	Loan pricing: • From 3m Euro Interbank offered Rate (EURIBOR)+ 2.875% **to** 3m EURIBOR + 3.375% • Physical collateral required, as per the Bank's policy at any given time • Fees and commissions apply, as per the Bank's price list at any given time
Eligible Activities	The purchase, renewal or expansion of assets for own use, other than land (unless the purchase of land is deemed absolutely essential for completing the investment, e.g. purchase of land for building offices) Investment in intangible assets, i.e.: The cost of development, planning and financing during the construction phase of an asset R&D expenses (fees, development costs and gross salaries directly associated with the research, development and innovation components of the activity) Building up of distribution networks in domestic or other markets within the EU (asset or trademark acquisition, operational costs and labour costs) Medium and Long-Term working capital requirements to re-establish companies Generation change (i.e. retirement of the previous owner), provided certain conditions are met

Source: Bank of Cyprus

5.2.2 Financial Instruments for the low-carbon economy

To date, no international, EU or national financial instrument has been developed in Cyprus specifically to finance renewable energy and energy efficiency projects. In the near future, however, a financial institution in Cyprus might implement the financial instrument Private Finance for Energy Efficiency (PF4EE).

This instrument, financed through the LIFE Programme[84] and managed by the EIB, pursues the goal of making energy efficiency lending more sustainable within European financial institutions and to increase the availability of debt financing to eligible energy efficiency investments.

[84] LIFE is the EU's financial instrument supporting environmental, nature conservation and climate action projects in the EU.

The PF4EE provides:

- A portfolio guarantee to the financial intermediaries (Risk Sharing Facility)
- Long-term lending (EIB loan for energy efficiency)
- Technical support services for the financial intermediaries (expert support facility).[85]

PF4EE is currently implemented in Spain for the hotel sector, in the Czech Republic in the corporate sector and in France across social, educational and cultural structures such as associations, and SMEs, midcaps and agricultural cooperatives.

5.2.3 Financial Instruments for the ICT sector

There are no national or European FIs dedicated to ICT companies or development of broadband infrastructure in Cyprus that are currently available on the market. However, ICT companies are eligible to apply to the aforementioned Financial Products.

5.3 Review of lessons learned

To date, FIs have yet to be more extensively implemented in Cyprus. Non grant-based finance was available in the Cyprus market from Structural Funds through a JEREMIE fund, and today the financial support is available through EIB Development Loans. The only national FI created was the CYPEF, bringing together EIB lending to the Republic of Cyprus and match funding from financial intermediaries, the instrument is managed by the EIF (EUR 120m) and supports access to finance for SMEs through advantageous loans.

5.3.1 Lessons learned in the SME sector

Non grant-based finance for SMEs was available in the Cyprus market from EU level instruments through a JEREMIE fund. The only FI created at the national level was CYPEF, which administers EIF funding (EUR 120m) to support access to finance for SMEs through advantageous loans.

Lessons learnt from the JEREMIE Programme

The JEREMIE Fund financed two loan instruments, the Funded Risk Sharing Products (FRSP I and II) and one guarantee instrument, the First Loss Portfolio Guarantee (FLPG I and II). The JEREMIE initiative showed that demand varied strongly depending on the type of FI. While the loan instrument had an absorption rate of 99.5%, the guarantee instrument was interrupted before closure due to the low market uptake and a disbursement rate of less than 70%. The lower demand for the guarantee instrument could be due to its scope: it initially targeted start-ups. Due to the worsening economic conditions, the willingness to start new businesses declined sharply, which in turn translated into falling demand for dedicated financial products. In the second phase, the guarantee instrument was made available also for mature companies; as a consequence, the absorption rate rose moderately, from 60% to 70%. Also, the JEREMIE guarantee fund might have experienced lower absorption rates due to competition with the loan

[85] Private Finance for Energy Efficiency, EIB Website: http://www.eib.org/products/blending/pf4ee/index.htm

instrument, the rather restrictive scope of final recipients and limited promotion of the product by intermediaries.

Lessons learnt from other FIs implemented at EU and MS level

The SME Initiative, a joint financial instrument of the EC and the EIB Group providing partial risk cover for SME loan portfolios of financial institutions, was implemented in five EU Member States. However, it was not adopted in Cyprus. The reason for the low number of Member States involved in this initiative could be linked to the timing of its implementation: it was introduced later on in the regulatory process, when Member States where negotiating OPs. Thus, Member States feared of losing control over the allocated ESIF funding by channelling funds back to EU level instruments.

Improving awareness is essential to ensure demand for FIs

A consequence of the limited use of FIs in Cyprus is that SMEs have a limited awareness of the possibility to make use of them, let alone of their potential benefits.

As such, an immediate need in the Cypriot context is to improve awareness of non-grant based forms of finance other than credit. There are important lessons to be learnt from other EU MS in how these can be used to support SMEs. In other MS, the use of many FIs has proven to be a useful means to increase awareness amongst SMEs as the competition amongst FIs not only improves the terms of the financing, but also forces them to market their products amongst consumers and go to the market. This need for marketing results in an increase in awareness amongst consumers. However, the presence of too many FIs can create confusion in the market.

Technical assistance and non-financial support have also proved in other MS to be powerful tools in improving awareness is from banks, together with state institutions, promoting FIs to local SMEs and increasing their uptake. Based on experiences in other EU MS, this can be best achieved through the organisation of educational seminars and workshops, supported by marketing campaigns (e.g. billboards, media adverts) to reach as many SMEs as possible.

In Malta for example, financial intermediaries, with the help of the EU Research department, made various efforts to implement a communication strategy along these lines. This involved the organisation of over 40 information sessions with SMEs and stakeholders, the printing of brochures, several one-to-one meetings, phone enquiries, billboards and television adverts which enabled them to reach many SMEs.

A lack of training and technical skills of entrepreneurs and employees in general is also another hindering factor to address, as it suggests a lack of technical knowledge about FIs. While FIs have been set up in Cyprus to support access to finance, none to date has been used for training and mentoring purposes in order to support more technical aspects of running a business like creating a business plan, or applying and negotiating with financial institutions.

A lack of variety of FIs in Cyprus

In countries where there is limited knowledge of FIs like Cyprus, the dominant financial product are often short-term loans used to finance working capital (mostly in the form of an overdraft or revolving credit line). These loans are generally provided by local banks and prefer to lend established companies with a transparent financial statement, a good credit history and rating.

The one existing national FI, along with the other privately managed FIs, are only suitable for some SMEs, with a preference towards larger, more established SMEs and less towards microenterprises. The latter belong to the non-bankable population due to their inability to meet high-risk criteria and administrative requirements of local banks. Most of these companies rely on their own assets which are usually insufficient as collateral.

Equity financing and microfinance are practically non-existent in Cyprus. Due to the lack of any regulatory framework until now. In countries like Cyprus, where there is a lack of microfinance institutions, like Malta for example, there is a perception in the market that microfinance is similar to microcredit provided by banks. This means that developing a market for microfinance institutions requires awareness raising in order ensure that the distinction is clearly articulated.

In countries with a similar lack of diversity of FIs as is the case in Cyprus, banks are generally interested in achieving regulatory capital relief via implementation of guarantee and debt products subsidised by the state. The provision of regulatory capital relief should be carried out in a way that is compatible with the national legislation and the regulatory framework and in close cooperation with the national regulator. In accordance with the Basel regulatory framework for capital requirements, the benefit of capital relief can be fully utilised when the entity providing the guarantee enjoys the maximum credit rating (e.g. the International Financial Institutions, such as the EIF, EIB, EBRD, etc.).

A single financial intermediary can be a drawback in a small market

The JEREMIE initiative in Cyprus provided funding assistance to a number of SMEs in various sectors. The most important sectors to the Cypriot economy benefitted the most from this financial support were wholesale and retail, accommodation and food service activities and the manufacturing industry.

While a single FI has some advantages in that entrepreneurs like to retain the relationship with a particular bank or bank manager, the lack of any others meant that if there was a need to switch banks to benefit from the JEREMIE initiative, this would have been problematic. With more than one financial intermediary offering funds to SMEs, there could have been a greater outreach to SMEs across Cyprus as per the previous point regarding competition amongst FIs and how it can promote awareness raising.

The risk appetite of financiers is too low for most Cypriot microenterprises

A common issue across many European MS since the financial crisis is that financiers have become more reluctant to lend money out of a fear of defaults on repayments. In today's economic climate, lenders have a much lower appetite for risk. As such, loans for borrowers like start-ups and microenterprises, which present higher levels or risk, come with high interest rates. Many of the surveyed microenterprises said that the reason they did not benefit from financial support was lack of credit-worthiness or because interest rates were too high. Small and Medium-sized enterprises, while less-susceptible to rejection from lack of credit-worthiness, were just as likely to be unable to access financial support because of unacceptable interest rates.

The application of Financial Instruments to help reduce the level of risk for the private investor, either through mezzanine finance, or through the provision of guarantees, is the best means to

encourage private lenders to accept a higher level of risk. This lowering of the level of risk can also help address a problem: the excessive administrative burden to access the finance.

Summary of lessons learnt in the SME sector

The most developed use of FIs in Cyprus has been in supporting access to finance for SMEs. As such out of the three sectors considered in the scope of this assessment, this is the area where the use of FIs is the most developed in that Financial Intermediaries have experience in managing them, and consumers have some degree of awareness of the products, albeit this is limited to loans.

Given the limited number of SMEs that indicated that they had re-invested retained earnings, there is clearly some demand for financial support, albeit financial solutions other than loans are rarely provided. In addition, when these loans are provided, they are often provided to larger more established enterprises. While understandable, this limits the ability of smaller enterprises to grow or for new enterprises to develop at all. This is manifested in the demand analysis, where very few surveyed companies associated themselves as "newly-created" companies, implying that the current market environment is not conducive to the creation of new enterprises.

As such, the most impactful means to foster sustainable growth in Cyprus using FIs could be two-fold. First, guarantees or mezzanine finance could be provided to reduce the level of risk of credit and help encourage banks to lend. Second, enterprise creation could be encouraged by facilitating access to equity finance or microfinance in order to provide financial products that are more suited to the needs of microenterprises or start-ups.

5.3.2 Lessons learned in the low-carbon economy

In Cyprus, no dedicated FI was implemented so far for EE and RE. The grant instrument "I save and I upgrade," which provided funding for EE in buildings, can however be considered an important source of evidence to understand the requirements of the market of EE and RE and the financing needs of the final recipients.

As part of this scheme, a total of EUR 10.5m was disbursed as grants for EE investments in housing. The funds, which were planned to last for more than one year, were exhausted well in advance of the final deadline. The funding allocated to SMEs, initially set at EUR 6m, had to be increased to EUR 8.7m due to the extremely high demand. This shows also that the proportion of demand applications from SMEs was at least as high as that of households.

The grant also gave important insights into the financing needs of households. More specifically, the financing which was not covered by grants was in most cases (excluding low-income households) financed through own funds instead of debt or other external sources of financing. The main lessons learnt were therefore that a potential grant instrument, which should complement the possible financial instrument, could be required only for low-income households.

For EE and RE, the past FIs have shown the importance of awareness raising with the potential final recipients and the financial intermediaries. This would help in understanding the financial and regulatory conditions of the financial intermediaries. For this reason, it would be useful to

engage the potential financial intermediaries with due advance, before the launch of the call for expressions of interest.

Moreover, financial support should be complemented by a range of other non-financial measures, including advice, guidance, certification schemes, and building regulations. For the potential beneficiaries of EE financing, these could include energy audits, which could help overcome potential hesitations as to the shift from a grant scheme to a financial instrument, by showing the cost savings that could be generated by the investment, as well as to develop new project pipelines. [86]

It should also be considered to put in place technical assistance for financial intermediaries. Most banks do not seem to understand the potential indirect income and cost savings generated through energy efficiency and renewable energy investments. Thus, they value these as consumption loans, with relatively high interest rates. Providing technical assistance to the financial intermediaries will enable these structures to develop the technical competences needed to carry out a sound analysis of the incoming financing applications.

5.3.3 Lessons learned in the ICT and broadband sector

Demand for high-speed broadband

As mentioned in section 3.4.2, high-speed broadband up-take in Cyprus is currently quite low. The low up-take of high-speed internet in Cyprus can be attributed to the direct and two-way correlation between high costs (from providers) and low demand (from SMEs and individuals). Low demand for high-speed broadband leads to low supply, and vice versa. This can be accounted to the following factors:

- High cost of infrastructure investment, both in internal network and international capacity;
- High operational costs for internet service providers;
- SMEs satisfied with their current connection speeds;
- Households satisfied with available connection speeds;
- Lack of government "incentives" and "e-culture";
- Low profit margin for internet service providers.

Households seem to be satisfied by the current internet access levels and the connection speeds available to them. The same sentiment was expressed by SMEs. It seems that SMEs in Cyprus are also quite satisfied with the connection speeds they are operating with, and thus do not have demands for the availability of higher connection speeds. This can be attributed to the fact that the type of services SMEs provide do not necessitate them operating with higher connections speeds. It was derived from the study that Cypriot SMEs are not as "extroverted" (i.e. utilising e-commerce or other high-speed demanding platforms), relying heavily on the local market. The interviewed SMEs indicated that they are reluctant to use e-commerce, preferring to engage in more traditional forms of conducting business. This was also consistent with the on-line survey

[86] European Commission (2016): Ex-post evaluation of the ERDF and Cohesion Fund 2007-13. Available online from: http://ec.europa.eu/regional_policy/en/policy/evaluations/ec/2007-2013/

results. According to the questionnaire, the majority of respondents (54%) stated that e-commerce is not considered a factor that could or has assisted in increasing their turnover/profitability significantly. It is also indicative that several interviewees shared the fact that household connection speeds are frequently used for SME operations, especially for small and very small operations that are mainly home-based.

Moreover, due to the geographical location of Cyprus and the fact that it is an island country, remote from Europe, a major component of broadband services is the required international capacity to connect Cyprus with other major European and international hubs. Consequently, the cost for communication providers to invest in international connectivity (through submerged cables) is very high.

An additional important conclusion is that e-government is still not sufficiently developed in Cyprus. If SMEs were obliged to conduct a large proportion of their operations with the public sector over the internet, this could possibly increase their demand for higher speed connections. E-signature application and e-health services could increase trust in digital services and support the embedding of a sustainable "e-culture" in Cyprus.

It is also evident from the results of the study that should higher speed connections become available to households and SMEs at the same price as they currently pay, they would definitely prefer higher speed connections. Internet service providers, however, seem reluctant to offer lower/competitive prices due to the high costs they will have to incur to make the necessary advancements and infrastructure upgrades, combined of course, with the low demand. A fundamental factor impeding the reduction of operating costs, appear to be the fees that internet service providers recompense to CYTA for the use of both its international capacity and internal network. These fees seem to increase the operational costs of internet service providers, which in turn, pass these costs on to consumers. In the current market conditions, lowering retail prices for consumers/SMEs does not seem like a viable option as this would lead to a lower profit margin for the internet service providers.

Internet service providers stressed that any investments made (regardless of the source or type of financing) should be of business value to them. In other words, the existence of adequate demand is an important prerequisite for any investment. Currently, the main internet service providers do not appear interested in making any investments in the existing circumstances. They are also not convinced that financial instruments will assist them in making any investments. They consider national and/or EU funds as more favourable and attractive sources of financing. Without any initiatives taken to reinforce demand, there is no benefit in using non-grant based financing to support internet providers.

Consequently, governmental funding interventions are perceived as crucial for internet service providers to undertake infrastructure investments, which in turn are necessary for the availability of higher speed connections in Cyprus in the future.

Indicative to the above is the fact that CYTA refrains from financing its projects through loans and prefers utilising its own funds. As it was stated during the interviews, the last loan CYTA took was in 1974, which it has ill soon have repaid in full.

6 Supply analysis

The supply-side analysis provides an overview of the Cypriot banking sector regarding the supply of financial products available. Included in the analysis is an overview of the supply of finance provided by other market players, both at international and national levels. A subsequent section summarises the analysis conducted, highlighting the potential supply side market weaknesses that may contribute to sub-optimal investment situations.

6.1 Overview of the financial system

The banking sector in Cyprus remains structured in four different segments, with large market concentration in a few banks. The four segments are:

- Cooperative credit sector;
- Domestic banks;
- Subsidiaries of Greek banks;
- Other foreign banks.

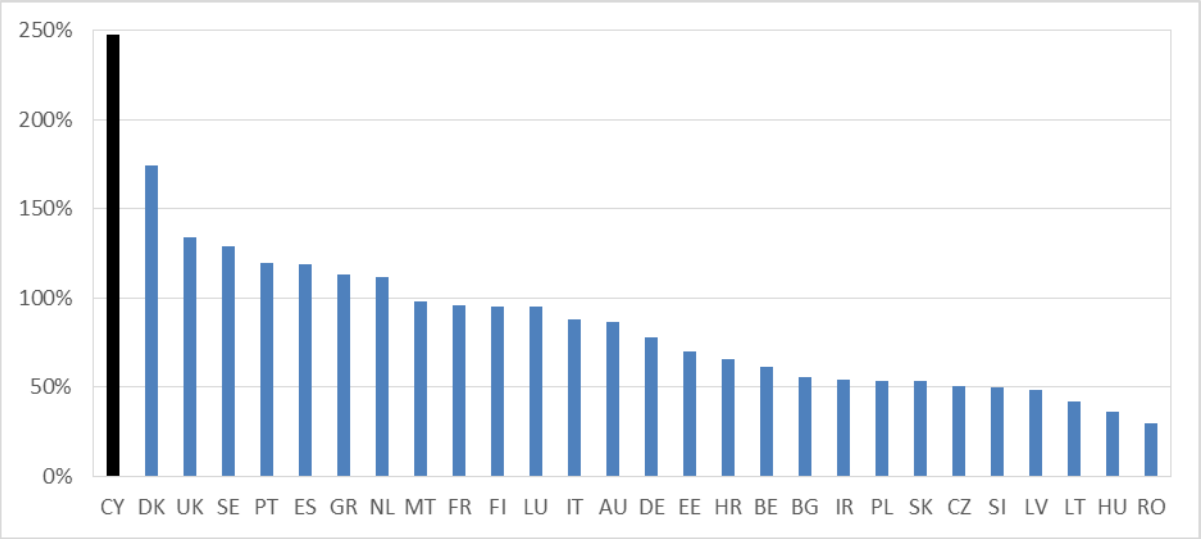
Prior to the crisis of 2013, 75% of the deposits market share was held by the cooperative credit sector and the three domestic banks, namely Bank of Cyprus, Cyprus Popular Bank, and Hellenic Bank. Subsidiaries of Greek banks and other foreign banks accounted for the remaining 25%. It is worth mentioning that with the resolution of the Cyprus Popular Bank, the market share of Bank of Cyprus increased significantly.[87]

It should be emphasised that the current banking sector is two-thirds of its pre-crisis size. Despite this, the banking sector continues to be the principal sector within the Cyprus financial services industry. The continuing transformation and restructuring of the Cypriot banking system during FY16 created many opportunities for growth as our banks continued their effort to comply with the tough Single Supervisory Mechanism (SSM) requirements and the management of their non-performing loans. Simultaneously, the accelerating economic recovery is expected to restore banks to profitability and support their restructuring efforts thus improving their balance sheets and asset base.[88]

Figure 24 illustrates the domestic credit to private sector, referring to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits, and other accounts receivable that establish a claim for repayment. Domestic credit is here presented as a percentage of GDP, for the year 2015. The pre-crisis boom was fuelled by a large increase in the financial sector. This growth was financed by a rapid increase in foreign deposits, which facilitated a rapid expansion on domestic credit.[89] Consequently, domestic credit is still high relative to other European nations.

[87] European Commission (2016). Country Report Cyprus, Commission Staff Working Document.
[88] PwC Cyprus (2016). Cyprus Annual Review, September 2016.
[89] IMF (2014), Cyprus Selected Issues, October 2014.

Figure 24: Domestic credit to private sector by banks as a percentage of GDP, 2015[90]

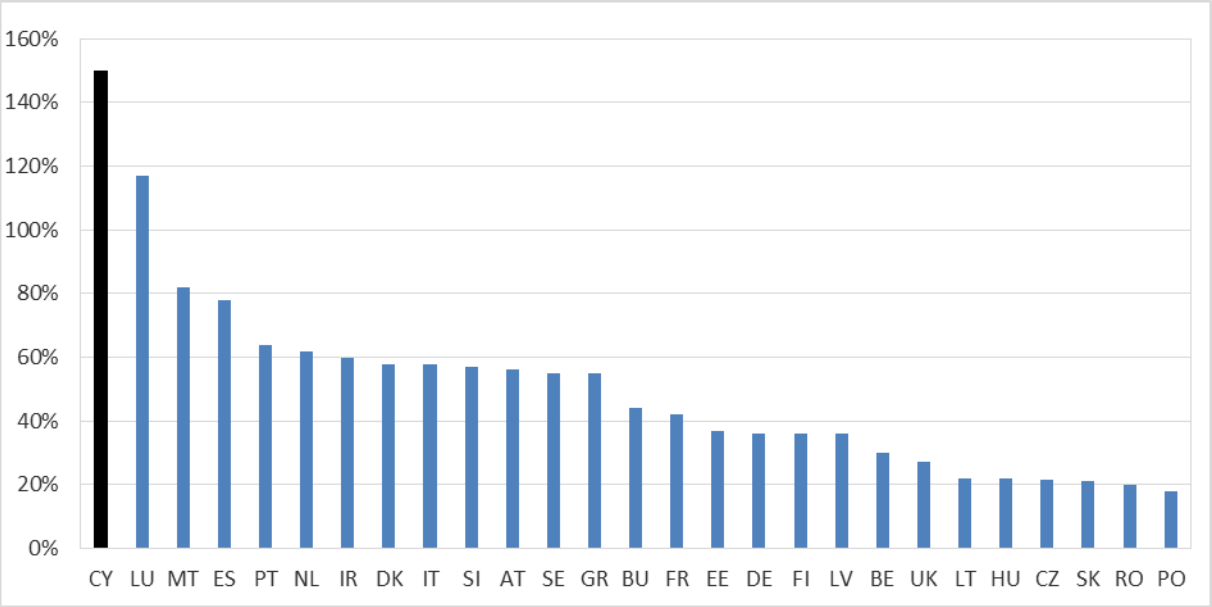


Source: World Bank Group, World Development Indicators, 2016

Figure 25 indicates the outstanding loans to all companies in EU countries as a percentage of GDP for 2013 (without non-performing loans). Non-performing loans are a serious challenge in the Cypriot banking sector but there seems to be an issue of whether companies will able to continue to honour their currently performing loans as well. Figure 25 illustrates that the private sector of Cyprus could face challenges in paying performing loans, especially if future GDP growth suffers a setback. Private enterprises are still dependent on financing by credit. The Cypriot private sector is more dependent on credit than other European nations. The repayment of existing loans could be a challenge even if the non-performing loans are to be resolved. The Cypriot private sector is the most leveraged in Europe, and this will create challenges in the attempts by the private sector to seek new funding.

[90] Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits, and other accounts receivable that establish a claim for repayment. For some countries, these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, moneylenders, insurance corporations, pension funds, and foreign exchange companies.

Figure 25: Total loans outstanding as a percentage of GDP



Source: DG Enterprise, 2013.

Both Figures allow us to establish that the supply financing available from the banking sector in Cyprus is above average among MS.

6.2 Supply of commercial financial products for SMEs

6.2.1 Short, medium and long-term loans

Short-term loans are defined as loans to be repaid in one year or less, and most commonly used to finance working capital needs. These financial products are usually characterised by smaller collateralisation than longer-term products. Nonetheless, collateral remains a key concern for banks and for SMEs. Medium and long-term loans have maturities longer than a year and usually finance investment. This report considers only the loans to non-financial corporations.

Information on the total new loans issued to non-financial corporations was provided by the Central Bank of Cyprus for the period 2011 to November 2016. A breakdown of these new loans in terms of repayment period and size of business was not available, therefore proxies and assumptions were used. Table 22 presents the total amount of loans provided by Cypriot banks to non-financial corporations and all the relevant assumptions.

The recent economic downturn, which particularly affected financial institutions, led to a rapid decline of credit until 2014. Loans were again increasing after the successful recapitalisation and restructuring of the banking system, but loan provision is still lagging from the 2011 levels.

Table 20: New loans to all non-financial corporate entities with the annually change[91]

New loans to all non-financial corporate entities with the annually change									
Loan Type	2011 (€m)	2012 (€m)	2013 (€m)	2014 (€m)	2015 (€m)	2016 (€m)	2017 (e1) (€m)	2017 (e2) (€m)	2017 (e3) (EUR m)
Short-term (up to 1 year)	981	800	782	271	300	365	425	365	382
Annual change (%)		-18%	-2%	-65%	11%	22%	16%	0%	5%
Medium (1 year - 5 years)	769	570	526	189	225	285	350	285	315
Annual change (%)		-26%	-8%	-64%	19%	26%	23%	0%	11%
Long-term (over 5 years)	1,989	1,886	1,814	570	735	796	945	796	850
Annual change (%)		-5%	-4%	-69%	29%	8%	19%	0%	7%
Total	3,256	3,122	1,029	1,260	1,446	1,720	1,446	1,548	3,256

Source: Central Bank of Cyprus, 2016.

To further analyse the data, the short-term, medium, and long-term categories of new loans were classified into loans relating to SMEs and large companies. The new loans provided to SMEs have been further analysed into new loans borrowed by micro, small, and medium-sized enterprises. Given that the aforementioned data were not available, assumptions were made. Table 23 presents this information, as well as the assumptions made.

[91] *Assumptions: A) since the data for short term, medium and long-term for new loans were not available, it was assumed that the allocation of new loans to these sub-categories was the same as the allocation of total loans to the three sub-categories. B) Since the data for new loans for 2016 were available for up to 30/11/2016, that amount was adjusted. C) All the restructured loans were deducted from the volume of new loans since the restructured loans were considered new. D) Three estimates were made for 2017: the high scenario (e1), the low (e2) and the average scenario (e3). The first one assumes that the trend of previous years (2013-2016) will continue at the same pace. The second one assumes that the increase of supply of new loans will be zero and finally the third one indicates that the trend continues, however in a lesser degree.*

Table 21: Estimate of new loan disbursements to SMEs and Large companies[92]

Estimate of new loan disbursements to SMEs and Large companies												
Financial product	**2014 (EUR m)**	**2014 % on Total new loans**	**2015 (EUR m)**	**2015 % on Total new loans**	**2016 (EUR m)**	**2016 % on Total new loans**	**2017 (e1) (EUR m)**	**2017 % on Total new loans**	**2017 (e2) (EUR m)**	**2017 % on Total new loans**	**2017 (e3) (EUR m)**	**2017 % on Total new loans**
Short-term loans	270.6	26.3	300.2	23.8	365.1	25.2	424.5	24.7	365.1	25.2	382.0	24.7
Micro-enterprises	41.2	4.0	27.3	2.2	27.8	1.9	45.1	2.6	38.8	2.7	40.6	2.6
Small enterprises	33.8	3.3	35.5	2.8	43.5	3.0	51.2	3.0	44.1	3.1	46.1	3.0
Medium-sized enterprises	82.1	8.0	110.6	8.8	174.6	12.1	162.6	9.5	139.9	9.7	146.4	9.5
Large-sized enterprises	113.5	11.0	126.9	10.1	119.1	8.2	165.3	9.6	142.1	9.8	148.7	9.6
Medium loans	188.9	18.4	225.3	17.9	285.0	19.7	350.2	20.4	285.0	19.7	315.2	20.4
Micro-enterprises	28.7	2.8	20.5	1.6	21.7	1.5	37.2	2.2	30.3	2.1	33.5	2.2
Small enterprises	23.6	2.3	26.6	2.1	34.0	2.4	42.3	2.5	34.4	2.4	38.0	2.5
Medium-sized enterprises	57.3	5.6	83.0	6.6	136.3	9.4	134.2	7.8	109.2	7.6	120.7	7.8
Large-sized enterprises	79.3	7.7	95.2	7.6	93.0	6.4	136.3	7.9	111.0	7.7	122.7	7.9
Long-term	569.7	55.4	734.7	58.3	796.3	55.1	944.9	55.0	796.3	55.1	850.4	55.0

[92] Assumptions: A) All the assumptions made in Table 23. B) Only the proportion of total loans (not new) provided to large companies and SMEs was available from Central Bank, hence, that rate was used in order to calculate the portion of new loans provided to large companies and SMEs. Additionally, data for new loans allocated to: i) up to EUR 0. 25 million, ii) Over EUR 0. 25 million and up to EUR 1 million and iii) Over EUR 1 million were available from Central Bank. The estimated values were calculated using the above data and by making the following assumptions: i) all the remaining new loans over EUR 1 million are absorbed by medium companies, ii) the new loans up to EUR 0. 25 million are absorbed by micro companies and iii) new loans over EUR 0. 25 million and up to EUR 1 million are absorbed proportionally (weighted average) by small and medium companies.

Estimate of new loan disbursements to SMEs and Large companies												
Financial product	**2014 (EUR m)**	**2014 % on Total new loans**	**2015 (EUR m)**	**2015 % on Total new loans**	**2016 (EUR m)**	**2016 % on Total new loans**	**2017 (e1) (EUR m)**	**2017 % on Total new loans**	**2017 (e2) (EUR m)**	**2017 % on Total new loans**	**2017 (e3) (EUR m)**	**2017 % on Total new loans**
loans												
Micro-enterprises	86.7	8.4	66.7	5.3	60.7	4.2	100.5	5.8	84.7	5.9	90.4	5.8
Small enterprises	71.2	6.9	86.8	6.9	94.9	6.6	114.1	6.6	96.1	6.7	102.7	6.6
Medium-sized enterprises	172.8	16.8	270.6	21.5	380.9	26.3	362.1	21.1	305.1	21.1	325.8	21.1
Large-sized enterprises	239.1	23.2	310.5	24.6	259.8	18.0	367.9	21.4	310.0	21.4	331.1	21.4
Total	**1,029.2**	**100.0**	**1,260.2**	**100.0**	**1,446.3**	**100.0**	**1,719.6**	**100.0**	**1,446.3**	**100.0**	**1,547.6**	**100.0**

Source: Central Bank of Cyprus, 2016.

Overall, 61% of loans were provided to SMEs and 39% to large companies. Moreover, from the loans provided to SMEs, an average of 18% was provided to micro-enterprises, 20% to small enterprises, and 62% to medium-sized companies. Moreover, Table 23 indicates that micro-enterprises, which account for 96% of SMEs in Cyprus, only receive 18% of loan supply. In contrast, small and medium-sized companies that represent a tiny fragment of the total population of enterprises, receive 20% and 62% of new loans respectively. Here issues of the ability of SMEs, and especially micro size companies, to provide the type of collateral that banks require seems to be an important issue. This issue of collateral, in combination of size of loan and the risk profile of Financial Institutions is further analysed in the demand section.

6.2.2 Leasing

Leasing is the method of acquiring goods/assets by making instalment payments over time. Under this type of contract, the buyer is leasing the goods and does not obtain ownership until the full amount stipulated in the contract is paid. Until recently, leasing in Cyprus was only available for a limited amount of products. Specifically, leasing does not apply for fixed assets (e.g. buildings), nor for watercraft. According to the interviews, the demand for this narrow type of leasing was matched by the supply. Interviews also pointed out that sale-and-leaseback provided by financial institutions is very limited. New legislation in 2016 followed by the introduction of a regulatory framework in 2017 by the central bank of Cyprus will allow for an expansion of leasing.[93]

6.2.3 Factoring

Factoring is the use of company receivables to finance current working capital needs. This instrument is used mostly in a supply chain environment by SMEs that suffer from delayed payments from clients. Factoring is quite developed in Cyprus, and the main products are: domestic factoring with or without recourse, confidential invoicing with or without recourse, export and import factoring with or without recourse, and discount post-dated cheques.[94] These factoring tools are provided by the local financial institutions, which are also the main provider of finance to SMEs, as an additional service to business clients. Factoring by non-banking institutions is rare in Cyprus.

6.2.4 Bank guarantees

SMEs in Cyprus are increasingly embracing the use of bank guarantees, which are necessary for any SME that is in competition for public sector tenders. Limited use of banking guarantees was a key issue for exporting companies during the financial crisis in Cyprus, but this bottleneck has been mainly alleviated. Entrepreneurs and managers now have a better knowledge of these financial products and awareness of their benefits. A combination of the overall liquidity problems of companies and the delayed, or failed, collection of the receivables has made these financial securities more attractive than before. Credit institutions in Cyprus offer a comprehensive range of bank guarantees, which include advance payment guarantees, tender

[93] Central Bank of Cyprus, website: http://www.centralbank.gov.cy/media/pdf_gr/Leasing_Law_28042016.pdf
[94] Bank of Cyprus website: http://www.bankofcyprus.com.cy/en-GB/Cyprus/CORPORATE/Services/CHOOSE-A- SERVICE/Factoring/

guarantees, performance guarantees, payment guarantees, shipping guarantees, and guarantees securing a credit facility.[95]

6.2.5 Business angels, venture capital, and private Equity

Private Equity Funds (PEs), Venture Capital Funds (VCs), and Business Angel Investors (BAs) are the three main categories of equity investments that provide finance to SMEs. These categories of investors have different goals, preferences, and investment strategies. However, together they provide financing in order to nurture expansion, new-product development, or restructuring of the corporate operations, management, or ownership.

PE Funds often target established and mature companies to invest in and, at times, they acquire majority stakes in these companies. PE Funds usually are generalist; therefore, they are investing in various industry sectors, and/or various geographic locations. Conversely, VC Funds and BAs typically invest in young, growing, or emerging companies, and rarely obtain majority control. In terms of sectorial orientation, VC funds are usually specialist investors (specialising in a few industry sectors where the management of the Fund has expertise in or investing in only a limited geographic area). VC Funds generally:

- Finance new and rapidly growing companies with scalable potential.
- Purchase equity shares, i.e. become shareholders in the underlying company.
- Invest in companies having innovative products or services, and developing intellectual property.
- Assist in the development of new products or services though their expertise, contacts, and knowledge.
- Add value to the company through active participation alongside the senior management.
- Take higher risks with the expectation of higher rewards, and thus are able to finance companies which banks would never consider financing; and
- Have a pre-defined period within which they want to liquidate their investment.

The different types of equity financing, namely BA, VC, and PE, can be categorised according to the following five stages of company development, although these definitions will vary within the industry:

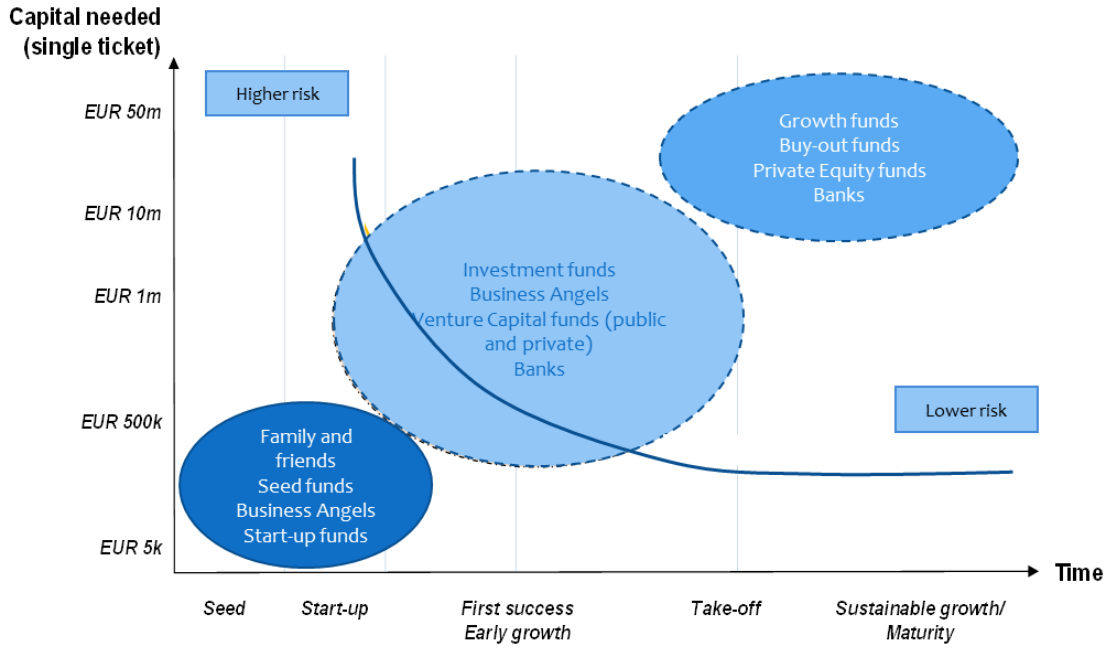
- **Seed stage** refers to the first stages of the life of a company, which is mostly financed by BA, family, friends, and microfinance.
- **Start-up stage** refers to the start of revenue generation, often financed by BA and Venture Capital.
- **First success stage** corresponds to the set-off of the company, usually financed by Venture Capital.

[95] Hellenic Bank website: https://www.hellenicbank.com/en/corporate-services1466/guarantees

- **Growth stage** is when the company expands, targets new products and/or markets, provided most often by later-stage VCF and PE funds.
- **Buy-out** is when a company is sold for the new development.

The positioning of each type of capital with respect to the company lifecycle and needs is presented in Figure 26 below.

Figure 26: The ladder of equity financing according to the development stage of companies



Source: North East Access to Finance website, PwC Analysis, 2014.

In Cyprus, the equity market is underdeveloped compared to other MS. There is very little information available on the formal supply of equity. Interviews with key stakeholders indicate that only a few SMEs in Cyprus were financed by equity and there is little awareness on how to pursue such avenues of financing. Equity in many SMEs can often be of familial ties; such information is thus not easily available for the researcher.

The small size of the Cypriot market is itself limiting investment possibilities. There is a lack of a secondary market for equity. There is very limited use of facilities such as the Emerging Companies Market of the Cyprus Stock Exchange by SMEs active in the Cypriot Market. The Emerging Companies market of the Cyprus stock exchange lists 63 companies. From their Listing information, most companies have an address outside Cyprus. Fewer than ten companies can be identified as non-financial in nature, despite the market being established in 2000. In addition, interviews with stakeholders such as investment funds showed a reluctance to invest in the local market, despite having substantial funds under management. Management buyout is rare in Cyprus, particularly among SMEs.

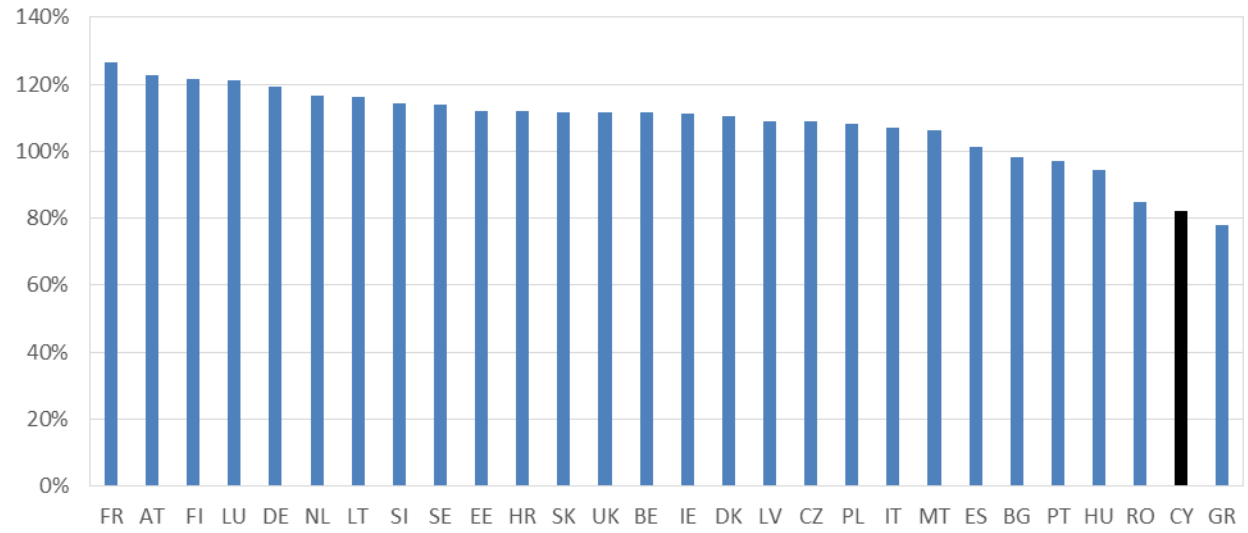
Furthermore, the fact that the economy was in severe contraction limited the possibilities of successful exit form an equity stake. Sale intermediaries can often be informal for SMEs: established investment funds are not particularly interested or willing to match demand for sale

with the supply. SMEs equity holders need to seek to find their own buyer of their share in order to be able to have an exit from the company.

In addition, Cypriot business owners tend to be risk-averse and prefer using funding sources they are familiar with. In general, the culture of equity funding from third-party investors is not a common practice locally, and may be most relevant only for young, high-growth companies. Despite the fact that equity investments are at an infancy stage, the interviews show that in recent years, equity investment has started to be considered as an alternative form of financing where a small number of business have utilised this type of financing tool. An additional point of notice is the fact, from the supply side, the usage of equity investments it is expected to increase in the forthcoming periods because of the limitations of traditional form of financing due to the local financial crisis that in turn led to changes in the culture of the business environment concerning financing.

The sub-index on access to equity finance of the 'SME Access to Finance Index' confirms the above findings and shows that the equity finance environment in Cyprus ranks near the bottom (Figure 27).

Figure 27: SMAF Sub-index on access to equity finance per country (2013)[96]



Source: SME Access to Finance Index (SMAF)

6.3 Supply of commercial financial products for the low-carbon economy

The bulk of financial products provided for energy efficiency and renewable energy projects is given through non-dedicated loan instruments. As illustrated in Table 24, just seven targeted products are offered by three different banks. Three of these were put in place to complement the grant scheme "I save and I upgrade" by providing for the outstanding investment that was not covered by the grant.

[96] *The SMAF index provides an indication of the changing conditions of SMEs' access to finance over time for the EU and its MS. The index is calculated using a baseline of EU 2007=100*

The Central Cooperative Bank (CCB) has the widest offer of programmes, covering households, businesses and public authorities, and targeting both EE and RE investments. These products are described in the table below.

As financially-viable projects within the Cypriot context, PV projects benefit from a dedicated source of finance already. Loans for small-scale PV have small tickets (EUR 6,000 to 10,000) and interest rate levels ranging from 4 to 5%. These can be lower with the provision of collateral (Table 24).

Better conditions can be achieved when high volumes can be ensured. For instance, for the "Sunflower Smart City Aradippou Project," the municipality of Aradippou engaged itself to promote the loans developed by the CCB amongst residents. Thus, the higher volume of loans made it feasible for the bank to offer a loan instrument with lower interest rates and higher maturity. More attractive conditions can also be feasible for larger scale projects, i.e. PV projects for businesses.

Table 22: Overview of financial products for EE/RE provided by commercial banks

Loan name	Financial institution	Maximum loan amount (€)	Interest Rate	Maturity	Eligibility criteria	Other	Status
Products for households (individuals)							
Sunflower dwelling - PV systems retail	Central Cooperative Bank	6,000	4.25% with collateral 4,75% w/o collateral	7 years	Home PV system of up to 3 kW	Grace period of max. 6 months	Open
Sunflower dwelling - Participation in the plan „I save and I upgrade“	Central Cooperative Bank	50,000	3.85% - 4.50%	10 years	Participation in the grant scheme „I save and I upgrade“ Own contribution of at least 30%	Grace period of max. 12 months	Closed
Sunflower Smart City Aradippou	Central Cooperative Bank	10,000	4.0% with collateral 4,25% without collateral	10 years	Retail PV Systems of up to 5kW per unit, installed as part of the „Sunflower Smart City Aradippou“ project	Grace period of max. 6 months	Open
Loan for photovoltaic systems	Bank of Cyprus	9,000 w/o collateral 10,000 w. collateral	Approx. 5%	7 years w/o collateral 10 years w. collateral	Home PV system of up to 3KW for domestic use	N/A	Open
Green Loans	Hellenic Bank	10,000	N/A	N/A	Energy renovation works and installation of PV	N/A	Open
Products for businesses and local authorities							
Sunflower Business - Large PV systems	Central Cooperative Bank	600,000	2.80% - 3.75%	12 years	Installation of large PV systems up to 500 kW Own contribution of at least 20%	Grace period of max. 12 months	Open
Sunflower Business - Participation in the plan “I save and I upgrade”	Central Cooperative Bank	400,000	2.80% - 3.75%	12 years	Participation in the grant scheme “I save and I upgrade” Own contribution of at least 10%	Grace period of max. 12 months	Open

The products for energy efficiency do not seem to be in line with the demand for financing, due to the relatively high interest rates and the loan duration of 10 years, which is shorter than the average payback period of this type of investments. For small-scale renewable energy investments, such as in PV installations, the interest rates are very high. Only the intervention of collateral allows for lower interest rates. Also, the loan application process is considered burdensome.

6.4 Supply of commercial financial products in the ICT sector

Cypriot Banks typically treat ICT investments by SMEs as working capital rather than long-term investments. Thus, there are not any commercial financial products specifically targeted for the ICT sector.

6.5 Summary of the supply analysis

6.5.1 SMEs

The private enterprises in Cyprus have a very high proportion of GDP in loans. This high leverage can be problematic, especially if the recovery that is in place becomes anaemic during 2017. Nevertheless, the financial institutions that traditionally financed the SME sector are now in better shape to provide financing, in comparison to their adverse situation during the crisis period.

The table below provides a summary of the supply of financial products to SMEs during the recent years and a projection for 2017. There is an increasing trajectory of loan development, which is positive, yet loan supply is far below the pre-crisis levels. The preference for long-term loans over short-term and medium- term is a factor of the Cypriot Supply for funds.

Based on the tables below we can see that the supply for SMEs is approximately 61% of new loanable funds, despite the fact that the share of SMEs to the economy is 99.89% of the number of enterprises . This paucity of supply is more pronounced in Micro-enterprises. Here, issues of collateral seem to play a part, which is further explored in the analysis of demand in Section 7.1.2 . The tables 26 -28 illustrate the break down analysis of those loanable funds in absolute numbers as well as an average of the percentage range.

Cyprus has had an overwhelming reliance of financial institutions and in loans particularly before the banking crisis. This has led to a low level of other forms of financing, such as leasing, factoring, and investment in equity. Yet there are reasons to believe that the supply will increase in 2017 especially since the recovery will create a positive environment for non-bank finance. Firstly, the new law and regulations in leasing will enable a broader application of leasing by existing financial providers, by enabling the creation of new leasing products. Secondly, there is in place an exemption from income tax in the provision of capital for innovative start-up companies that makes equity investment a more attractive proposition in new enterprises. The income tax exemption could be applied to investors that are investing directly in start-ups or indirectly through an equity fund. This tax scheme would be an important incentive to investors,

for investing in an equity fund investing in Cyprus. Special reference to this fund is also made in the strategic plan section. These very recent developments may take time to realise an impact in providing a true alternative to loans financing for Cypriot SMEs.

The issue of guarantees is becoming increasingly important during the period 2016-2017. The two major issues of guarantees are the guarantees needed by the SMEs to secure funding, and the need of a bank guarantee to secure public tender. Understanding the need to safeguard government expenditure, the need of bank guarantees for public procurement is an obstacle to SMEs. As for the necessary guarantees needed for SMEs to secure funding, the decline of traditional forms of guarantees used by SMEs, such as personal guarantees, is creating an increased obstacle to loan financing. It can be expected that there will be higher demand for a guarantee instrument in the future.

Table 23: Past and projected supply of financial products to SMEs in Cyprus

Supply of financial products to SMEs in the previous years and estimate of the annual supply in 2017 in Cyprus				
Financial product	**EUR m**			
	2014	**2015**	**2016**	**Estimate of annual supply for 2017**
Short-term loans(*)	157.03	173.35	245.96	220 - 260
Medium-term loans(*)	109.63	130.08	192.00	175 - 215
Long-term loans(*)	330.63	424.18	536.48	485 - 575
Leasing	n/a	n/a	n/a	n/a
BA	n/a	n/a	n/a	n/a
Venture Capital	n/a	n/a	n/a	n/a
PE	n/a	n/a	n/a	n/a

(*) Refers to new loans per year

Source: Central Bank of Cyprus, 2016

Short-term loans

Interviews with stakeholders indicated that commercial banks are becoming more risk-averse when considering financing investments. This is consistent with banking views across Europe and the recent economic crisis in Cyprus. Based on the computation, the supply of short-term loans for 2017 will range between EUR 222.79m and EUR 259.02m. This supply of short-term loans for SMEs has been broken down into supply for micro, small, medium, and large enterprises, using assumptions and information provided by the Central Bank and stakeholders.

Table 24: Estimated annual supply of new short-term loans in 2017 in Cyprus[97]

Estimated annual supply of new short-term loans to SMEs and large enterprises in 2017 in Cyprus		
	(e) 2017 (EUR m)	**Average%**
Supply of short-term loans to SMEs and Large enterprises	**365 - 425**	**100**
Supply of short-term loans to SMEs	**225 - 260**	**61**
Total supply to micro-enterprises	40 - 45	11
Total supply to small enterprises	45 - 50	12
Total supply to medium-sized enterprises	140 - 160	38
Total supply to large-sized enterprises	140 - 165	39

Source: Central Bank of Cyprus, 2016

Medium and long-term loans

The estimate of the supply of medium and long-term loans in 2017 has been calculated by applying the same approach as for short-term loans. The range for medium and long-term loans supply for SMEs in Cyprus in 2017 is estimated to range from EUR173.91m to EUR213.68m and from EUR485.95m to EUR 576.6m, respectively. Similar to short-term loans, the supply of medium and long-term loans to SMEs has been classified into supply for micro, small, and medium-sized enterprises. Table 28 below provides an overview of this supply.

Table 25: Estimated annual supply of new medium-term loans to SMEs in 2017 in Cyprus[98]

Estimated annual supply of new medium term loans to SMEs in 2017 in Cyprus		
	(e) 2017 (€m)	**Average%**
Supply of medium-term loans to SMEs and large enterprises	**285 - 350**	**100**
Supply of medium-term loans to SMEs	**175 - 215**	**61**
Total supply to micro-enterprises	30 - 40	11
Total supply to small-enterprises	35 - 40	11
Total supply to medium-enterprises	110 - 135	39
Total supply to large-enterprises	110 - 135	39

Source: Central Bank of Cyprus, 2016

[97] Differences between the sums of supply provided to micro, small and medium-sized companies and the total supply provided to SMEs result from rounding.

[98] Differences between the sums of supply provided to micro, small and medium-sized companies and the total supply provided to SMEs result from rounding.

Table 26: Estimated annual supply of new long-term loans to SMEs in 2017 in Cyprus

Estimated annual supply of new long-term loans to SMEs in 2017 in Cyprus		
	(e) 2017 (€m)	Average%
Supply of long-term loans to SMEs and large enterprises	**800 - 945**	**100**
Supply of long -term loans to SMEs	**485 - 575**	**61**
Total supply to micro-enterprises	85 - 100	11
Total supply to small-enterprises	95 - 115	12
Total supply to medium-enterprises	305 - 360	38
Total supply to large-enterprises	310 - 370	39

Source: Central Bank of Cyprus, 2016

Leasing

The estimate of supply of leasing for 2017 could not be calculated due to the lack of publicly available information.

Equity

The estimate of the supply of equity for 2017 could not be calculated due to the lack of publicly available information.

6.5.2 Low-carbon economy

A summary of the financial products and grant schemes provided for EE/RE projects is provided in Table 29. The figures indicated below take into account the yearly supply of finance, based on the estimated supply of the period between 2014 and 2016.

Table 27: Overview of main sources of finance available in Cyprus per investment area

Investment area	Source of finance	Yearly available amount (EUR m) 2014-2016	Main products offered	Characteristics of the loans and grants
Energy efficiency investments				
Households	Commercial banks	0.9	Loans	Debt instrument
	MECIT „I save and I upgrade“ scheme	3.5	Grants	Funding of 50% of total investment (75% for vulnerable households)
	ERDF „ELIH-MED Project”	0.17	Grants	Funding of 100% of total investment
Public authorities	Commercial banks	2.1	N/A	No dedicated financial products

Investment area	Source of finance	Yearly available amount (EUR m) 2014-2016	Main products offered	Characteristics of the loans and grants
SMEs	Commercial banks	1.5	Loans	*Conditions of CCB loan:* Max funding: 400,000 € IR: 2.80% - 3.75% Maturity: 12 years
	MECIT „I save and I upgrade" scheme	2.9	Grants	Funding of 50% of total investment
Renewable energy investments				
Households	Commercial banks	1.2	Loans	Debt financing for small-scale PV investment
	MECIT „Solar Energy for All" scheme	0.6	Grants	For vulnerable households Funding of 50% of total project cost
Public authorities	Commercial banks	N/A	N/A	N/A
SMEs	Commercial banks	9	Loans	Debt financing for small and large scale PV investment, biogas plants and wind

The extremely small scale of EE/RE financing and the limited number of dedicated products is attributable primarily to the following factors:

- The lower profitability of EE/RE investments. Expected returns on investment are lower than more commercial investments, such as those in the real estate sector;
- The small size of tickets for small-scale PV and for energy renovation works in housing. They range from EUR 6,000 to EUR 10,000 for small-scale PV and between EUR 10,000 and EUR 20,000 for energy renovation works. Banks have a preference for larger investments, such as mortgages;
- The lack of knowledge or expertise to assess the potential energy savings of renovated buildings or indirect income from RE production. In addition, as investments like small-scale PV often break-even within 6 years, interest rates are no different to commercial loans (4% to 5%);
- The conditions set by the banks discourage private or commercial borrowers. Also for a loan of only EUR 6,000 they will expect there to be collateral, in order to propose slightly lower interest rates.

Despite limited data, it is possible to deduce that dedicated products for RE are only available for PV installations rather than any other technology because of their profitability and financial viability. In addition, to date, loans remain the only financial product developed for EE/RE financing.

6.5.3 ICT and broadband

No supply of financing identified as specifically targeted to the ICT or broadband sector.

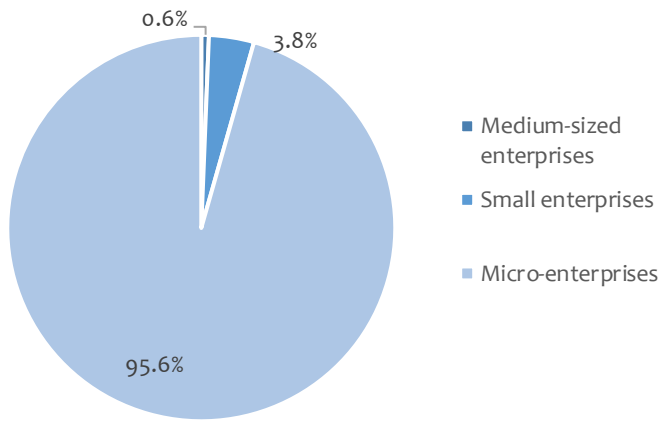
7 Demand analysis

7.1 Demand for financing for SMEs

7.1.1 Financing of micro enterprises

Micro enterprises represent more than 95.6% of the total SME population in Cyprus, and it is the sector which, prior to the survey, was least known (Figure 28). As such, the potential impact of this data collection exercise for the economy of Cyprus is significant.

Figure 28: SME population in Cyprus according to the size of companies



Source: Statistical Service of the Republic of Cyprus, Business Register, 2015

The number of micro enterprises in Cyprus declined markedly over the course of the economic downturn, falling by 2.6% between 2012 and 2014 (Table 30). This is typical for SMEs, which tend to be sensitive to the business cycle. With the economy now out of recession and GDP growth accelerating, the number of micro enterprises, and of SMEs more generally, is once again on the rise, and is expected to regain pre-recession levels soon.

The results of the survey indicate that a very low number of respondent micro enterprises consider themselves in the initiation phase of their activities, with just 7.7% of companies identify as being within the initial stages of the development lifecycle (Initiation and Creation, see Figure 29). This is may reflect the severity of the relatively recent economic crisis in Cyprus, and should be considered a cause for some concern. A healthy business ecosystem requires a substantial number of companies in the early stages of the business development cycle. A further 14% are in the post creation stage and 25% at development stage, which indicates the potential to grow and employ personnel.

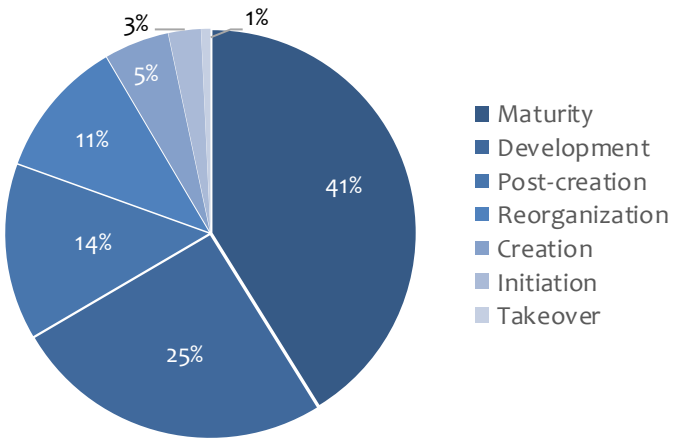
Table 28: Number of SMEs and micro enterprises in Cyprus

Number of companies	2012		2013			2014			2015		
	Number of companies	% of total SME population	Number of companies	% of total SME population	Change over 2012-2013 (%)	Number of companies	% of total SME population	Change over 2013-2014 (%)	Number of companies	% of total SME population	Change over 2014-2015 (%)
Total SME population	90,805		89,738		-1.2	88,250		-1.7	90,065		2.1
Total micro-enterprises	86,757	95.5	85,969	95.8	-0.9	84,525	95,8	-1.7	86,114	95.6	1.9

Source: Statistical Service of the Republic of Cyprus, Business Register, 2015

However, at 53% of respondents, the majority of companies identify as in later stages of development, where the potential for rapid growth and job creation are more limited. Businesses at this stage of the development cycle are characterised by the need to diversify into new and innovative products or services. In order to do that, there is usually a need for extra capital for research and development, as well as for market research to identify consumer needs and preferences. At this stage in the development cycle, business angles and venture capital are typically the most appropriate sources of finance.

Figure 29: Development Stage of micro-enterprises in Cyprus



Source: PwC, Online Survey Among CY SMEs, 2017

The main source of funding for micro enterprises has been different forms of loans, which together account for 56.5% of report funding sources (Figure 29). Stakeholders have pointed out that this heavy reliance on borrowing among micro enterprises in Cyprus is a major weakness of Cypriot SMEs and in particular of micro enterprises. The comparatively low number of micro enterprises who reported using own resources is also noteworthy, especially since the majority of micro enterprises identify themselves in the post creation to maturity stage of their companies.

It also means Cypriot micro enterprises are more dependent on outside sources of capital that they cannot control. There is quite a low percentage of micro-enterprises firms (3.6% of respondents) who report being willing to fund their activities through retained earnings. Stakeholders have suggested that this is due to the poor economic situation of Cyprus. However, the fact that 67% of micro enterprises state that they are in a development stage where there is profit would suggest that the historic overreliance in lending, analysed in the previous section, is still affecting the demand for lending. The percentage of firms who use own capital, retained earnings and capital by shareholders is just 17.3%, compared to a Euro area average of 25%.[99]

In addition to loans, some 16% of micro enterprises reported getting support from either grants or financial instruments such as guarantees or interest rate subsidies. This utilisation of grants and guarantees by SMEs is also evident in sections 5.1 and 5.2 where grants and FIs for SMEs are presented.

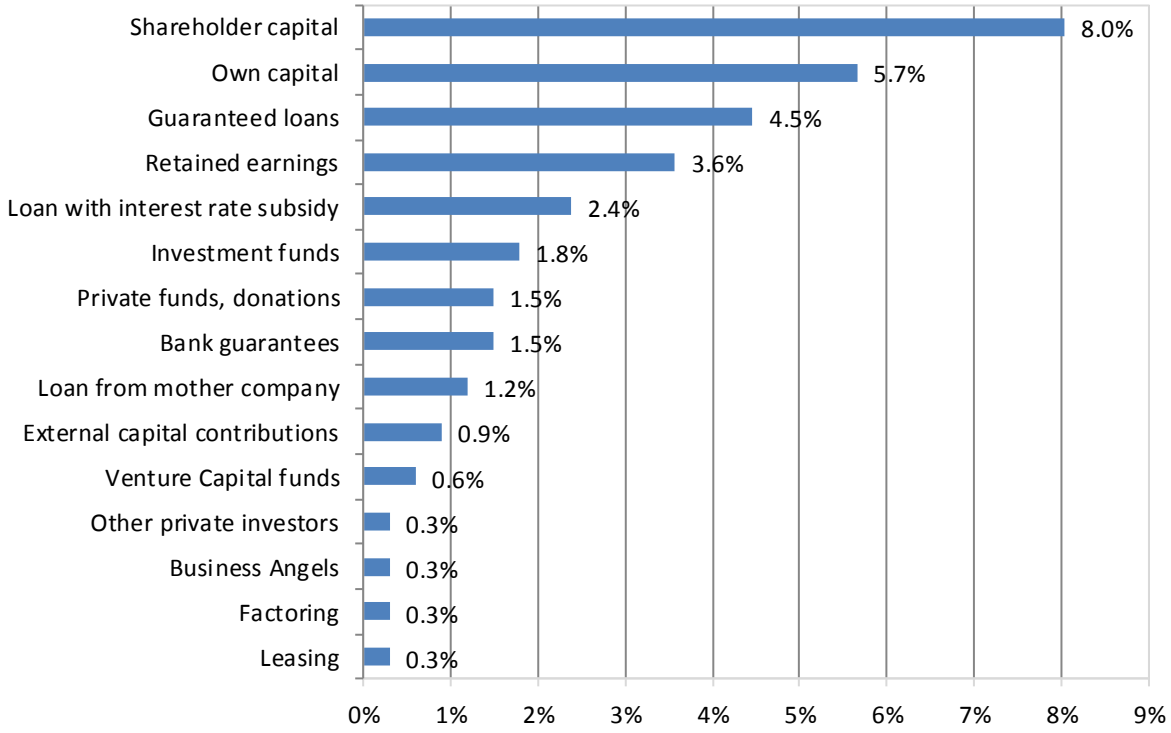
[99] European Central Bank, Survey on the Access to finance of Enterprises in the Euro Area report (2016) https://www.ecb.europa.eu/pub/pdf/other/accesstofinancesmallmediumsizedenterprises201512.en.pdf?2c146594df6fe424c7adb001e1306c73

The lack of other types of financing, such as leasing (with the exception of motor vehicles), mezzanine, Venture Capital etc. can be attributed to the fact that these sources remain a novelty in Cyprus.

The need is especially evident for the short term loans, where the average amount demanded is EUR 13,000, which is below the maximum size of a loan under EaSI (EUR 25,000). This could address the observed difficulties in securing finance especially in small amounts. Alternatively, in case no financial intermediary is signing up for EaSI a specialised microfinance instruments could be set up from other sources in order to alleviate the increasing difficulty that micro enterprises are facing in terms of guarantees that are required by the banks. The introduction of microfinance instruments would create an attractive alternative to expensive short term lending options such as overdraft facilities. In addition, the implementation of the new legal and regulatory framework to enable an expansion of leasing facilities should increase the range of options available to micro enterprises that perhaps better suits their financing needs. However, currently there is no legal or regulatory framework on microfinance and none is forthcoming. This is very problematic for financial institutions as the risk factor of microfinance for micro-enterprises currently is considered excessive without substantial collateral in place. There is a need to enhance existing legislative framework on microfinancing.

The estimated demand for short term financing in Cypriot micro enterprises indicates that the lack of a microfinance option is a severe impediment in the development of micro enterprises. The introduction of microfinance would create an attractive alternative to expensive short term lending options such as overdraft facilities. In addition, the implementation of the new legal and regulatory framework to enable an expansion of leasing facilities should increase the range of options available to micro enterprises that perhaps better suits their financing needs. There is currently no legal or regulatory framework on microfinance and none is forthcoming. This is very problematic for financial institutions as the risk factor of microfinance for micro-enterprises currently is considered excessive without substantial collateral in place. There is a need to enhance existing legislative framework on microfinancing.

Figure 30: Sources of financing used by micro-enterprises, 2014-2016



Source: PwC, Online Survey Among CY SMEs, 2017

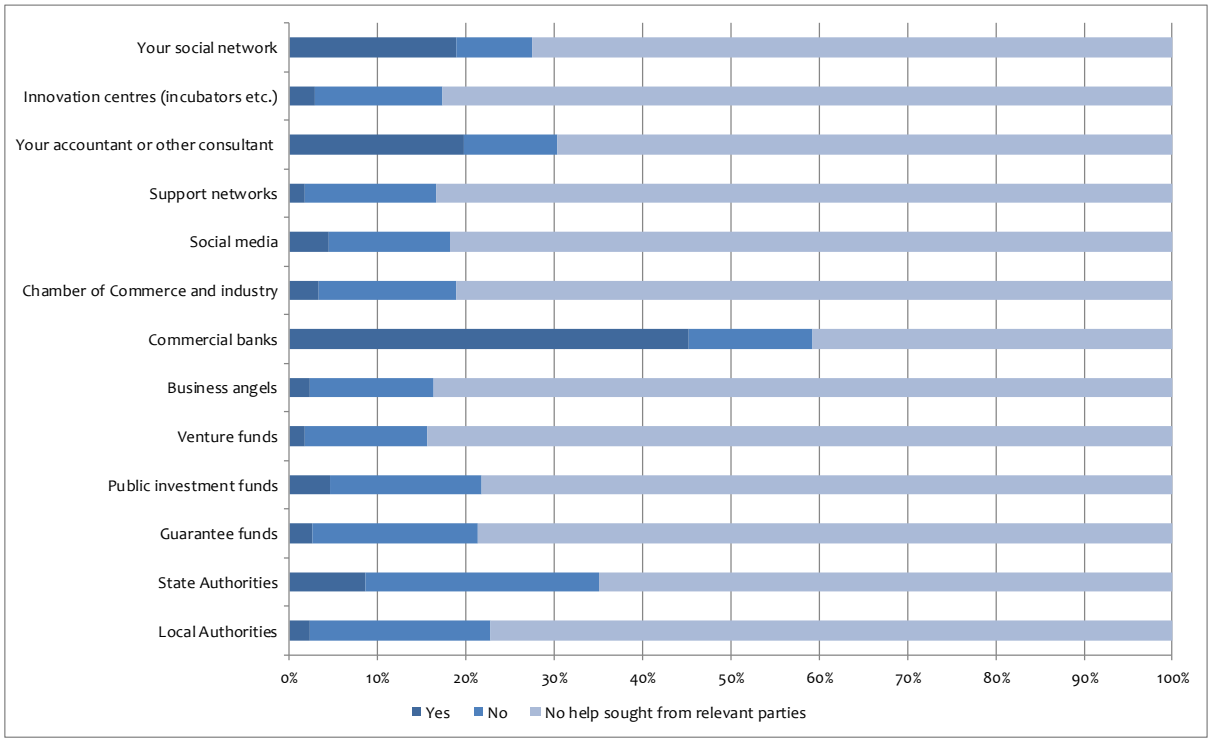
According to a large proportion of this category of SMEs, support from private or public institutions is limited. As a result, many micro enterprises do not seek outside financial support at all. The main issue seems to be one of awareness, since most companies state that they did not request support from public investment funds (78%), venture capital funds (86%), or business angels (86%). The issue is both a lack of financing from such sources and lack of awareness for such possibilities by the SMEs, especially in the micro-enterprises. Despite the reliance on financing through loans and banking institutions, micro enterprises did not report requesting the support of the chamber of commerce of fiscal consultants, opting instead to go directly to commercial banks and centralised state authorities. These results were confirmed though stakeholder interviews as well. Hence, there is a need for platforms that will bring start-ups to investors, such as equity investors, venture capitalists and business angels, and provide professional advice to them so to help them to flourish. A one-stop shop to aid both new SMEs and potential investors as well as web portal that integrates the current options and incentives in terms of financing would be very positive step for Cyprus.

Cypriot micro enterprises feel discouraged when looking for finance. When asked what has changed significantly in 2016 when compared to 2014[100], 30.9% responded that it has become increasingly difficult to obtain funding.[101] Microenterprises seeking primarily financing from the banking sector experienced a decreased willingness of the banks to provide financing in 2016 was worse than in 2014: 45% stated that they felt lack of support from commercial banks (Figure 31).

[100] Year where the financial crisis was most severe in Cyprus
[101] Answers in question 6 of the online survey among Cypriot SMEs

This possibly creates hidden demand for financing, especially for new companies, which find the unwillingness of banks to lend means the delay their plans.

Figure 31: Feeling of lack of support among micro-companies when seeking finance



Source: PwC, Online Survey Among CY SMEs, 2017

Traditionally, SMEs in Cyprus have primarily been financed through banking institutions with personal guarantees or collateral. However, in light of the recent banking crisis, entrepreneurs have entered into a new, unknown area of limited access to this customary form of financing. As indicated by the April 2015 ECB Bank Lending Survey, credit availability is tight due to banks' stressed liquidity and capital adequacy positions, together with the high non-performing loans levels. This has resulted in the tightening of credit standards especially for SMEs.

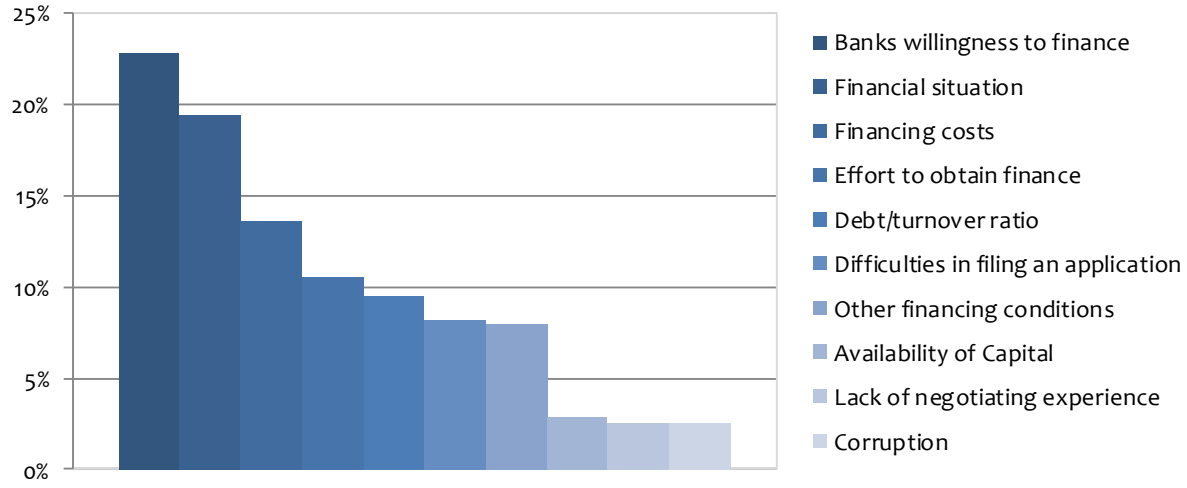
There is currently a lack of equity finance, and complete lack of formal bond market making it more difficult for micro firms and SMEs in general to access finance. The need for such markets means policy makers should consider deploying a set of policy instruments at both the demand and the supply side.

Even though the economy has indicated signs of recovery over the last couple of years, access to finance is still limited in Cyprus. The country's profile is lower than the EU average whereas vast payment times (among the top-three in the EU) have turned out to be normal in Cyprus and have a multiplier effect on the entire business environment. This is more profound for micro-enterprises. The financing environment is yet extremely rigid as banks, especially after the financial crisis, continue to be unwilling to take risks.

The funding was largely requested for working capital needs with 40.4%.[102] As already discussed, the lack of retained earnings to fund the companies led to the need of external sources of funding. Yet is it noteworthy that the large percentage of companies that seek financing are not in the early stages of their business development. Thus, these are largely mature companies seeking working capital through a loan.

The perception that the issue is the lack of willingness to provide funding by the commercial banks is indicated in the figure below. The main difficulties are relating to the willingness of the traditional providers of funding, namely banks, to provide finance and the financial situation of the business. It is noteworthy that for many the issue was rather cost of available finance, rather than lack of finance access per se (Figure 32). The cost of financing was also an important factor emerging from the results of the qualitative survey along with issues of collateral. This makes the development of the non-loan financing important for Cyprus moving forward. In terms of attractive financing tools is was evidence from the demand side that there is a need for low rate, low guarantees and high maturity instrument when considering instruments in the form of loans. When asked about their opinion of why was their funding either not successful or only partially successful the SMEs indicate that poor credit rating and high rate of interest is put as reason for the lack of success.

Figure 32: Reasons for difficulties in access to finance 2014-2016, micro enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

It seems the micro-enterprises are far less leveraged than larger businesses in Cyprus, meaning that they have lower debt to equity ratios than other SMEs. This means that micro-enterprises have no access to finance for other reasons than high level of debt, which is common a reason for other SMEs not to obtain financing from banks.

The fact that most financing is made through loans has opened up the issue of collateral. The exceptionalism of the Cyprus system of guarantees is clearly shown in Figure 33. Cyprus businesses, and in particularly micro enterprises are able to use a system of guarantees (where

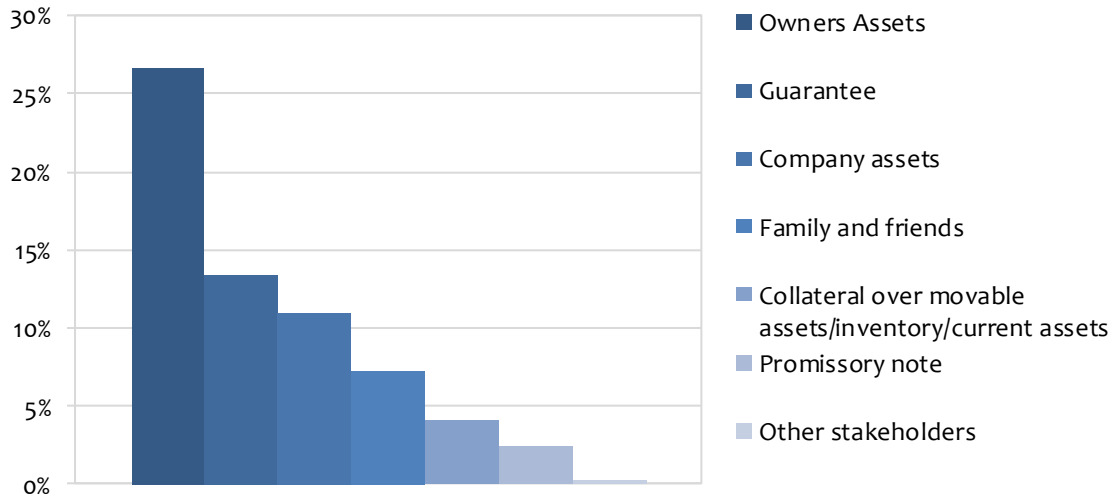
[102] Answers in question 9 of online survey among Cypriot SMEs

familiar and other social networks provide a guarantee in the event of non-performance of the loan) to use at least as part of the collateral for these companies.

The use of guarantees has, in the recent past, worked as an important provider of the necessary guarantees to be able to acquire finance. The traditional guarantee system of Cyprus depends on family and other personal contacts to guarantee loans. Loans were often provided on lower collateral if sufficient personal guarantees were in place by persons that the bank considered trustworthy. In fact, for the cooperative system, personal guarantees of members of the cooperative were expected prior to the provision of the loan. While taking into account that correlation is not causation, it is clear that the high dependence of Micro enterprises in loans is related to the ability of these companies to use these personal guarantees of their family and social circle to provide collateral for the bank.

This system of personal guarantees was under severe stress during the financial crisis, as many guarantees were called in to cover non-performing loans prior to securing the collateral. This has led to banks being less willing to accept personal guarantees, as well as to individuals being less willing to provide such guarantees. Thus the ability of SMEs to access finance has been affected by the reduction of the important (and the supply) of personal guarantees. It can also explain the frustration that firms feel in accessing finance. It is also a possible dynamic point for FIs involving guarantees, as it is something that is well within the recent experience of Micro-enterprises as a method of collateral. Based on the above together with the results of the interviews, seed capital or venture capital would be ideal for such cases. There is need for liquidity in the inefficient private equity and venture capital markets with the provision of flexible capital solutions.

Figure 33: Type of collateral provided for debt financing by micro-enterprises

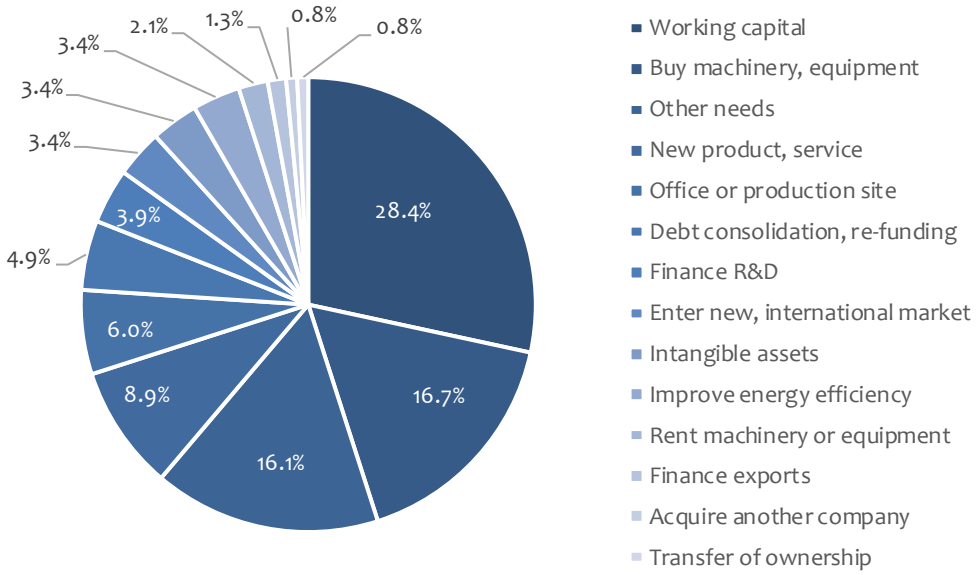


Source: PwC, Online Survey Among CY SMEs, 2017

Despite the notable use of guarantees by Cypriot micro enterprises, the use of the acquired funding is otherwise very positive. The plurality of micro enterprise respondents indicated needing financing for working capital, but a surprisingly large amount is used for in investing in research and development and in capital infrastructure. This is seen as very positive, as capital investment and research and development are the driving forces of future growth. Micro

enterprises seem less concerned in restructuring loans, perhaps because exactly their access to finance was always more restricted those larger companies. This is a further support for the imminent need of micro enterprise access to flexible capital as they are more willing to invest is new the development of new and innovative product and services. Taking into account that those business where already in the low side in terms of leverage due to the low level of asset backing but still they find the means to invest into R&D suggests that those micro business if they acquire the relevant capital can grow in a positively manner (Figure 34).

Figure 34: Use of funding by micro enterprises 2014-2016



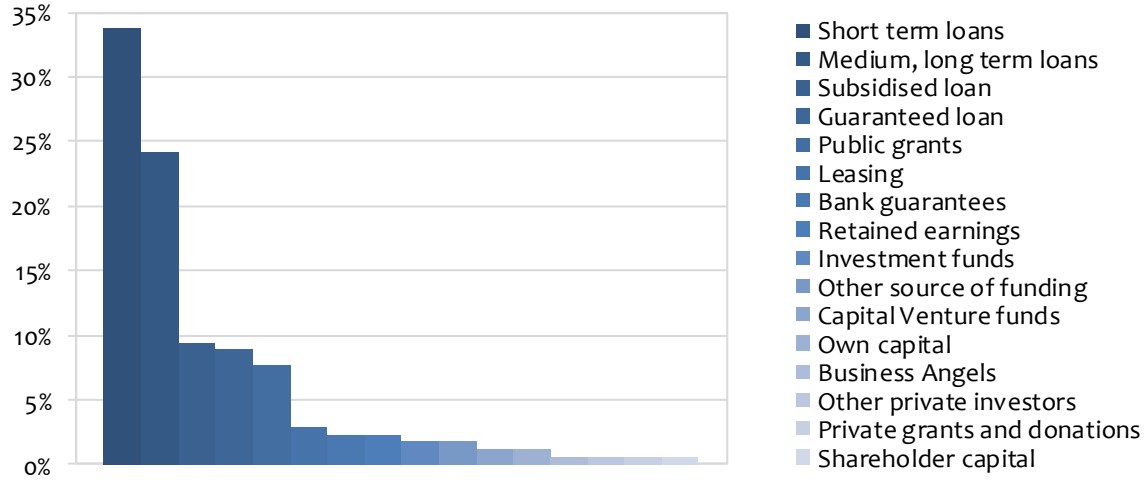
Source: PwC, Online Survey Among CY SMEs, 2017

The survey also investigated the future needs of micro enterprises. In this context, the role of retained earnings is expected to remain modest, and the emphasis is on short and medium term loans. However, a greater awareness of loan alternatives is noticed such as loans with public guarantees or with interest rate subsidy. Small percentages express interest in leasing, which is expected to be implemented by the local banking sector broadly in 2017.

The lack of retained earnings, the paucity of the use of equity as a method of finance by micro-enterprises, and the increased difficulty in securing loans (including the lack of microfinance) makes the ability of the Cypriot financing moving forward challenging for this category of SMEs. However, the qualitative analysis suggested that another obstacle when considering traditional financing, even in the case where the businesses do fulfil the relevant conditionals required by the financial institutions, is the bureaucracy. Because it takes a long time to proceed with a loan application in many cases the innovation is eliminated. The amount of time it takes to get a loan application approved depends on the type of loan, and whether the borrower is an existing client. There are added layers in terms of collateral quality and ability to repay as well as quality of any personal guarantees or additional forms that are required.

Businesses prefer grants to loans since it lowers the cost. Still, the application process for grants offered by the government is also time consuming. A number of grants have taken more than two years to finalise their decisions, which is a major barrier for entrepreneurs.

Figure 35: Expected sources of funding in 2017 indicated by micro enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

The uses of funding are also likely to remain the same as in the past with a noticeable increase in the use of funds to internationalise the businesses and increase exports. This is a positive development as this is a sector of the Cypriot economy that struggled to have a share in the openness of the economy that is relative to its size. The willingness of SMEs to expand through export is a positive indication for the future growth of the local economy. Linking up SMEs to the global economy could provide some of the boost to exports required for any given country. Studies indicated that firms that have exported for more than two years are significantly more likely to be profitable whereas exporting have helped them grow to a level not otherwise possible and at the same time helped them to achieve fuller use of their existing capacity. Finally, it steered them to new business ideas and innovation, helping them to upgrade their products and services.

The survey has opened the puzzle of Cypriot micro enterprises. They are by far the majority of enterprises in Cyprus, yet little was known about them, and a very small number of companies seem to be in the stage of initiation. A dichotomy in micro enterprise financing is also noticed. There is a request for loan financing in part due to the lack of alternatives, but also due to the lack of own capital and the lack of using own resources. But as pointed out the primal reasoning for their reluctances to utilise own funds is the bailout during March 2013 that in some cases wiped out firms' savings and this hindered their financial position. The awareness in existing schemes seems low and the enterprises feel that the ability to apply for loans has become more and more restrictive, but more are expected to participate in financial instruments. Those who successfully apply for funding in banking institutions receive close to the amount they are requesting.

The survey was also used to collect more information on the role of SMEs with the strategic direction of the Republic of Cyprus in terms of ICT. In qualitative interviews about the subject, it was stated that the main obstacle is not access to broadband internet, but the broader implementation and use of such access for business activities. It is noticed that 81.6% of micro

enterprises stated they had a broadband internet connection that was of sufficient speed.[103] Just thirteen companies out of the remaining 49 considered the lack of a high-speed internet connection an obstacle to the growth of their business. Despite the existence of high-speed internet in most micro enterprises, just 47% has initiated any type of e-commerce activity.[104] The emphasis for the lack of ecommerce is the lack of qualified staff rather than issues of equipment or of a technical nature.

Quantification of potential demand for financial products from micro enterprises

The results of the quantification of demand for loans are presented in Table 31, while placed in a confidence interval of ±5 as an upper and lower bound in the table below.

Table 29: Annual demand for financial products among micro enterprises in Cyprus in 2017

	Average finance sought by a single micro-enterprise (€m)	Finance sought by the total micro-enterprise population (€m)
Short-term loans, bank overdrafts and credit lines	0.014	170 - 190
Medium and long-term loans	0.049	445 - 490

Source: "Assessing the potential use of Financial Instruments in Cyprus," PwC ex-ante assessment study, 2017

The larger emphasis on medium term loans appear to be consistent with the qualitative interviews which emphasises the larger desire for Medium and long term loans during this accelerating recovery period of the Cypriot economy.

Micro enterprises do not really have access to longer maturity loans or other sources of finance, and it is not clear to them the distinction of the differing use of short term to medium term finance. There is not a clear distinction between the uses of loans with various maturities neither by the micro enterprises nor by the financial service providers in the country.

The methodology behind quantifying micro-enterprise demand for financing is provided in Annex C.

Quantification of demand for microfinance

The table below presents the calculated annual demand for micro-finance among SMEs in Cyprus in 2017.

Table 30: Annual demand for micro finance among SMEs in Cyprus in 2017

	Average finance sought by a single micro-enterprise (EUR m)	Finance sought by the total micro-enterprise population (€m)
Microfinance	0.014	235 - 260

Source: "Assessing the potential use of Financial Instruments in Cyprus," PwC ex-ante assessment study, 2017

[103] 222 companies that answered positively in the online survey among Cypriot SMEs

[104] 128 companies response positively to interacting in ecommerce in the online survey among Cypriot SMEs

It must be noted that there is no framework or legislation in Cyprus for microfinance. An action plan is currently being constructed for social enterprises that may include provisions for microfinance, but this is still a work in progress. There is no clear timeline for when an action plan for microfinance and possible regulations and rules will be available.

The methodology for quantifying the demand for microfinance is also presented in Annex C.

7.1.2 Financing of small enterprises

Overall, small enterprises (companies with 10 to 49 employees) have easier access to finance than microenterprises. Yet the broad structure in the type of financing used by smaller enterprises is similar. The main difference is that their somewhat larger size differentiates aspects of collateralisation, and use of the amounts that were successfully applied.

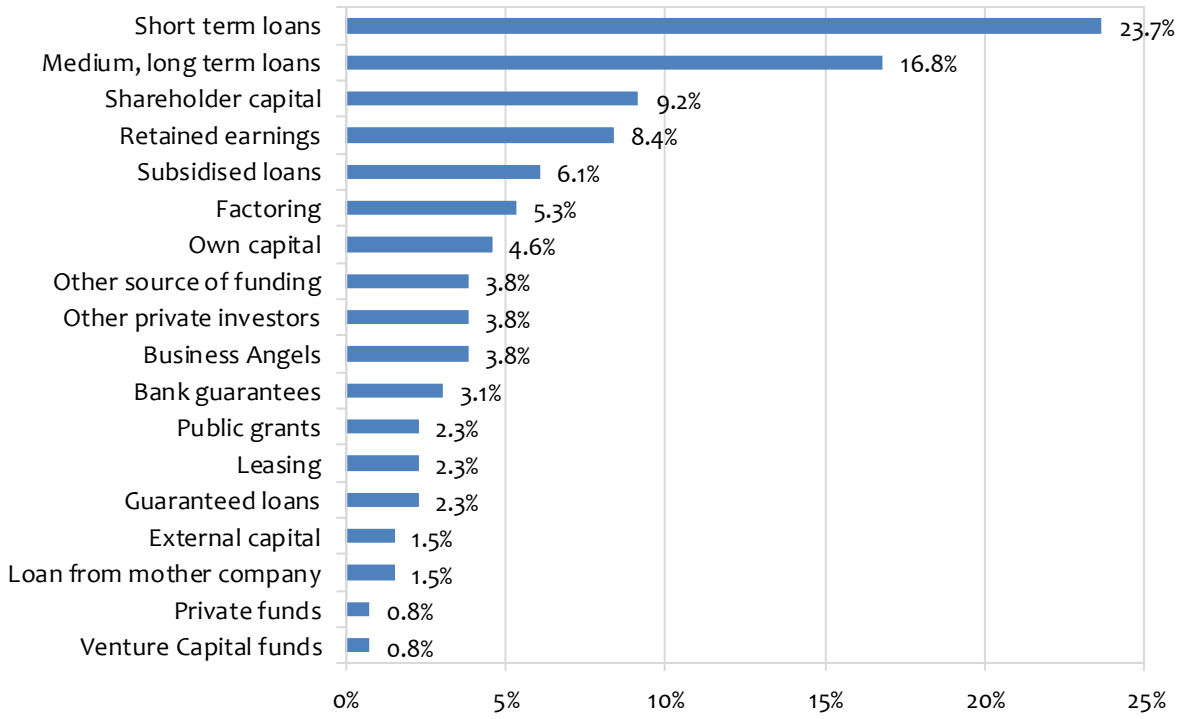
In the survey, Small enterprises were likely than micro enterprises to report the need to reorganise (application or design of future restructuring in order to become profitable), and a substantial share expect further growth in the business as they are in the development stage (40%). This is positive as those business that develop should expect growth and an increase on their employees

When seeking finance, small companies still primarily depend on traditional bank finance, but it is notable that some (8.4%) relied on retained earnings, through private investors (3.8%), business angels (3.8%) and shareholder capital (9.2%). Mezzanine finance, bonds, and technology transfer funds are not in use in any of the SME sectors of Cyprus (Figure 36).

Although commercial banks are still the principle place where small companies turn for support when seeking finance (48%), a far larger role for financial advisors (21%) is noticed than in micro enterprises. It is important to note that despite small companies having a size of up to 49 employees, family and social networks are still a significant role in seeking financial support (20%). This is important, as family and societal support networks, often considered more informal financing sources, seem to matter even for small enterprises that have higher financial needs.

Small enterprises evaluate more positively the change in the business environment during the period 2014-2016 with very positive evaluation of their financial position (43%), their turnover (44%) and the reduction of cost of financing (20%), mainly due to the general reduction of Cypriot interest rates. However, as described below, the cost of finance is still considered an important burden for SMEs. They are in tune with other SME is expressing a change in bank willingness to provide financing (24.8%). Still their access to finance is still problematic and by taking into consideration not only the unwillingness of banking institutions to be more flexible but also the strict regulatory framework that emerged after the banking crisis, the willingness of banks to provided finance is still at the low end in the perception of the entrepreneurs.

Figure 36: Sources of funding used by small enterprises, 2014-2016

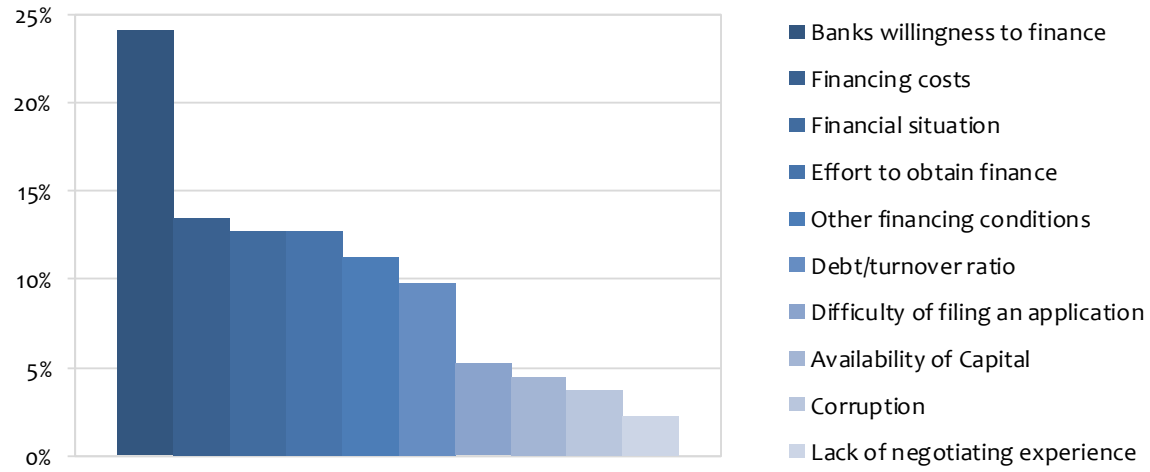


Source: PwC, Online Survey Among CY SMEs, 2017

Analysis of the most frequently used sources of finance, Figure 36 indicates that small companies, like all SMEs in Cyprus, rely heavily on short term and medium term financing from banking institutions. Thus the tightening of lending and lending practises by the financial institutions of Cyprus and their regulators since 2013 have led to small enterprises to consider bank willingness as the primary cause of an obstacle to financing as shown below. Small enterprises have some options over micro enterprises in alternative sources of finance, but as they still rely (albeit to a lesser degree) on the majority of funding from their banking institutions, the transformation of lending practises that is taking place after the Cypriot financial crisis is perceived to be affecting them severely.

It is important to state that in the qualitative interviews, the burden of effort to obtain finance was identified as a main source of consternation by all stakeholders. Yet at least in small enterprises it is the willingness of financial institutions to lend (24%) that is questioned. Small enterprises indicate an overall reluctance from banking institutions to provide financing to companies of their size, as well as a high bureaucratic burden to obtain finance (Figure 37). Cost of finance is still considered an important barrier to financing, despite costs falling since the crisis of 2013.

Figure 37: Reasons for difficulties in access to finance 2014-2016, small enterprises



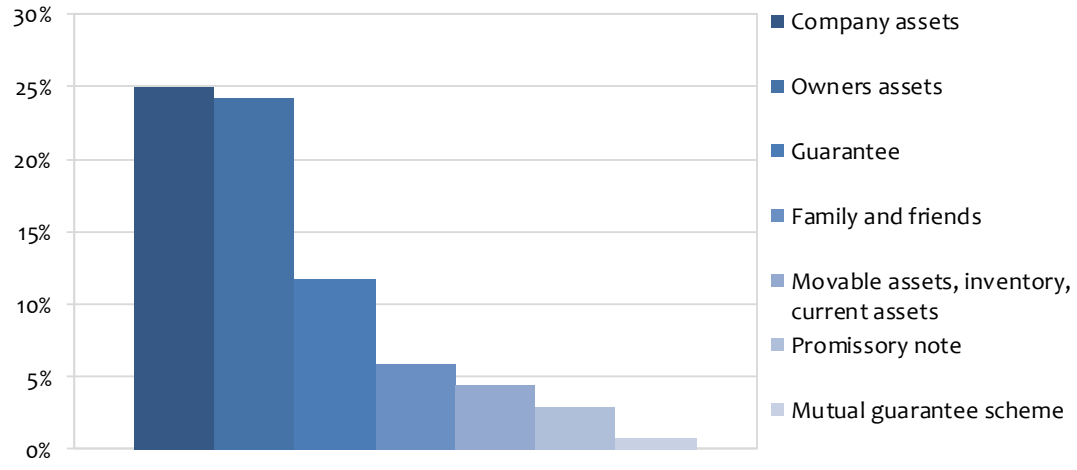
Source: PwC, Online Survey Among CY SMEs, 2017

When asked about their opinion of why was their funding either not successful or only partially successful, respondents point to poor credit rating and high rate of interest. This focus on interest rates as a key barrier to access to finance is notable in both the survey and in interviews. This can be considered evidence of unmet demand for finance that could be met by an FI that offered lower interest rates.

As with micro enterprises, there is an issue about the availability of own capital in the failure or partial success in financing. Qualitative interviews indicate that there might be an issue of lack of information provided back to the failed applications for financing. However, this is not conclusive.

Perhaps the most notable difference between micro and small enterprises is the type of collateral that provided (Figure 38). The use of owner assets as collateral is far more prevalent, as is to be expected by larger and often more mature companies. However even at these bigger companies, there is substantial use of the once prevalent Cypriot specific system of personal guarantees (12%) and of family and social networks (5.9%).

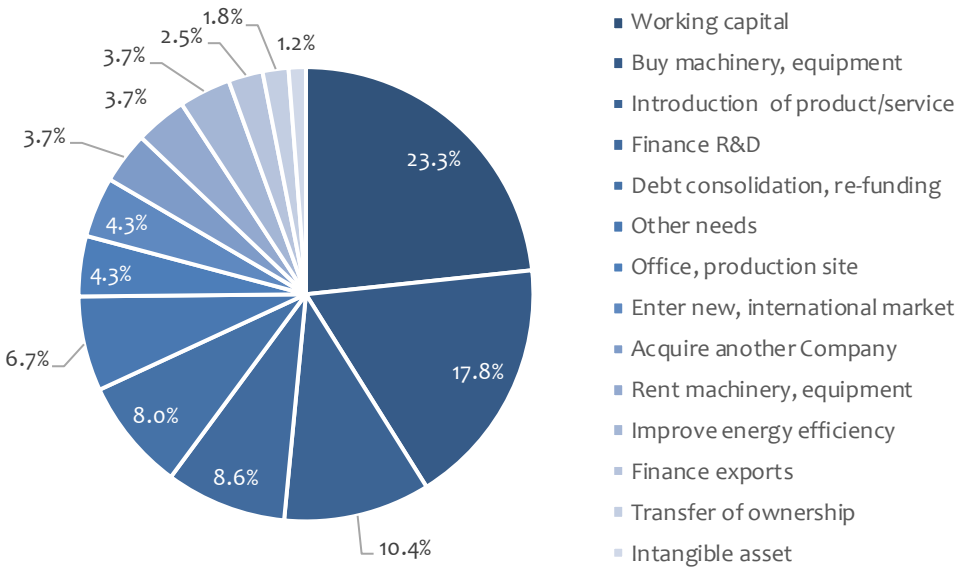
Figure 38: Type of collateral provided for debt financing by small enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

The use of the funds acquired by small enterprises indicates a similar pattern with micro enterprises, with the exception of a larger amount being used to refinance past lending. This might indicate that as small enterprises have a marginally better access to finance, they were more exposed to past lending and its consequences during the financial crisis. Again, an important point of notice is a quite significant portion of funding is dedicated to Research and Development, which indicates the willingness of the SMEs to invest into innovation in the expectation for growth (Figure 39).

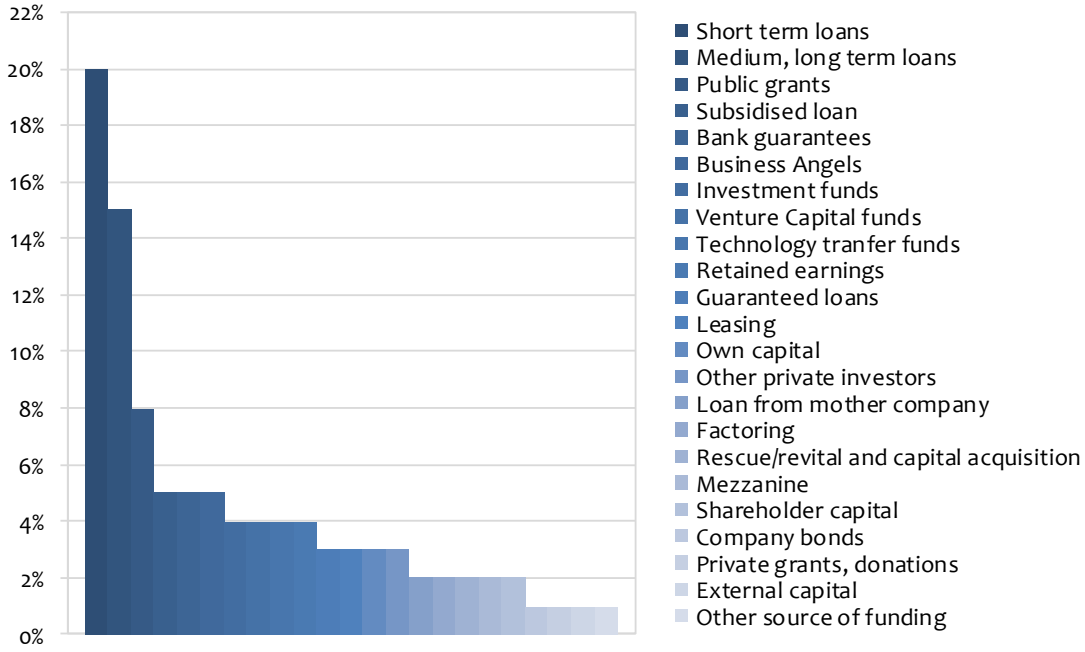
Figure 39: Use of Funding by small enterprises in 2014-2016



Source: PwC, Online Survey Among CY SMEs, 2017

It is positive that small enterprises expect funding for the future to be more diversified than the sources of funding in 2014-2016. There is a slight reduction of demand of loan finance (Figure 40). Loans of all types comprise the demand in 2017 of 47% of expected sources of funding. Interestingly, all other sources of funding are considered, especially public grants (8%). However, other sources of finance are considered, including export guarantees and technology transfer funds.

Figure 40: Expected sources of funding in 2017 indicated by small enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

The uses of the funding are similar to other categories of SMEs, with the exception of a substantial part of the funding is earmarked for transfer of ownership (17%). It is positive that funding is mainly earmarked for capital infrastructure, launching new services or products. Even more positive for small enterprises is the use of 11.4% of the expected funding to aid the internationalisation of their business.

Thus, there seems to be a greater awareness and willingness for small enterprises to seek out alternatives to banking finance, with greater desire for equity financing and external capital. It is possible that new financial sources of funding can be capitalised by this section of the economy easier than in the micro enterprises due to the larger size of the companies.

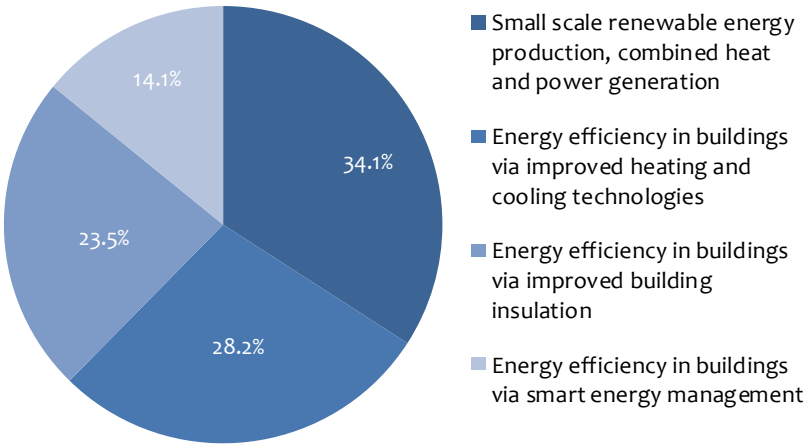
The survey was also used to collect more information on how the SMEs saw the strategic direction of Cyprus in ICT. Just 18% of small enterprises do not consider that they have a fast broadband connection that is of sufficient speed.[105] Of those who do not consider they have sufficient speed, 46% consider it an obstacle to their business. Thus, internet speed is not a very important obstacle to SMEs' success. Over 65% of small enterprises do engage in ecommerce. The emphasis for the lack of ecommerce is the lack of qualified staff, and the technical infrastructure of the company.

Energy efficiency and the use of low carbon energy sources seem to interest small enterprises less than micro enterprises, as 65.9% consider measures to reduce carbon and conserve energy will help the enterprise to use resources more efficiently.[106] This could be because of the ability of these slightly larger entities to take steps in this direction already as the outlay considered for

[105] 70 companies that answered positively in the online survey among Cypriot SMEs
[106] 63 companies responded positively in the online survey among Cypriot SMEs

investment in low carbon and renewable energy is relatively smaller for small enterprises than for micro enterprises. Figure 41 shows that the emphasis on green technology is broader, with smart energy management systems becoming more important than in micro enterprises.

Figure 41: Interest in low-carbon economy, small enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

In summary, small enterprises expect their demand for finance more interest and diversification in future financing demands in terms of equity. There is greater ease of access to finance, although the frustrations of small enterprises are similar to those of the micro enterprises in terms of frustration in acquiring traditional forms of loan financing.

Quantification of potential demand for financial products from small enterprises

The quantification of potential demand among small enterprises is calculated by placing a limit on the loans demanded of EUR 500,000 to remove outliers. This is described in more detail in Annex C. These are presented below jointly as follows (Table 33):

Table 31: Annual demand for financial products by small and medium sized enterprises, 2017

	Average finance sought by a single small enterprise (€m)	Finance sought by the total small enterprise population (€m)
Short-term loans, bank overdrafts and credit lines	0.156	115 - 125
Medium and long-term loans	0.219	275 - 300

Source: PwC 2017

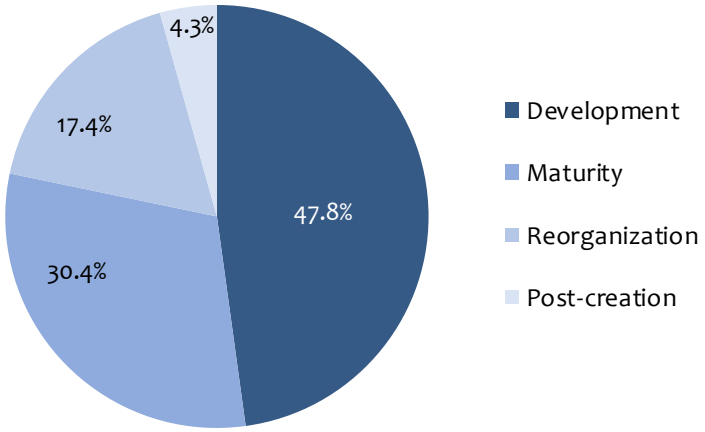
7.1.3 Financing of medium enterprises

Medium sized enterprises make up just 0.6% of SMEs in Cyprus. The sample stratification has ensured that such companies are adequately represented in the same as in the population as with the other groups.[107] The sample size is adequate to be able to generate general information on the demand of financing. It is not large enough however to be able, with confidence, to break

[107] See the Annex on the survey for more details

down the answers to the questionnaire to provide detailed analysis of a similar nature to micro and small enterprises. Hence, what follows is an overview of the most important general observations will be provided at a level that ensures that the data sample of medium enterprises will not be mistreated.

Figure 42: Development stage of medium sized enterprises in Cyprus



Source: PwC, Online Survey Among CY SMEs, 2017

The distribution of medium enterprises among the stages of the business development cycle (Figure 42) is roughly as expected. Compared to small and micro enterprises, a larger percentage reported being in the reorganisation stage. Another important point of notice is that almost half of them are in the development phase of their life cycle, suggesting that additional capital can be used for fruitful investments that would help them to grow and expand either with new products and services or through market share.

The amount of short term banking finance under this category was 22% of the total source of finance, with 17.5% in medium term and long-term loans. This reduced reliance of banking finance was due to a larger share of finance through Bank guarantees (including export guarantees) of 11$ and a higher amount of retained earnings (9.5%) used for that purpose.

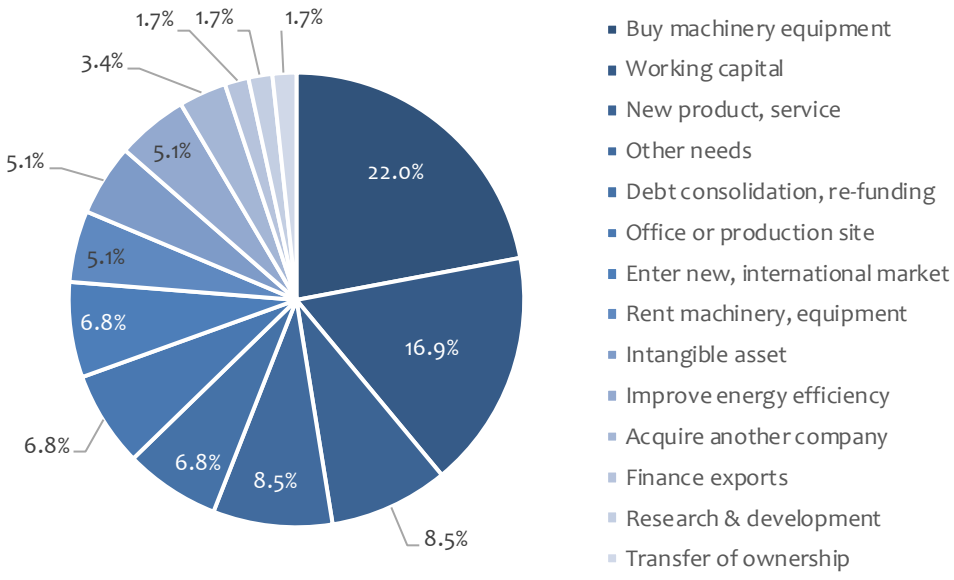
Medium sized enterprises had greater access to finance than smaller firms due to the availability of assets, including owner assets or company assets, to be used as collateral. As such, their reasons for failure to access finance are more likely to be linked to past exposure to loans. The effect of the recent financial crisis has left many medium size enterprises burdened with debt. Companies who were thus highly leveraged before the crisis are finding difficulty securing new funding, other than to restructure problematic of non-performing loans. Here again, the terms and conditions associated with financing, as well as the burden of efforts to obtain financing, are quite relevant. In addition, medium size enterprises in the fields of construction and land development have seen a steep decline in the prices of their products, and of their assets, making financing of activities in that sector problematic.

Most medium size businesses feel there was an improvement in their financial situation (56.5%) and in the business cycle (65.2%) in line with the economic recovery of Cyprus. They are also much more satisfied with the ability of banks to provide better terms and finance relative to others. Interestingly, they note an increased aptitude by investors to invest in their business. A probable reasoning for that is that they can be considered as having lower business risk due to size as opposed to smaller enterprise, even though they have higher financial risk due to high level of gearing.

The type of collateral is now much more traditional business collateral, which lenders are more easily able to assess the quality of compared to smaller firms, and less reliance on family and social connections. It is thus not surprising that medium size enterprises do not face the issues of micro enterprises in securing financing. It seems that the issue with medium size companies is past debt rather than access to financing options due to having sufficient asset backing.

In the use of funding, it is noteworthy that Medium size enterprises have used 5.1% of the amounts secured for energy efficiency. For Medium size enterprises, energy efficiency is already an aspect of business that they are looking to secure financial resources. The large amount allocated to research and development is very encouraging. In terms of future use of requested financing for 2017, Medium size enterprises efforts are similar to Small enterprises, with a reduced emphasis of using it as working capital. Of upmost importance here is that the R&D is the primal reasoning for the usage of financing funds indicating possibilities for development (Figure 43).

Figure 43: Use of funding by medium enterprises in 2014-2016

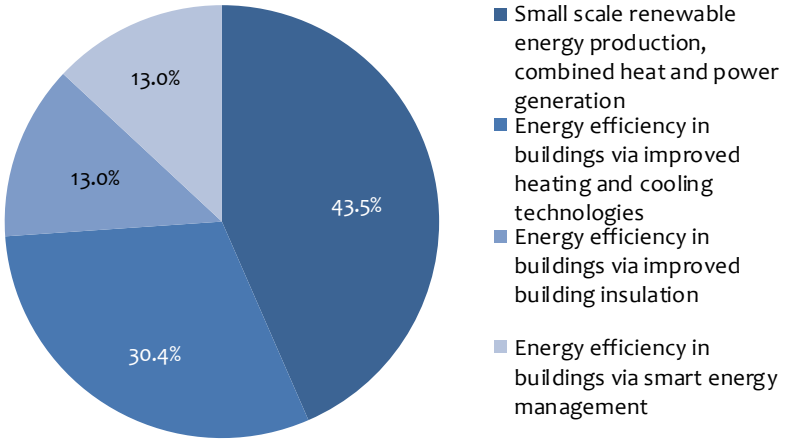


Source: PwC, Online Survey Among CY SMEs, 2017

In terms of ICT, 26.1% of Medium size companies believed they did not have access to broadband internet of sufficient speed, but the majority of those who do not access it do not consider it an obstacle to their business. There is a substantial amount of knowledge on ecommerce with 69.7% of medium size companies stating they are active in ecommerce.

In terms of energy efficiency there was an overwhelming support (87%) for the importance of energy efficiency as a way to manage resources more effectively, corroborated by the expenditure of funds in the period of 2014-2016 on the field of energy efficiency and low carbon economy as previously indicated.

Figure 44: Interest in low carbon economy, medium size enterprises



Source: PwC, Online Survey Among CY SMEs, 2017

The emphasis is however in production of low carbon alternatives over other forms of energy efficiency (Figure 44). Taking into account the high and substantially volatile cost of electricity their foremost interest is the investment into renewable energy production so as to decrease their operating costs.

The small size of the economy of Cyprus leads to a paradox for Medium size enterprises. The European definition of what is a Medium size enterprise is defined as one that employees from 50 to 250 employees and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million[108]. Such a company looms large in the limited size of the Cypriot economy. Thus medium size companies do not exhibit similar issues that small or micro size enterprises.

Hence, their needs, desires and obstacles face could be more in tune with what Cypriot large companies are facing. That is not to say that there is not a spectrum within the medium enterprises, but the depth of data to be able to see if there is a threshold in the Cypriot context where medium size companies are treated as non-SME in effect by the financial intermediators is not available.

[108] European Commission, User Guide to SME definition Ref. Ares(2016)956541 - 24/02/2016, http://ec.europa.eu/DocsRoom/documents/15582/attachments/1/translations/en/renditions/pdf

Due to the relatively small number of respondents from medium-size enterprises expressing a financing need, it was not possible to estimate the potential demand for financing among medium enterprises.

Potential sectors of growth in Cyprus

Taking into consideration the qualitative data it was clear evidence that energy efficiency is an area with growth potential in Cyprus in the forthcoming years, leading to investment potential for SMEs in this sector. An example is the introduction of net metering grant program (PV), which was very successful where the demand has overrun the available supply. PV is a smart meter program that it was introduced in 2013. Currently the network of EAC (Electricity Authority of Cyprus) not able to accept so much PV energy. Hence, an additional need is the change in the distribution network of EAC. A further area that is likely to experience growth is waste management, and especially biomass plan. Waste management in Cyprus is quite limited and it is expected that the demand for financing these type of project will increase. However, banks do not consider that as an opportunity since they cannot identify the economic benefits associated with the energy investment projects and for that reason, they required alternative collaterals. This is one of the major barriers that entrepreneurs face under this sector. Hence, there is need for an alternative form of financing.

Tourism is an industry that has experienced increased revenues over the last few years with a 12% increase in revenue during 2016. During those years, hoteliers have invested in renovation and expansion of existing facilities but also have invested in energy efficiency projects so as to decrease their operating cost. There is high demand for financing in this sector and it is expected to continue. Currently the industry because of the limitations of attaining bank loans they have manage to finance those investments through loan agreements with the tour operators where they prepay commitment contracts with a specific interest, as it take the form of a loan, and they also have specific demand on the renovation projects. Still the sector has managed to succeed in terms of financing and profitability. Additionally, tourism sector and most specifically the hoteliers require ICT investments in order to provide Wi-Fi to their clients. This type of investment, even though it has low maintenance costs, it has high establishment costs, which sometime reaches EUR 100,000. The need for free Wi-Fi seems to be really important for the Cypriot hoteliers because in the past they proposed to the government to invest in free Wi-Fi for all the citizens and visitors of the island but their proposal was rejected.

The healthcare industry in also considered a promising industry. A number of new projects have emerged during last few years as it was evidence from both the demand and supply side of the economy. In terms of health, the need emerged from the servicing side of the sector, since the research part due to its high cost is considered prohibiting. Taking into account the location of the country as well as the local needs, more special health facilities are coming forth not only to support the needs of the local population but also as to serve as regional health centre. Additionally, because of the limitations of the public health sector, the primal provider for health support in the country arises from the private sector. Hence, there is still room for growth in this particular industry.

7.1.4 Equity financing from the SME population in Cyprus

The Cypriot equity market has a paradox. Cyprus is a destination for funds due to the legislative framework, which is very conducive to foreign funds to use Cyprus as a base of operations[109]. However, these funds are not connected to the local market. Even larger companies that are capitalised in the Cyprus stock exchange indicate very low volumes in trading, which indicates that there is not much interest, either in local or foreign funds, to invest in companies. This becomes even more evident in sectors that are not export oriented, where supply for equity financing is limited further.

The other issue is the lack of awareness of equity investment. With the exception for medium size enterprises, the Cypriot SMEs are not aware of the opportunities that could exist. This is even more pronounced due to the paucity of enterprises in the initial stages of investment, as often seed capital is the start of a longer relationship through equity investment. This is important, as the government has introduced tax incentive schemes for start-up companies, to aim to increase the equity capital in the Cypriot start up environment. Yet with only 1.8% of SMEs reported to be in the initiation stage and with 3.8% in the creation stage, finding companies to invest that actually can comply with the tax incentive scheme will not be easy.

The companies indicated that just 6.5% of financing in the years 2014-2016 was from a range of equity sources (Funds, Venture funds, Business Angels, Private Investors). The expectations of equity financing are greater than of lending. This is despite the act that the stakeholders' interviews indicated a decline in private capital available for equity. The increased expectation of equity financing may be linked to expectations of the incentives for

[109] Why Cyprus is attractive for fund management is explained in more detail here. Cyprus Investment Fund Association (CIFA). "Why Cyprus" (2016) http://www.cifacyprus.org/index.php?id=172

financing provided by the government: yet such incentives are for new companies rather than the majority of the Cypriot SME population, which is in development or maturity stake of its business cycle.

Quantification of demand for equity financing

The average amount of equity financing to be sought by SMEs in Cyprus seems to indicate unrealistic goals, as they are many factors over and above the demands for financing. This could be due to the relative paucity of existing equity financing of SMEs by equity at the present time. Based on the responses on seeking equity financing in 2014 a wide range of number of firms was provided to capture the uncertainty on the funds, from 1% to 5.7% which is based on the responded of if the companies would be willing to undertake in search for equity partners in 2017. Thus although it is clear that demand of equity financing will grow in 2017, it is doing so from a very low base. We thus considered that 5.7% of all SMEs will seek to finance themselves through equity. Respondents who indicated a demand for more than EUR 500,000 or less than EUR 1,000 were considered as outliers. It is probable that the setting of such threshold enables the removal of outliers, without ignoring that for some medium size enterprises, such an amount is within the possible financing through banking means. The removal of outliers has indicated that at least for some survey respondents, the desire for equity finance was unrealistic.

After removing outliers and combining all possible equity finance options, the average amount of equity finance demanded is EUR 80,000.[110] Based on the average requested amount and the amount of enterprises that have indicated that they will seek equity we reached a total demand for equity.

The annual demand for equity is presented in Table 34.

Table 32: Annual demand for equity financing in Cyprus in 2017

	Average finance sought by a single enterprise (€m)	Finance sought by the total SME population (€m)
Equity Financing	0.079	260 - 350

Source: PwC, Online Survey Among CY SMEs, 2017

[110] Amounts used for computation after the removal of outliers were categories "capital contribution of shareholders", "external capital contributions", "Business angels", "investment funds, "Venture capital funds," "technology transfer funds," "rescue / turnaround funds", "Mezzanine funds" "own funds from national, regional and foreign institutions" and "other private investors".

The equity market is in needs of capacity to match supply and demand and the ability of shareholders to coordinate. Such coordination needs considerable improvement in Cyprus to be effective. Chambers of commerce and other institutions could be pivotal in being the connection between funds that are in use of the friendly regulatory environment to be able to invest in SMEs.

Furthermore, stakeholders have indicated that SMEs owners often have an unrealistic valuation of their enterprise, thus reducing the possibility of the demand for equity to be matched by the supply. Others indicated that SMEs are not used to defining their equity financing needs and thus seek the correct equity tool to undertake financing. And yet the supply side of equity financing notes that often the amount for quality investment in SMEs is often lacking, as they are often interested into more open and international businesses.

Bridging this gap will be crucial for Cypriot SMEs. Equity partners can also bring expertise and knowhow, which is often in short supply in a Small company or a micro size start-up. The attraction of experienced holders of equity will enable the companies to ensure their research and development and internationalisation skills will be more effective.

7.2 Demand for financing for the low-carbon economy

7.2.1 Households

Energy efficiency in residential buildings

Due to the high occupancy rates and consumption of heating, cooling, and domestic hot water, the renovation of residential dwellings has the potential to significantly reduce the total energy consumption of buildings. Taking account of infrastructure built after 2010 and already in line with thermal standards, buildings renovated in the past[111] and secondary residences,[112] the total residential stock that could be targeted for renovation works includes 288,000 buildings, or 67% of the total residential building stock.

[111] Estimation that 10% of the total building stock had been renovated in the past, based on the information gathered during the interviews

[112] Due to the very low occupancy rates of secondary residences, EE renovation cannot be considered economically viable for these dwellings, hence they are not accounted for in this quantification

The cost of EE renovation works can be estimated at approximately 75 EUR/m^2. For a dwelling with a net surface of 153 m^2, [113] this corresponds to a cost of EUR 9,180.[114]

Table 35 sums up the investments needed for renovating the residential building stock, depending on the target chosen for retrofitting. It shows the impact that can be achieved, in terms of buildings renovated and the cost savings attained per year. Based on these assumptions, the current building stock has a primary energy consumption of 8,032 GWh. The total energy costs amount to EUR 600m per year.

The NEEAP sets a target of 14.5% of primary energy savings[115], which, for residential housing translates into savings of 1,543 GWh. This implies an investment in EE renovation of EUR 53 m. If these investments are distributed over 4 years, the annual investment comes to EUR 13m.

As part of the OP, the primary energy saving objectives of the residential sector are of 837 GWh. To achieve them within 4 years, through energy efficiency measures, an investment of EUR 28m should be foreseen. Yearly, this would correspond to a financing demand of EUR 7m.

It also provides an estimate of the relative cost of retrofitting and the payback period. Based on this analysis, the average payback period of energy renovation works is 14 years. Savings of 1 MWh can be attained through an investment of EUR 34.

[113] As indicated in the 3rd NEEAP, it corresponds to the mean dwelling area in 2005
[114] This estimation is based on the information provided in the 3rd NEEAP and as part of the ELIH-MED Project
[115] The baseline year for the NEEAP is 2010

Table 33: Investment needs in energy efficiency in residential buildings

	7,364	827	72,095	539	34	14
	386	13	3,416	26		
	209	7	1,854	14		

The qualitative analysis confirms that the potential demand for EE in households is extremely high. The scheme "I save and I upgrade," which provided EUR 8 m of funding for EE in housing, was closed nine months before the provisional end due to the exhaustion of its funds. The scheme funded 50% of the total investment costs, which means that EUR 16 m of EE demand for households could be absorbed by the market in less than a year[116]. This demonstrated that the total demand for funding in energy efficiency for households is well above the total amount invested in the scheme.

The experience derived from this scheme is also useful because it provided evidence on the main sources of finance used by households to finance EE renovation works. The vast majority of normal households benefitting from the scheme financed the rest of their EE investment through their own savings. Only vulnerable households were completely dependent on external sources of financing to carry out renovation works.

For this reason, the existing market failure may not justify the allocation of grants worth 50% of the total investment. Support could be provided at an earlier stage to stimulate interest and guide households in the type of renovation works to be carried out, and to develop the pipeline for such projects. In particular, there seems to be a lack of knowledge on the actual energy saving potential of renovation works. Hence, it is crucial to develop tools to stimulate demand in energy renovation works. One possible method is providing grants for carrying out energy audits, which can show the energy saving potential of buildings.

[116] The scheme was operational from April 2015 to February 2016

"Vulnerable" households face additional challenges. Due to the low incomes and creditworthiness of this group, banks are particularly reluctant to lend to them. Based on the experience of the past grant scheme, vulnerable households should still be eligible for subsidies. Having a dedicated guarantee instrument or soft loan could help to ensure these groups get access to finance.

Renewable energy

When it comes to renewable energy, the most important technologies in the residential sector are PV and solar thermal energy. The "I save and I upgrade scheme" financed, among others, the installation or the replacement of solar thermal energy installations. Solar thermal heaters for DHW production are a mature RE technology, which currently constitutes one of the main thermal installations available in the households. There is therefore less urgency to invest public funding in this area. Following the example of the previous grant scheme, it is however important to include this technology as eligible for financing as part of a potential future financial instrument for energy efficiency upgrade.

Household investments in small-scale PV were boosted since 2013 by the launch of the "Net Metering scheme." This initiative made PV installations financially viable. Today, it can be estimated that 90% of small-scale PV installed on the island belongs to households, constituting a capacity of 28 MW.

In order to reach the targets set in the NREAP, the capacity of PVs installed should reach 192 MW. No specification is provided on the split between small scale and large scale PV. It is therefore assumed that small-scale PV will contribute to half of the total investment, i.e. 96 MW. In this case, total investments needed from households will account for EUR 19.7 m per year, as shown in Table 36.

Table 34: Investment needs in small scale PVs for households

31	96	65	90%	58.5	1.35	**79.0**	**19.7**

The main hurdles to the development of these investments are the credit conditions imposed by commercial banks: while the investment needed involve very low tickets (between EUR 5,000 to EUR 8,000), banks are still asking for collateral to provide more advantageous

interest rates. Without collateral, interest rates for PV financing are as high as credits for consumption purposes. This is mainly due to the fact that banks do not value the indirect financial income generated by these installations.

Hence, a guarantee or a soft loan instrument designed to make loans more affordable and better aligned with the indirect income generated could significantly boost household investments in PV. The payback period can be estimated at 6 to 7 years, as illustrated in the Table 37.

Table 35: Estimated payback period of a PV installation with a 5kW capacity

	58.5	5	11,700	6,000	8,760	6,288	943	6- 7

The analysis undertaken suggests that households do not have a potential demand for investment in other RE technologies.

Smart energy management systems, also eligible under the "I save and I upgrade" scheme, do not seem to be a priority for households. MECIT received only four applications for this type of investment. They should however be eligible for financing as part of EE and RE investments, since they are complementary to them.

7.2.2 Public authorities

Energy efficiency in public buildings

In total, public infrastructure includes only 3,000 buildings, or 3% of the total building stock. The actual volume of buildings used by public authorities should be significantly higher, however no data is available on the subject. As explained in the market assessment, half of these public buildings are educational buildings, followed by public offices and health care buildings.

Educational buildings, with low occupation rates and no DHW needs, have low energy savings potential. Offices have stronger energy demands, since they require heating and cooling, and have higher occupancy rates than schools. Healthcare buildings, with high

occupancy rates and DHW production, have significant energy saving potentials. The Table 38 below shows the energy saving potential for the renovation of publicly owned buildings.

Table 36: Investment needs in energy efficiency in public buildings

	100%	108	25	403	9	78	13
	NEEAP target	11	3	42	1		
	OP target	0.5	1	22	0.5		
	100%	119	33	263	10	92	15
	NEEAP target	20	5	44	0.4		
	OP target	10	2	16	0.13		
	100%	89	18	110	7.4	66	11
	NEEAP target	8	1.5	10	0.2		
	OP target	4	0.6	4	0.05		
	100%	316	76	775	26	83	14
	NEEAP target	39	10	95	1.5		
	OP target	15	4	42	0.7		

Public offices are limited only to publicly owned infrastructure used as offices. However, public authorities are also renting a significant number of private offices. Official data on the total number of private offices rented by public authorities are not available, therefore their energy efficiency needs cannot be analysed separately. Rented buildings lead to split

incentives, where the owners have little interest to invest in energy renovation since they do not bear the energy costs of the building. In addition, public authorities tend to select the buildings with the lowest renting costs. This discourages private building owners from investing in energy efficiency improvements. The cost of renovating the total stock of public offices can be estimated at EUR 76m per year, for a total investment of EUR 304m.

According to the Energy Efficiency Directive, public offices are under the obligation to renovate 3% of their building stock each year[117], which implies an estimated yearly investment of EUR 2.4m[118]. The renovation of the total stock of educational buildings would imply yearly investments of EUR 33m, ensuring savings of 119 GWh. For the renovation of the total stock of healthcare buildings, the yearly PE savings that can be envisaged amount to 89 GWh and EUR 18m per year.

The estimated cost of retrofitting public buildings is between 66 and 92 EUR/MWh. It is highest for educational buildings and lowest for healthcare buildings. The payback period stretches between 11 and 15 years.

Energy efficiency in street lighting

The need for investment in energy efficiency in street lighting has been calculated for three scenarios: the upgrade of 100% of the stock of street lighting, meeting the NEEAP target, and covering the identified project pipeline. The project pipeline consists in the upgrading of street lighting in 16 local authorities, which engaged in an initiative to finance street lighting upgrading through the EEEF in 2011.[119] The investment has been spread over a four-year period.

[117] See art. 5 of Dir. 2012/27/EU

[118] Calculated based on a renovation cost of 100 EUR/m^2

[119] CEA (2013): Street lighting pilot project. Link: http://cyprusconferences.org/medeea2013/uploads/presentations/C/Application_to_EEE-F_for_a_Street_Lighting_Project_in_Cyprus.pdf

Table 37: Financing needs street lighting

	233	53	25%	4.45	109	12
	34	8	4%	0.64		
	18	4	2%	0.35		

These results show that energy efficiency improvements targeting PE savings of 233 GWh will require a yearly investment of EUR 53 m. For the achievement of the target set in the NEEAP, investments of EUR 8 m are needed. For the project pipeline identified, an investment of EUR 4 m would be necessary, allowing for savings of 18 GWh. The cost of upgrading is of 109 EUR/MWh, which corresponds to an average payback period of 12 years.

A possible solution for the renovation of the building stock owned by public authorities could be the implementation of Energy Performance Contracts. This would allow to externalise the investment in energy efficiency measures and to pay them back through the energy savings achieved.

So far, 24 Energy Service Companies (ESCOs) have been established in Cyprus. However, the ESCO model is new and it is not well established. As such, these ESCOs are currently in a preliminary stage and are not active in a significant way. These organisations are currently facing similar financial challenges as the other businesses in Cyprus, mainly access to financing is limited due to the high collateral requirements set by the banks.

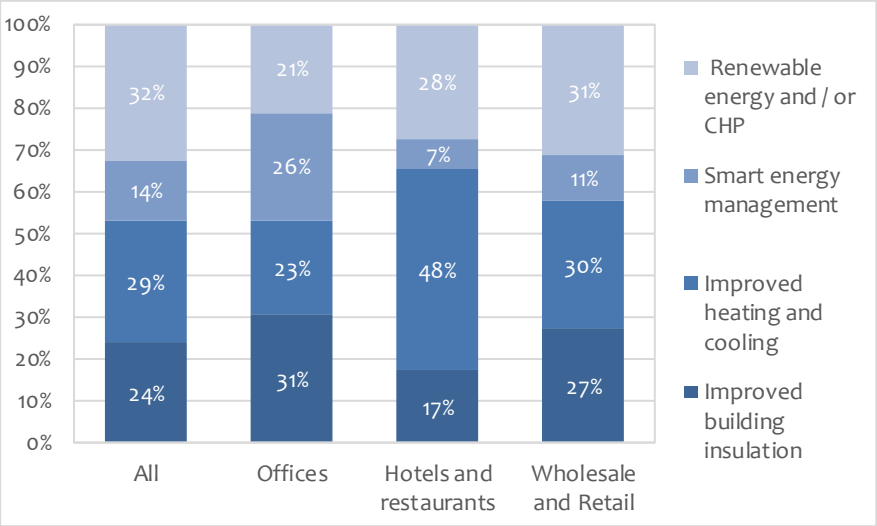
Renewable energy

Public authorities do not seem to be directly involved in investing in renewable energy technology. According to the findings of this report, they mostly work on facilitating investments in these areas. For this reason, the demand for financing for RE of public authorities has been estimated to be negligible.

7.2.3 SMEs

The survey, the interviews, and the quantification of the demand have provided sound evidence that a strong demand exists among SMEs for financing energy efficiency in buildings, renewable energy production, and smart energy management. The area of investment varies depending on the type of SME.

Figure 45: Priority investment areas for SMEs, by sector



The results of the survey suggest that SMEs prioritise investing into energy efficiency, with 53% of their answers. Renewable energy or CHP comes second, with 32% of responses. Smart energy management, with 14%, is considered the least important investment.

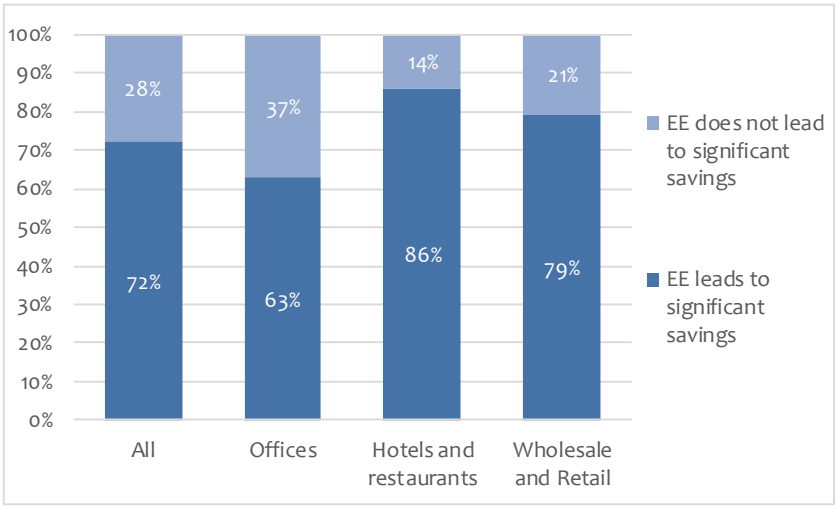
The following section will analyse the financing needs for energy efficiency in buildings, with a focus on wholesale and retail, offices, hotels and restaurants.

Later on, the financing needs for renewable energy investments will be presented for the SMEs as a whole.

Energy Efficiency

As illustrated in Figure 46, the vast majority of SMEs (72%) are aware that energy renovation works can lead to significant savings. This shows also that their potential interest in energy efficiency investment could be relatively high. However, their interest varies depending on the type of SMEs.

Figure 46: Energy efficiency investments and perception of savings potential of SMEs



Since SMEs have different energy consumption profiles, it is crucial to analyse their EE financing needs separately. More specifically, the selection of SMEs analysed in detail in this section represents together more than 50% of the total microenterprises of Cyprus, which, as seen in the previous chapter, are in the greatest need for finance. Enhancing energy efficiency in these companies could foster lower operating costs and therefore indirectly increase the net revenues of these firms.

Wholesale and retail companies

Wholesale and retail companies, representing 24% of total micro enterprises, also manage more than 50% of the total commercial buildings.[120] They have a major impact on energy consumption levels of SMEs infrastructure. The survey showed that retail companies preferred energy efficiency investments (60%) to renewable energy and smart energy management, whereas the improvement of the technical installations was considered equally important as building insulation. These companies were also particularly assertive that energy efficiency improvement could lead to significant savings (80% of responses were positive).

The quantitative analysis in Table 40 shows that refurbishing all wholesale and retail buildings would imply investments totalling EUR 1,192m, which would correspond to EUR 298m per year for four years. Through the renovation works, the cost savings that can be achieved

[120] Wholesale companies can be defined as companies distributing goods or merchandise to retailers or to other wholesalers. Retail companies sell the goods or commodities to the customers.

amount to EUR 162m per year. The average payback period is of 8 years, the lowest among commercial buildings.

Table 38: Financing needs of wholesale and retail buildings for energy efficiency

	1,967	298	7,230	162	51	8
	129	20	473	9		
	33	5	121	2.4		

Private offices

Companies using office buildings have been accounted by combining the survey results of information and communication, financial activities, real estate services, professional, scientific and technical activities, administrative and support services. Together, these include 20% of all micro enterprises. They also occupy approximately 30% of the commercial building stock. The interest for energy efficiency works in private offices is however lower than in other SMEs, with only 60% of all respondents being positive on the savings which could be generated through energy efficiency improvements.

For offices, there is no strong preference between different energy efficiency measures, renewable energy and smart energy management. Improved building insulation is the most important investment (31%), followed by smart energy management (26%), improved heating and cooling (23%) and renewable energy (21%).

Based on the quantitative analysis shown in Table 41, the refurbishment of the entire stock of offices would imply yearly investments of EUR 119m. It would generate PE savings of 510GWh. The NEEAP target can be attained with investments of EUR 17m, whereas the OP target requires EUR 3m. The average payback period is of 13 years, therefore longer than for other types of commercial buildings.

Table 39: Financing needs of private office buildings for energy efficiency

	510	119	1,193	42	78	13
	72	17	167	5		
	13	3	31	1		

Hotels and restaurants

For the hotels and restaurants, the survey results show that there is a very strong interest for energy efficiency works (86% of the total). Almost half of the respondents have put the improvement of technical installations as their priority financing area, followed by renewable energy and CHP (28%). Due to the high energy needs for cooling, heating, DHW, the technical appliances play a central role in these buildings. Renewable energy installations can be used as stand-alone energy sources, i.e. PV panels can be used off-grid for the heating of the swimming pool.

Hotels comprise 17% of commercial buildings. They have a strategic role at national level, since in 2016, tourism had a total contribution[121] to GDP of 20% .[122] As explained earlier, the international tourist arrivals have grown steadily from 2014. From 2015 to 2016, there was an increase in arrivals of 7%. If this trend continues, the tourism will play an ever more important role in the Cypriot economy in the upcoming years. Upgrading and modernising the current hotel infrastructure is key to have the capacities to host an ever growing number of tourists. The energy efficiency renovation of hotels could be seen as a complementary activity to be considered in the broader context of upgrading and modernising the current hotel infrastructure.

The quantification in Table 42 shows that the yearly potential investment, spread over a period of four years, reaches EUR 93m, and enables savings of 470GWh. The average

[121] Including direct (accommodation, transportation), indirect (purchases from suppliers etc.) and induced (spending of employees) contribution

[122] WTTC (2016): Travel and Tourism Economic Impact 2016 Cyprus. Available at: https://www.wttc.org/-/media/files/reports/economic%20impact%20research/countries%202016/cyprus2016.pdf

payback period of 11 years does not take into account the indirect benefits on the new revenues generated through the hotel refurbishment. These could include additional profits generated from increased room occupancy rates and higher room fares.

Table 40: Financing needs in energy efficiency for hotels

	470	93	197	39	66	11
	41	8	17	3		
	10	2	4	0.7		

The potential investment needs of restaurants are limited compared to the other sectors presented above. They are of EUR 96m to renovate the entire stock, corresponding to yearly investments of EUR 24m, and enabling savings of 110 GWh. The average payback period is of 12 years.

Table 41: Financing needs in energy efficiency in restaurants

	110	24	1,221	9	74	12
	10	2	108	0.7		
	3	0.6	30	0.2		

To conclude, due to the different energy consumption levels and energy efficiency requirements, the potential for energy efficiency works seems to be highest for wholesale and retail buildings, followed by hotels, and lowest for private offices. The payback period ranges from 8 years for retail buildings to 13 years for commercial offices. As shown in Table 44, the total investment needed to renovate the entirety of the commercial buildings amounts to EUR 2.14bn, corresponding to a yearly investment of EUR535m over a period of four years, and enabling yearly PE savings of 3,057 GWh. This corresponds to the overall need

for the renovation of the entire stock and does not correspond to the actual demand for financing, which is significantly lower.

Table 42: Financing needs in energy efficiency in commercial buildings

	3,057	535	9,840	252	62	10
	251	47	766	18		
	59	11	186	4		

Renewable energy

SMEs are a key player in the development of renewable energy technology in Cyprus. Currently, an estimated 65MW of the total RE capacity installed in Cyprus has been financed by SMEs. RET can be a profitable investment, a source of indirect income (net-metering system) or provide economic savings (off-grid RE production).

RE technologies financed by SMEs include wind, small scale PV, large scale PV and biogas. Based on the assumption that at least 25% of wind power will be sponsored by SMEs in the future, the investment needs which will be faced by SMEs to install the outstanding capacity will be EUR 11.1 m per year.

For PV, this assessment estimates that there could be a demand for both large and small scale PV installations. Until 2016, SMEs were not entitled to participate in the "Net Metering scheme." They could only produce energy as part of a self-consumption scheme. Since then, they are allowed to connect up to 5 kW of PV to the grid. For most of the SMEs, a capacity of 5 kW is below their energy demand. Moreover, in 2015, electricity prices dropped by 20% and have not recovered since. Hence, investments in the installation of renewable energy to cover the own energy needs turned less attractive for SMEs.

Based on estimates, only 10% of total small-scale PV installations are owned by SMEs, representing 3.1 MW. However, SMEs are strongly involved in large scale PV, where they own approximately 14 MW of the total installed capacity. To meet the NREAP targets in PV, given their current market share, SMEs should therefore invest up to EUR 6m in PV yearly until 2020.

The number of biogas plants, developed exclusively by SMEs, mostly from the agricultural sector, has steadily grown in recent years. The 13 biogas plants of the island have a compounded capacity of 10 MW. To reach the NREAP targets, another 7 MW should be installed. This would imply yearly investments of up to EUR 7m. However, the number of new biogas plants will also depend on the availability of organic waste at an acceptable distance from the plant.[123]

Table 43: Demand for financing to reach NREAP target for renewable energy in Cyprus

	300	158	143	1.3	178	25%	**44.5**	**11.1**
	96**	31	65	1.4	88	10%	**8.8**	**2.2**
	96**	46	50	1.1	53	30%	**15.8**	**3.9**
	17	10	7	4.0	29	100%	**29.2**	**7.3**

Source: (*)NREAP Cyprus (2010); (**)Assumption based on NREAP Cyprus (2010), target for PV: 192 MW in total; (***)CAREE Association, OEB, CERA

Table 45 shows that there is a robust potential demand for financing from SMEs for renewable energy investments, which could reach up to EUR 24.6m per year.

7.3 Demand for financing for the ICT sector and broadband

The lack of ICT market data and more specifically of the micro companies which are the vast majority in Cyprus (98%) hindered the quantification of demand for financing in the ICT sector.[124] This is derived from the *Commission Regulation 808/2005 of the European Parliament and of the Council regarding the Statistics on the Information Society*, which clearly states that the statistic services are not obliged to cover micro-companies.[125] As a result of this

[123] Feasibility studies showed that the permissible waste transportation radius is of 30 km. Beyond this range, the waste (raw material) collection costs are prohibitive.

[124] According to DIW ECON, SME Performance Review 2016, the number of SMEs in the ICT sector is 2.1%

[125] COMMISSION REGULATION (EU) 2016/2015 of 17 November 2016 implementing Regulation (EC) No 808/2004 of the European Parliament and of the Council concerning Community statistics on the information society

regulation, the Statistical Service of Cyprus does not collect any of the data for micro ICT companies that would be necessary for quantifying the financing gap.

As regards the broadband infrastructure (which is directly related to the demand for high speed broadband and the analysis presented in section 5.3.3), the stakeholders analysis showed that while there is demand for a governmental funding intervention in the form of grants to implement some kinds of infrastructure investments, there was no interest in the introduction of a specialised FI to support access to lending.

7.4 Summary of the demand analysis

7.4.1 Summary of the demand for financing for SMEs

Table 46 summarises the demand for financing in Cypriot SMEs during the year 2017. There are many positives to take from the situation of Cypriot SMEs. All levels of SMEs indicate a great improvement in the turnover and the business cycle. In terms of finance there is a great reliance in banking finance, and in smaller enterprises, social and familiar circles also play a role. The use of demand is principle in research and development and capital investments. Companies seem realistic with the level and demands in terms of traditional bank finance, and are benefiting for the reduced cost of borrowing. Medium size companies, which loom often large in the small economy of Cyprus, suffer from high debt to turnover from past borrowing and this in turn increase their financial risk. All SMEs are keen to internationalise their scope though the desired funding.

There are also several challenges in the finance of the sector. A noteworthy challenge is the lack of companies that report themselves in the initial stages of their business cycle. This lack of transformation might also reduce the effectiveness of impended measures of the government for tax incentives for the creation and equity participation in start-ups. The companies seem to use a small part of retained earnings to fund themselves, making them even more depended in external sources of finance, probably because of their business cycle. This reluctance to use their own resources is an issue that will remain in Cypriot SMEs. Companies are also frustrated with the bureaucracy and difficulty of securing collateral for loan finance and especially medium and small size enterprises are more open to other sources of finance. Here the development of microfinance might greatly aid micro enterprises, who have less access to finance, often require smaller amounts, and up to now relied for collateral in guarantees and familiar networks that are not as attractive to banking institutions. Equity finance is still a mystery for most SMEs, and often this can place

unrealistic expectations on the ability to attract funding though equity. This lack of knowledge on equity finance is a missed opportunity as equity can provide resources and skills to the companies to grow to their potential. It is something that must be taken into account when considering the introduction of an equity instrument in Cyprus.

The connection to a high-speed broadband connection in not such an issue for Cypriot SMEs. The challenge is to integrate, participate and become accustomed to ecommerce and attract the skilled individuals who could lead such efforts. The infrastructure for ICT could be upgraded for medium companies with greater demands on their speed and the desired capabilities. Enabling greater use of e-commerce could be however an effective way in expanding the efforts of Cypriot SME internationalisation.

Having enduring major fluctuations in electricity prices due to recent incidents in Cyprus, including the explosion of the Evangelos Florakis naval base, which affected the main electricity supply factory of the country, and more recently due to a fire, which resulted in price fluctuations, SMEs are both conscious and active in ensuring they use energy more efficiently. Although timid, some of the funding that was secured in the period 2014-2016 was used to increase energy efficiency. Yet, the interest in all SMEs is particularly to low carbon production or dual production of energy and heat. Other solutions, such as smart management systems are only in demand by the Medium enterprises within the SME environment.

Table 44: Summary of SMEs projected annual demand for financial products in 2017

		Average finance sought by a single enterprise (€m)	Finance sought by the total enterprise population (€m)
Micro enterprises	Short-term loans, bank overdrafts and credit lines	0.014	170 - 190
	Medium and long-term loans	0.049	445 - 490
	Out of which: Possible Microfinance demand	0.014	235 - 260
Small And Medium Size Enterprises	Short-term loans, bank overdrafts and credit lines	0.156	115 - 125
	Medium and long-term loans	0.219	275 - 300
Equity Finance		0.079	260 - 350

Source: PwC 2017

7.4.2 Summary of the demand for financing for the low-carbon economy

Based on the analysis outlined above, the overall need for financing for energy efficiency is particularly strong for households (EUR 827m) and for SMEs (EUR 535m). Public authorities have a considerably lower need for financing of EUR 129m. These are total investment needs, which do not reflect the actual potential demand.

The potential demand in energy efficiency which has been calculated based on the NEEAP and the OP target is considerably lower. It ranges between EUR 7 and 13m for households. For SMEs, it is comprised between EUR 11m and 47m. For public authorities, the upgrade of the public infrastructure to achieve the NEEAP targets would require investments of EUR 8-18m.

For renewable energy, the potential demand, which is based on the NREAP target, is highest for SMEs (EUR 25m) and for households (EUR 20m). Public authorities are not directly involved in investing in RE projects at present. Their demand for financing can therefore be considered negligible.

7.4.3 Summary of the demand for financing for ICT and broadband

As mentioned in section 7.1.3 above, e-commerce is not considered a factor that could or has assisted in significantly increasing the turnover or profitability of SMEs in Cyprus. However, stakeholder interviews indicated some interest in grants directed in upgrading their current ICT equipment. The feedback received from the bank representatives is aligned and consistent with the above information. It was evident from the study that the majority of SMEs (including SMEs in the ICT sector), do not consider e-commerce an important factor for enhancing their profitability. As such, e-commerce investments for upgrading their existing equipment (hardware, software) are not considered a priority, especially via financing through loans. Although, information technology (IT) equipment has a shorter life cycle and need to be upgraded or replaced more frequently, it seems that even with a slightly outdated IT equipment Cypriot SMEs are satisfied in carrying out their operations.

The stakeholder analysis showed that there is demand for additional financing for broadband infrastructure investment in Cyprus.

8 Financing gaps

8.1 Financing gaps rationale

The estimated supply of financial products presented in Chapter 6 takes into account market trends, data in the public literature, the perspectives provided by stakeholders during the interviews, and data provided by the Central Bank of Cyprus. This constellation of sources ensures that figures computed are robust and in many cases triangulated from multiple data points.

The estimates of potential demand for financing presented in Chapter 7 is based on publically available data, interviews with similarly well situated stakeholders, and an online survey of SMEs. This latter source in particular provides a uniquely first hand and up to date perspective on the real demand preferences in the Cyprus business community from those who know the market in which they operate best.

A second methodology was applied to the estimates of potential demand for financing, combined with responses to the survey of SMEs, to derive estimate the viable demand for financing among SMEs. The viable SMEs approach is based on an EC proposal, as well as the methodology for calculating the viable financing gaps presented below, is described in greater detail in Annex C.

Thus, the financing gaps presented below are calculated as the difference between the estimated supply and the estimated potential viable demand.

When considering the indicative financing gap in this section, it is important to take into consideration the following points:

- **Potential demand may not actually translate into business action**. The results of the survey of SMEs should be considered as the expression of their expectations and intentions. These intentions may, however, not be acted upon in the coming months or years for several reasons. SMEs may be discouraged from seeking finance, because of the credit terms offered by the banks (e.g. collateral, interest rates), or because of a difficult financial situation. SMEs may also change their growth strategy and decide to postpone investments;
- As stated in the supply-side assessment, the banking sector accounts for the majority of supply in Cyprus. These banks are only willing to lend to enterprises with sufficient collateral and a strong credit history, and do so at elevated levels of interest. This makes it

particularly difficult for smaller, less-established SMEs to obtain financing, particularly if these are involved in more innovative activities. As a result, the collateral put forward by beneficiaries are most often personal assets. This environment nurtures a conservative attitude towards financing needs, with requests for financial assistance not necessarily reflecting the real needs of the beneficiary. The fact that these companies are heavily reliant on the banking sector for their financing implies there is lack of diversification in financing, which could lead to inefficiency in finance provision. In that sense, even if these companies do have access to finance, their dependence on the banking sector has to be perceived as a market inefficiency and taken into account, even in the absence of financing gaps per se;

- Given the non-existence of any supply implies a very low awareness of microfinance and equity products on the demand side. The lack of any framework for microfinance limits the ability of this financing opportunity to be utilized. Consequently, the demand (or the lack thereof) for these specific products expressed by the SMEs in the survey should not necessarily be considered realistic, since the SME respondents have had no relevant experience of these products;
- There is a lack of awareness of the type of financing opportunities available, especially in terms of equity. Even if a particular financing opportunity is noted, SMEs often do not have sufficient knowledge on how to seek and obtain a specific type of financing. This proves that there might be a hidden demand in the market. Consequently, the demand for debt products provided by the banking system may remain high, while other products could be more appropriate to an SME's actual financing needs.
- The financial and economic crisis forced SMEs to reduce their investment and sometimes downsize their business. Given the expected positive GDP trend for the coming years, the SMEs might be willing to make the investments they would have previously refrained from. This situation may motivate SMEs to seek out investment to achieve longer-term goals while seeking short-term loans to cover their ongoing needs for working capital. The demand for financing estimated in this report are subject to change.

Given these points, it is important to keep in mind the potential that surveyed SMEs may incorrectly assess their financing needs. Demand for financing may not be viable, or not viable in the timeframe indicated, and expressed demand may not be well suited to a given firm's underlying need due to lack of information about different forms of finance available. Technical assistance may be needed to help firm's asses their needs and match them with available products. As a result, the financing gaps calculated with the potential supply and

the potential demand estimates should not be considered by policy makers as the amounts that should be covered in a single year, or as gaps that would need to be bridged by financial instruments in order to catalyse private financing for SMEs. The gaps are an indication of the overall financing needs for SMEs, ICT and the low carbon economy in Cyprus, according to the methodologies described in the present report and the market constraints experienced by the SMEs in Cyprus.

8.2 Financing gaps for SMEs

The financing gaps were estimated based on the difference between the supply and the demand quantified, and outlined in the previous sections of the report. The gap was calculated, for each of the categories mentioned above, by subtracting the estimated annual supply from the viable demand for finance. These financing needs were calculated, for each of these target groups, for energy efficiency and renewable energy separately.

Financing gaps for microfinance for micro SMEs

Micro enterprises make up the overwhelming majority of companies in Cyprus. As explained above, micro enterprises face systematic challenges in securing financing. Commercial banks, which dominate the financing market in Cyprus, do not consider these companies as potential clients unless their collateral requirements are met. However, many micro enterprises have only the personal assets of their owners as potential sources of collateral, which is often insufficient for to meet banks criteria. This is further exacerbated by the lack of any specialised institutions such as microfinance providers that could support these companies. The analysis also highlighted two important points.

The first is that micro enterprises are often discouraged from seeking bank financing not only by their lack of collateral, but also due to their inexperience and lack of technical skills in dealing with banks, applying for loans, and presenting business plans. The second point is that a third of micro-enterprises consider that while their opinion of guarantees through JEREMIE were positive, these were considered difficult to secure. This has to be taken into account when designing FIs in the future and especially guarantee instruments.

Despite the dominant role of micro enterprises in the Cyprus economy, and their extensive demand for credit, the market for microfinance in Cyprus does not exist. This is because there is currently no legal framework to support the provision of microcredit (i.e. a form of microfinance dedicated to microenterprises), and as such no microfinance institutions exist to date. Work is however being done to amend this legal framework in order to allow a

microfinance market to develop, for which as can be seen in Table 53 below there is a sizeable gap.

Table 45: Viable annual financing gap for microfinance for micro SMEs

Microfinance	245 - 270	0	245 - 270

This financing gap is based on the viable demand from microenterprises, which is estimated to be between EUR 245m and EUR 270m, and the fact that to date there is no supply of microfinance to the former. The annual amounts for the financing gap are considered to remain stable over the coming years (2018-2023), except if unexpected events occur.

This gap arises primarily from:

- The difficulties that microenterprises face in accessing finance from financial institutions, particularly commercial banks;
- The fact that the finance to microenterprises is only available from non-dedicated financiers like commercial banks, and is not tailored to meet the needs of the former; and
- Microenterprises have little knowledge or visibility of the types of microfinance products that exist (in markets outside of Cyprus) that if present could meet their particular financing needs.

The findings of this study propose that there is little to suggest that while a new framework for microfinance is being proposed, there are no new entrants for the microfinance sector. As such, an FI could play an important role in supporting the development of this sector by either investing in Financial Intermediaries that would provide microfinance, or create an FI that would support microfinance institutions in establishing themselves.

Financing gaps for loans for micro enterprises

Micro enterprises in Cyprus struggle to secure financing through loans, the most prominent form of finance for enterprises in the country. Access to mainstream banking products tends to be limited to those micro-enterprises with a good credit history of the owner, larger turnovers and lower levels of debt financing and sufficient equity invested according to banks' standards. Micro-enterprise, which generally lack a suitable credit rating and the

necessary collateral aware often not aware of any other existing FIs providing guarantees and lack knowledge of banking procedures. As shown in Table 54 below, there is a large viable financing gap of at least EUR 50m of demand for short-term loans and more than EUR 85m in medium and long-term loans for micro enterprises to meet their financing needs.

Table 46: Viable annual financing gap for loans for micro enterprises

Short-term loans, bank overdrafts and credit lines	95 - 105	40 - 45	50 - 65
Medium and long-term loans	225 - 250	115 - 140	85 - 135
Total	**320 - 355**	**155 - 185**	**135 - 200**

The annual amounts for the financing gap are considered to remain stable over the coming years (2018-2023), except if unexpected events occur.

The findings of this gap assessment are corroborated by interviews with microenterprises, many of whom expressed the need for working capital financing. In addition, as identified in the demand analysis earlier, microenterprises may not be trying to access the right kind of finance to meet their needs. This should serve as an indication that microenterprises could benefit from customised products in terms of amount, maturity, and collateral requirements.

Financing gaps for loans for small enterprises

Small enterprises account for 20% of all companies in Cyprus. Based on the findings from the survey, these have better access to bank financing than microenterprises but still struggle compared to medium-sized enterprises. This is because they are perceived by banks as more suitable beneficiaries, with the experience and knowledge to apply for loans. While access to commercial loans was much less restricted than among micro enterprises, many of the surveyed small companies expressed concerns about the terms and conditions under which the financing was provided. This includes high interest rates and excessive administrative burden.

Moreover, as there is a lack of companies in the "start-up" phase, it is quite possible that should targeted measures to increase entrepreneurship take hold, that there will be an increase in demand from small companies. This has to be taken into account by policy

makers, since the banking system will always request collateral, and it is not evident that existing assets will be sufficient for small companies to implement their growth strategies.

Table 47: Viable annual financing gap for loans for small enterprises

Short-term loans, bank overdrafts and credit lines	115 - 125	45 - 50	65 - 80
Medium and long-term loans	205 - 225	130 - 155	50 - 95
Total	**320 - 350**	**175 - 205**	**115 - 175**

The annual amounts for the financing gap are considered to remain stable over the coming years (2018-2023), except if unexpected events occur.

As with the supply of loans for microenterprises, Table 55 suggests that there is a financing gap where the viable demand for loans from small enterprises exceeds demand by between EUR 115m and EUR 175m. While small enterprises are more likely to access finance, these still struggle to do so and suffer from unacceptable terms. Small enterprises are important beneficiaries of long-term loans in Cyprus, which is why the financial gap for medium and long-term loans is less significant for small enterprises than it is for micro enterprises. Indicating that while there is supply of a product geared towards these kinds of beneficiaries, the supply simply cannot meet the need.

Financing gaps for loans for medium enterprises

Medium size enterprises represent a smaller segment of the SME population, accounting for less than 1% of all companies in Cyprus. Like other SMEs, medium-sized enterprises have favoured short-term loans to medium and long-term loans over the past few years. Out of the different categories of SMEs, these face the least problems in accessing financial support and dealing with the terms with which it is given.

The number of medium size enterprises that responded to the survey was not great enough to form the basis of a robust estimate of viable demand for financing in this sector, despite being over-representative of the population as a whole. However, we conclude that there is a not a significant gap in financing for short, medium or long-term loans based on two aspects of the Cyprus economy and corroborated by interviewed stakeholders. The first is

that, due to the overall size of the Cyprus economy, medium size enterprises are considered by banks and other finance providers as large enterprises. So given the comparatively well-developed banking financial services sector in the country means that medium size enterprises have comparative good access to finance.

Second, given the low absolute number of medium size enterprises (fewer than 600) the sum of any unmet demand for financing will by definition be very small.

Table 48: Viable annual financing gap for loans for medium enterprises

Short-term loans, bank overdrafts and credit lines	N/A	140 - 160	0
Medium and long-term loans	N/A	415 - 495	0
Total	**N/A**	**555 - 655**	**0**

The annual amounts for the financing gap are considered to remain stable over the coming years (2018-2023), except if unexpected events occur.

Financing gaps for equity for micro, small, and medium enterprises

The viable demand for equity finance can be estimated between EUR 30m and EUR 35m. However, the currently available data on the supply of equity is not sufficient to make a reliable estimation on the supply of equity finance. However, as explained in the supply analysis, the Cypriot equity market is among the least developed in Europe.

In part, the underdeveloped supply of equity finance was driven by weak demand. Compared to traditional avenues built on personal and family ties and guarantees, equity is seen as a riskier source of finance and as a threat to the control of the company, since it implies giving up its full ownership. In the past, it was mainly sought for by start-ups for seed financing. However, as the traditional system has broken down somewhat in the aftermath of the financial crisis, interest in equity financing is growing, particularly among businesses in the development and early phases.

On the one hand, the interviews have suggested that the supply of Venture Capital and Private Equity seems to be sufficiently developed in Cyprus, and that the gap appears to be strongest for Business Angels, financing start-ups. On the other hand, the survey results

show that demand for equity from start-ups is extremely low, and that mostly SMEs in the developing and early maturity phase are interested in this type of financing. This outcome could be linked to the fact that start-ups, due their lack of financing opportunities, struggle to overcome the first stages of their lifecycle, and as a consequence, are underrepresented in the Cypriot SME environment and in the survey results. This analysis will be further developed and more detailed information will be available in the final report.

Table 49: Viable annual financing gap for equity for micro, small and medium enterprises

Equity	30 - 35	N/A	N/A

The annual amounts for the financing gap are considered to remain stable over the coming years (2018-2023), except if unexpected events occur.

8.3 Financing gaps for the low-carbon economy

For the low-carbon economy, financing gaps have been calculated based on the potential demand and supply identified as part of the study. The potential demand has been calculated for the achievement of the following scenarios:

- The national targets for energy efficiency (NEEAP) and renewable energy (NREAP); and where relevant
- The targets set out in the OP, or the project pipelines identified.

This section presents the financial gaps identified, for both energy efficiency and renewable energy investments, for households, public authorities and SMEs.

Financing gaps for Energy Efficiency and Renewable Energy for households

Table 58 below shows the total financing gap of households for the low-carbon economy, for both energy efficiency and renewable energy investments.

Table 50: Annual financing gaps of households

Energy Efficiency	7 - 13	1	6 - 12
Renewable Energy	20	1	19

The annual financing gaps are a national average of the total gap derived from the housing stock to be improved and the total amount renewable energy generation to be installed. The presentation of the gap as annual amount was chosen to have them comparable with the numbers for the SME instruments. The gap for financing energy efficiency investments in housing ranges between EUR 6-12m. This considerable gap is motivated by the strongly limited availability of dedicated financial products. Investments in energy efficiency have relatively low tickets, high maturity, and low instalments. For these reasons, they are not attractive for the banking sector.

The supply of the past years was mostly driven by the grant schemes realised in the past. In this case, the contribution of the final recipient was in most cases through personal savings, rather than loans.

For renewable energy, the financing gap can be estimated at EUR 19m. The high demand is stimulated, on the one hand, by the setup of the "Net Metering Scheme," which makes small scale PV a profitable investment for household. On the other hand, the gap is generated because most of the banks disregard investments in small scale PV, mostly due to the low tickets and their lack of knowledge in the indirect income these investments generate. When loans are offered for these investments, most of the commercial banks will charge high interest rates, considering these as consumption loans.

Financing for Energy Efficiency and Renewable Energy for public authorities

The financing gap public authorities are facing is the least important of the three categories. For energy efficiency it is comprised between EUR 6 - 16m. For renewable energy, no financing gap was identified.

Table 51: Annual financing gaps of public authorities for EE and RE

Energy Efficiency	8 - 18	2	6 - 16
Renewable Energy	0	0	0

The annual financing gaps are a national average of the total gap derived from the stock of buildings to be improved and the total amount renewable energy generation to be installed. The presentation of the gap as annual amount was chosen to have them comparable with the numbers for the SME instruments. A financial gap has been identified for the renovation of public infrastructure (including buildings and street lighting). The gap identified for energy efficiency investments of public authorities is motivated, on the demand side, by the amplitude of the investment needed to upgrade the public infrastructure under their management and by the precarious financial situation of public authorities.

No gap could be identified for renewable energy investments, since according to this analysis public authorities are not directly involved in financing renewable energy investments. They are rather acting as facilitators.

Financing gaps for Energy Efficiency and Renewable Energy for SMEs

SMEs have a financing gap for both energy efficiency and renewable energy investments, accounting for a yearly investment ranging between EUR 9 - 45m for energy efficiency and EUR 16m for renewable energy investments.

Table 52: Annual financing gaps of SMEs for EE and RE

Energy Efficiency	11 - 47	2	9 - 45
Renewable Energy	25	9	16

The annual financing gaps are a national average of the total gap derived from the stock of buildings to be improved and the total amount renewable energy generation to be installed. The presentation of the gap as annual amount was chosen to have them comparable with

the numbers for the SME instruments. SMEs, in particular micro and small SMEs, face significant difficulties in accessing credit. Energy efficiency investments are of secondary importance compared to financing the operational expenses and income-generating investments. As explained earlier, this gap is also due to the lack of interest of the banks to provide loans with long maturities, for volumes that are well below those of mortgages.

Due to the important volumes of renewable energy investments undertaken by SMEs and the financial returns that can be expected from the agreed FiTs, banks provide financing for these investments. However, these are not sufficient to cover the potential demand of SMEs.

Table 53: Annual financing gaps for the low-carbon economy

Annual financing gap for the low-carbon economy (€m)				
Beneficiary	**Sector**	**Demand**	**Supply**	**Gap**
Households	Energy efficiency in buildings	7 - 13	1	6 - 12
	Renewable Energy	20	1	19
Public authorities	Energy efficiency in public infrastructure	8 - 18	2	6 - 16
	Renewable Energy	0	0	0
SMEs	Energy efficiency in buildings	11 - 47	2	9 - 45
	Renewable Energy	25	9	21

8.4 Financing gaps for ICT and broadband

Financing gaps in the ICT sector

According to the analysis conducted, there is not an existing market for financing of ICT firms or ICT products and services as such. The number of firms operating in the ICT sector is limited, and those that do face essentially the same financing conditions as other firms. For these reasons, there seems to be no distinctive gap for SMEs operating in the ICT sector, which would justify from a separate analysis from other categories of SMEs. Similarly, investment in ICT products and services is generally treated as any other kind of spending, and thus faces the financing conditions as other investment. As such, no dedicated financing gap was identified for the ICT sector.

Financing gaps in the broadband sector

The evidence available shows that there is no significant financing gap in the broadband sector. In interviews, several stakeholders representing broadband providers stated explicitly that they were not interested in public financial support. For one thing, investments in the broadband infrastructure are generally economically viable. As such, CYTA does all its investment using own funds, and has not taken a loan since 1974. Those investments that are not economically viable have only a marginal benefit. This is driven by the fact that the island's population is concentrated in a few urban centres.

Furthermore, the kinds of investments that could provide substantial benefits to Cyprus households and businesses involve international connections, i.e. underwater cables, the cost of which is very high.

8.1 Results and conclusions

The market analysis carried out in this study has allowed to estimate the demand and supply of finance for SMEs, the ICT sector and the low-carbon economy, which in turn served as an input for the calculation of the financing gaps. Outgoing from the financing gaps identified, this chapter aims to provide the key results and conclusions for each sector and to provide first reflexions on the viable financing instruments, for the different targeted beneficiaries.

For the SMEs, key results and conclusions on the different types of financial products (loans, equity and microfinance) were analysed for different sizes of SMEs (micro, small and medium). For energy efficiency and renewable energy financing, the results and conclusions are outlined for households, public authorities and SMEs. The results presented for ICT cover the financing to ICT companies and for ICT-related services, as well as broadband.

8.1.1 Results and conclusions for SMEs

Results and conclusions for debt

Lending is the dominant source of financing of Cypriot SMEs. As such, variations in loan disbursement rates can strongly affect the financial situation of Cypriot SMEs. After the traditional lending system relying on personal guarantees as collateral broke down in the aftermath of the 2011-2015 financial crisis, banks increased their collateral requirements, thus reducing SMEs' access to finance. Following the crisis, lending to SMEs has recovered, but remains below pre-crisis levels. The desk research showed that banks disburse to a greatest extent long-term loans, followed by short-term and medium-term loans. According to the survey results, SMEs prefer medium- and long term over short-term debt. More specifically,

we identified substantial financing gaps for micro and small enterprises, particularly for medium-and long term loans; smaller gaps were identified for short-term loans as well.

The financing gap identified for **micro enterprises** is strongest for long-term loans (EUR 480 - 550m), over short-term loans (EUR 85-95m). This gap is motivated mostly by the collateral requirements set by commercial banks, which are a major hurdle for SMEs access to finance. This concerns long-term loans in particular, but it affects to a minor extent also the market for short-term loans. The study has confirmed that micro enterprises face systemic challenges accessing finance in Cyprus, mostly due to the lack of dedicated financial products and the requirements set by the banks to access credit. This situation has worsened when the traditional system of personal guarantees collapsed. The credits offered by commercial banks are not tailored to micro enterprises, which have little knowledge or visibility of the types of microproducts that exist outside Cyprus and which could potentially meet their financing needs.

For **small-size enterprises**, the financing gap for long term loans is less pronounced (EUR 25 - 30m) than for short-term loans (EUR 50 - 55m). Small enterprises also face substantial barriers in access to finance, including due to collateral constraints. As such, the total financing gap amounts to EUR 75 - 85m. Where credit is available, many firms are less likely to make use of it due to unattractive terms and conditions, such as longer maturities. As such, the estimated viable financing gap is less marked for long-term loans.

No gap could be identified for **medium-size enterprises**, neither for short, nor for long-term loans. Medium-size enterprises are a market segment comprising only a few hundred firms. Thus, the survey results, despite having a disproportionately high number of respondents from this group, could not be considered as a robust estimate of demand for finance. However, the available data indicates that medium-size enterprises do not face systemic issues in accessing finance. This was also corroborated during the interviews. Since no financing gap could be identified for these enterprises, no FI has been defined for medium size enterprises.

Results and conclusions for equity

The recent financial crisis has also created greater need for equity finance. First, for businesses with little collateral, equity can be a valuable alternative to traditional bank lending. Second, the economic downturn has created conditions for a fledgling start-up culture, but it needs capital, coaching, and the right conditions to grow. So demand for equity is growing, as reflected by the survey results, which indicate a demand of EUR 185 -

245m. The general lack of experience and common scepticism on equity means there could be additional hidden demand.

Despite a growing demand, the supply of financing is underdeveloped in Cyprus. There are PE, VC and one BA network in place in Cyprus, but their investment size remains limited. Although there are some established equity finance providers operating in Cyprus, there was not sufficient information available to quantify the total supply. The supply could be estimated in the tens of millions, i.e. a fraction of the demand identified. Thus, a financing gap of EUR 185 - 245m could be quantified.

Results and conclusions for microfinance

Microfinance supply is currently not available in Cyprus, due to the lack of a legal and regulatory framework for micro-finance institutions. No information is available on the possible future development of such a framework.

The non-existence of any supply implies a very low awareness of microfinance and equity products on the demand side. The lack of any framework for microfinance limits the ability of this financing opportunity to be utilised.

The estimated demand for short term financing in Cypriot micro enterprises indicates that the lack of a microfinance option is a severe impediment in the development of micro enterprises. The financing gap identified of micro-enterprises is of EUR 150-200m. The gap may be partially filled by micro-credits provided by banks and can be considered like debt to small enterprises.

Despite the financing gap identified, since no regulatory framework is in place and none is planned, the potential future implementation of a FI for this type of financing cannot be envisaged.

8.1.2 Results and conclusions for the low-carbon economy

Results and conclusions for households

The interviews and desk research showed that the demand for financing of households in both energy efficiency and renewable energy investments in Cyprus is extremely important. Making up 91% of the total building stock and 71% of the building surface, the renovation of residential buildings could substantially boost energy efficiency levels of the Cypriot building stock. Thanks to the net-metering scheme and the low cost of PV installations, there is also a growing demand from households to invest in renewable energy, mainly in small-scale PV.

Energy efficiency investments for residential building renovations are currently facing important financial constraints. On the one hand, the vast majority of financial institutions is not interested in financing EE measures. These investments, which are typically financed by banks through commercial loans, are less attractive than commercial investments due to their low profitability and long maturity. Furthermore, the financial sector lacks the knowledge or expertise to assess the potential energy and financial savings which can be achieved.

In the past years, following the launch of a dedicated governmental subsidy scheme, the interest in the energy renovation of residential buildings surged. While the programme sparked for the first time large-scale investments in EE in housing, its funds were exhausted within one year, well before its planned end. The results of the quantitative analysis, which have been corroborated through the interviews and the premature closing of the subsidy programme, show that there is still an important potential demand for energy renovation of residential buildings. Due to the scarce availability of financial products, however, these investments are currently mostly financed through personal savings. The information collected as part of the grant scheme showed that only low-income households had to rely on access to credit, in order to finance renovation works. This group has however limited access to finance, since it cannot provide the guarantees required. There is therefore evidence of the importance to further enable dedicated subsidies for this category of households.

The quantitative analysis, which was based on desk research and interviews, led to a financing gap ranging between EUR 6 and EUR 12m. This gap is motivated, on one side, by the strongly limited availability of financing from the financial sector, coupled, on the other side, with a demand which is strongly driven by grant instruments.

Renewable energy investments carried out by households concern mainly small-scale PV installations. The surge in investments has been driven by the setup, in 2013, of the "Net Metering Scheme", allowing households to feed the electricity produced back into the grid, while generating financial savings. The low cost of investments in PV installations coupled with high energy prices in Cyprus makes this a profitable investment. For RE investments, there are few dedicated financial products. The banks charge high interest rates and require high guarantees also for small loan amounts.

The demand for financing in RE investments is stimulated by the setup of the "Net Metering Scheme," which makes small scale PV a profitable investment for households. The

investment in PV installations is mostly financed through loans. The total investment is comprised between EUR 6,000 and 10,000.

The financing gap, estimated at EUR 19m, is generated because most of the banks disregard investments in small scale PV, mostly due to their low tickets. Hence, the proposed loans have high interest rates and relatively high guarantee requirements compared to the low size of the RE investments.

Results and conclusions for public authorities

For public authorities, the financing has been evaluated for investments in RE and EE in public buildings and street lighting. The interviews and the desk research showed that public authorities do not generally finance RE projects directly, they rather act as facilitators.

Public authorities have a limited demand for financing for EE in public buildings, since most of the edifices they use are privately owned. However, there is a high potential demand for EE investment in public lighting, which is under the direct management and ownership of public authorities. Based on the estimated supply and demand for finance, the gap identified for public authorities in EE amounts to EUR 6 to 16m. This gap is due to the amplitude of the investment needed to upgrade the public infrastructure under their management and the precarious financial situation of public authorities.

Results and conclusions for SMEs

For SMEs, in particular micro and small SMEs, facing significant difficulties in access to credit, energy efficiency investments are of secondary importance compared to financing the operational expenses and income-generating investments. Thus, while the potential energy and financial savings generated from EE measures could be significant, SMEs tend to overlook these opportunities. Hence, the gap for financing for EE investments ranges between EUR 9 and 45m. EE investments could ensure the highest financial returns to SMEs with high operational costs linked to the use of buildings, such as hotels and retail buildings.

The financing gap in RE investments amounts to EUR 21m. RE investments could allow SMEs to have alternative sources of income and achieve financial savings. These investments concern both small scale installations covering the operational power needs of the SMEs, as well as investments in large scale installations. A limited number of dedicated loans exist for these enterprises.

8.1.3 Results and conclusions for ICT

Based on the desk research and on the interviews, no dedicated supply of financing for the ICT sector or broadband could be identified in Cyprus.

Financing to ICT companies and for ICT-related services is included in the general supply of finance for SMEs. Thus, there are not any commercial financial products specifically targeted for the ICT sector. Also the demand for financing is covered through the financing provided for operational costs and investments. As such, this demand was analysed and quantified as part of the demand for financing of SMEs.

For broadband, demand for financial support exists, but not for a specialised FI. As such, no financing gap was identified for broadband investments.

8.2 Recommendations

Drawing on the main findings and the first reflections of viable FIs outlined in the previous section, the recommendations aim to detail the type and focus of the financial instruments proposed and, where relevant, additional technical assistance to be provided. Further to this, recommendations relating to the general implementation of the FIs are also presented later on in this section.

8.2.1 Recommendations for SMEs and ICT

To improve the SMEs' access to finance, two financial instruments could be taken into consideration. These instruments could tackle the market gaps identified in the market analysis and the interviews carried out with the stakeholders involved in the financing of SMEs in Cyprus.

This involves the development of a dedicated portfolio guarantee for SMEs and an equity instruments for start-ups. These instruments are presented below.

Improve the access to finance of SMEs through a portfolio guarantee

This guarantee instrument could support the SMEs from their creation until the phase of transmission, limiting the credit risk of the financial intermediaries; this could be done by financing these companies through highly preferential conditions (notably reduced personal guarantees requirements and reduced interest rate), thus enhancing the risk taking capacity

and credit disbursement. The instrument may also include micro-enterprises in order to address the lack of micro-credit in the market,

Improve the access to finance through an equity instrument

This equity instrument could be a source of equity for all SMEs, with a focus on start-ups. It could reinforce the action of the Business Angels network, venture capital and private equity funds active in Cyprus. In the start-up phase, when banks are reticent to providing loans due to the high risk profile of these investments, seed capital is required. Venture capital and private equity are beneficial to finance the growth of small and medium enterprises.

Enhance the impact of the equity instruments through an accelerator for start-ups

While equity financing can enhance the access to finance of SMEs, accelerators can lift non-financial hurdles faced by start-ups. They provide technical support, mentoring and amenities, enabling the start-ups to focus on the core business and to further improve their business concept and their financial model. Acting as a platform, accelerators give access to a wide network, which includes also business angels and venture capital funds. In Cyprus, there are currently two accelerators run by private entities. To be more successful and become self-sustainable, it is crucial that these accelerators are managed by people with relevant experience in start-ups. A technical support instrument tailored for these accelerators could therefore substantially improve the success rate of the Cypriot start-ups.

8.2.2 Recommendations for the low-carbon economy

Improve the access to finance for RE and EE investments through a soft loan instrument

A soft loan instrument for renewable energy and energy efficiency investments undertaken by households, public authorities and SMEs, could facilitate the access to finance for RE and EE investments. The borrowers could benefit from more advantageous financing terms, such as lower interest rates, longer payback periods and payback grace periods.

The market analysis and the interviews have shown that the soft loan instrument can be beneficial for both EE and RE investments. The soft loan gives access to credit to those borrowers who do not dispose of substantial personal savings and allows for better credit conditions (lower interest rates, longer payback periods and payback grace periods), allowing the loan repayment to be better aligned with the financial savings generated through the EE investments. For EE, the soft loan could be complemented with a grant instrument, which could fund a part of the total investment and would be most useful for low-income households, who do not dispose of sufficient personal savings.

Enhance the impact of EE investments through subsidised energy audits

For energy efficiency, the soft loan instrument should be complemented with subsidised energy audits. The critical point of EE investments is the difficulty of assessing the potential energy savings and returns on investment. The final recipients often underestimate the potential savings associated with energy renovation works. Moreover, these savings can vary depending on the building type and on the renovation measures undertaken. Energy audits enable an estimation of the potential savings which can be achieved through energy renovation and the investment needed to achieve these savings. As such, they can strongly stimulate the demand for EE renovation works, particularly among the potential final recipients underestimating the financial savings of building retrofitting.

8.2.3 Horizontal recommendations

Enhance the impact of the FIs through improved communication

The impact of the FIs implemented in Cyprus could be enhanced **through a better information of the final recipients** concerning their existence, their scope and the implementing measures, and a better understanding of the benefits and opportunities offered by the different financial products developed (guarantees, loans, equity, etc.).

In addition, **information on the working of FIs** should be strengthened. This relates more specifically to how each type of instrument (i.e., equity, guarantees, soft loans) works, what needs it can cover and what benefits they offer. There may be uncertainties about the way FIs operate and the consequences for the final recipients using them, for example as regards the opening of capital through an equity instrument the cost of guarantees or state aid.

Developing a knowledge base of the existing FIs, including EU level FIs and national initiatives (such as CYPEF) as well as the working of each type of instrument, could consist in providing synthetic information, focused on the needs of the different types of final recipients (households, SMEs and public authorities), through a tool that would centralise this information. This tool could take different forms, e.g. be web-based or brochures and should ideally be based on existing instruments, which are known by target final recipients. The aim of this tool would be to enable all final recipients to know what type of financial instrument can be adapted to their needs, what are the instruments of this type that currently exist on the territory and what are its characteristics (eligibility criteria, amount of intervention and financial institutions offering the product).

Invest in capacity building at national level

Currently, Cyprus does not have a native institution with the technical and administrative capacity to manage FIs on the scale being considered in this assessment. As a result, in the section on proposed governance structure below, we conclude that DG EPCD will need to rely on a third party fund manager to oversee the setup and implementation of any planned FI.

However, while relying upon a third party fund or fund of funds manager should allow for a more efficient implementation of FIs in the 2014-2020 programming period, without concerted efforts to the contrary, the Government of Cyprus will enter the upcoming programming period with the very same lack of capacity to implement FIs. Indeed, this was the outcome of Cyprus's past experience implementing FIs via a third party fund of funds manager.

As such, we recommend that the Government of Cyprus take the opportunity to benefit from the experience of the currently foreseen implementation and the presence of a third party fund of funds manager by taking steps to develop the necessary institutional capacity. Furthermore, experience from other MS show that national institutions play a role in the efficient and effective use of legacy resources of FI after the end of the programming period.

Although in many MS, this role is played by a NPB, a less complex arrangement should be targeted. Two options can be envisaged, setting up a national investment fund or strengthening the capacity within the MA to manage FIs directly in-house. The national investment fund should initially have limited responsibilities and scope of activities and if deemed appropriate, this entity could act as a kind of institutional stepping stone for a future NPB.

Alternatively, a unit specialising in the management of financial instruments can be set up within the MA. In this case the MA would either directly provide financing to final recipients or manage the relationship with financial intermediaries without employing a fund of funds manager.

The setting-up of an investment Fund or financial instrument unit within the MA should happen in parallel with the deployment of the FIs in the 2014-2020 period. In this way the necessary competences can be build up gradually and experience from the current implementation can be gained. The capacity building can be supported by technical assistance from the OP. The ultimate goal of this approach would be to build a native institution capable to assume management and implementation responsibility for FIs in the coming programming period.

Delivery and management of the financial instruments (Building Block 2)

9 Proposed investment strategy and expected results

The investment strategy presents the proposed financial instruments for the SMEs, ICT and the low-carbon economy, and the potential governance options. It also gives an outline of the upcoming steps of the FI implementation.

9.1 Proposed Financial Instruments

This section details the FIs developed as part of the study. The proposed FIs for SME access to finance and ICT are a portfolio guarantee instrument including microfinance and an equity instrument. For the low-carbon economy, a loan instrument covering both EE and RE investments and open to all potential final recipients has been envisaged.

In both cases, indicative envelopes have been provided for what could realistically be implemented in the remainder of the current programming period given sufficient available funding. These numbers also reflect a sufficient scale necessary for a fund (of funds) manager and financial intermediary to deploy the instrument. However, in the event that the amount of funding indicated is not available, it may be necessary for the MA to prioritise the implementation of a single, adequately resourced FI over multiple, inadequately resourced FIs.

The FIs could benefit from the support from the EIB Group in form of additional lending in order to increase the financial volume. This can be either done with a guarantee from the European Fund for Strategic Investments (EFSI) or a normal EIB loan with guarantee from the Republic of Cyprus. In considering these two options, it is important to keep in mind that loans provided under EFSI are priced according to risk. The counterparty risk of banks in Cyprus will influence the price of financial product recipient and the economic benefit to the final recipient, and thus the likely uptake of the instrument.

9.1.1 SME Access to finance and ICT

FI 1a – Capped portfolio guarantee

Considering the limited access to finance of SMEs, a portfolio guarantee can help support these enterprises by covering part of the credit risk of financial intermediaries, thus increasing their risk-taking capacity and the loan amounts disbursed to these borrowers. Such an instrument could help to address the identified viable financing gaps for short,

medium and long-term lending to micro and small enterprises, including for microcredit. The SMEs targeted could benefit from more advantageous terms for their loans, in particular by reducing their collateral requirements. This reduces the particular difficulties SMEs face in accessing finance due to:

- Lack of adequate guarantees or collateral,
- Relatively high credit risk.

This instrument generally allows these enterprises to benefit from bank financing on more favourable terms:

- Reduced collateral requirements by the banks;
- Reduced loan interest rate as a consequence of a lower risk profile and possible increase in the maturity of loans;
- Lower guarantee cost; and
- Longer grace period / deferred repayment.

These elements may vary depending on the conditions set by the MA when selecting the financial intermediary (ies), the offers proposed by the candidate banks and the negotiations between the MA or the manager of the FoF and those candidates.

This instrument enables to issue guarantees to one or more selected financial intermediaries through a call for expressions of interest, or a tender. According to art. 21 (13) of Reg. No 651/2014 (RGEC), the guarantee rate should be limited to 80% and. The guarantee will cover, in part (according to art. 21(13) of Reg. No 651/2014) up to 80% of the credit risk associated with each new loan granted to an SME. These new loans will then be included into the guaranteed portfolio in which the public contribution shall assume losses no greater than 25%.

This guarantee will cover the losses due to the non-repayment of borrowed capital or interest related to this loan incurred by the financial intermediary (ies), up to a pre-determined ceiling. The steps for granting, analysing, documenting and allocating loans to SMEs should be carried out by the financial intermediary (ies) according to his / her usual procedures. Thus, the financial intermediary (ies) will retain (maintain) a direct credit relationship with each SME. To align the interests between the public contribution (ERDF and national), part of the loan portfolio will not be covered and thus the financial intermediary (ies) will assume the total risk from their own funds.

The lessons learnt from the previous programming period show that the moderate success of the JEREMIE portfolio guarantee was not due to the instrument *per se*. Its implementation failed to achieve full market absorption due to the rather restrictive scope set at the beginning of the initiative and the limited promotion undertaken by the financial intermediary. Also, having only one financial intermediary offering the product meant that many SMEs needed to switch banks to benefit from the initiative.

This has been taken into consideration in the design of the portfolio guarantee presented below. The proposed instrument would have a much broader eligibility, including all SMEs in all sectors and development stages. This should make the portfolio guarantee much more attractive as a means to facilitate commercial banks own lending strategies to address their challenge of otherwise creditworthy borrowers who lack adequate collateral. When combined with an attractive terms for the funding agreement, should allow to recruit more than one financial intermediary, substantially increasing the value for potential beneficiaries.

Also, it is advisable to appoint more than one financial intermediary to broaden the range of SMEs which could potentially benefit from the instrument and to allow for competition among financial intermediaries.

For the portfolio guarantee, it would be recommended to use an off-the-shelf product, which complies to standard terms and conditions.[126] This instrument was developed based on the experience collected on instruments which proved successful in the past programming period. An off-the-shelf product could allow for an expedite launch and sound functioning of the FI. The off-the-shelf guarantee instrument which could be developed in accordance with Article 38(3) of the CPR is a capped guarantee, covering the first loss of a loan portfolio.

Nature / Type of product	Capped portfolio guarantee
ESI Funds allocations	Proposed amount of public contribution from ERDF: EUR 40m TO 3: Strengthening the Competitiveness of SMEs
Expected leverage effect	3x to 4x

[126] Off-the shelf instrument set out in the Commission Implementing Regulation (EU) No 964/2014 of 11 September 2014 in Annex III.

Amounts of financing for the targeted SMEs	Based on the above funds allocation and the potential leverage effect, between EUR 120m and 160m
Scope of the FI and target beneficiaries	**Scope of the FI:** Loan, including micro-credit, amounts starting from EUR 0 (maximum amount to be defined) This financial instrument has a broad area of intervention and a large target population, since the market gap identified for the loans covers SMEs, in all sectors and in all development stages Can be put in place by one or several financial intermediaries to finance a maximum number of SMEs Covers the first loss of a portfolio which will be designed by the financial intermediary **Target beneficiaries:** All SMEs eligible under the TO3, including microbusinesses, regardless of their industry and development phase
Geographical coverage	Republic of Cyprus
Objectives	Limit the constraints linked to the access to finance faced by SMEs, for the short, medium and long term loans
Expected advantages	Absorbing part of the underlying risk of default, the portfolio guarantee aims to provide local financial intermediaries with the incentive to expand their portfolios. A portfolio guarantee provided to financial intermediaries would contribute to reducing the collateral requirements, hence easing the credit constraints for SMEs on the Cypriot financial market
Market gaps analysis **(Article 37 (2) a))**	Please refer to the Building Block 1 of this ex-ante assessment
Expected socioeconomic results / Added-Value of the instrument	• Leverage effect • Promotion of entrepreneurship and enterprise creation • Job creation

(Article 37 (2) b))	• Reduction of unemployment • Support to the development of SMEs • Reuse of ESI funds • Risk sharing with the private sector (financial intermediaries) • Leverage of the competences of the financial intermediaries for project selection
Consistency with other interventions targeting the same market **(Article 37 (2) b))**	FI will be implemented by financial intermediaries to be selected through a Call for Expression of Interest or tender. No other public guarantee instruments are provided currently in Cyprus
Consistency with the Common Strategic Framework and the OP Competitiveness and Sustainable Development 2014-2020	This FI is consistent with the TO 3: Strengthening the Competitiveness of SMEs
State aid and grants: planned interventions and measures to reduce the market distortions **(Article 37 (2) b))**	To minimise market distortions, it is recommended that this instrument is put in place under the *de minimis* rule
Estimation of Public and Private resources **(Article 37 (2) c))**	Based on a leverage effect of x3 to x4 and on financing from ESI Funds, the potential public and private resources could be estimated between EUR 120 - 160m. These funds would be financed by financial intermediaries and by the public sector. This instrument could be financed through the legacy amounts from the JEREMIE Programme and CYPEF reflows.
Use of reflows of the instrument (Article 44 (1))	As indicated in the CPR (Art. 44(1)), *resources paid back to the financial instrument from the release of resources committed for guarantee contracts, and any other income generated shall be re-used* for: • *further investments, through the same or other FIs;* • *preferential remuneration of private or public investors;*

	• *reimbursement of management costs and payment of management fees of the financial instrument*. The use of reflows of funds should be included in the call for tenders for the selection of the financial intermediaries and be defined in the funding agreements between the MA and the FoF, as well as between the FoF and the financial intermediaries.
Evaluation of the optimal remuneration levels allowing to maximise the leverage of counterpart funds from private investors **(Article 37 (2) c))**	The establishment of remuneration levels for investors and fund manager(s) is at the discretion of the MA, and should be determined through discussions between the MA, the FoF Manager, and the Financial Intermediary (ies) as appropriate or through call for tenders. When deciding on the optimal remuneration levels, the MA should consider that *"the preferential remuneration shall not exceed what is necessary to create the incentives for attracting private counterpart resources and shall not over-compensate private investors, or public investors operating under the market economy principle. The alignment of interest shall be ensured through an appropriate sharing of risk and profit and shall be carried out on a normal commercial basis and be compatible with the EU State aid rules", cf.* Art.44 (1) of the CPR.
Evaluation of the past lessons learnt **(Article 37 (2) d))**	Please refer to the Building Block 1 of this ex-ante assessment.
Proposed investment strategy with financial products, targets and blending with grants **(Article 37 (2) e))**	The proposed investment strategy is presented in Building Block 2 of the present study. Grants could be associated with this FI in order to provide technical support to the recipients. Investments supported by this FI may also receive grants under the conditions that they comply with the rules on combination of support (state aid, double financing).

Expected results and corresponding key indicators **(Art. 37 (2) f))**	**Expected results:** The expected results to be achieved depend on the eligibility requirements set for the instrument. Quantification of the results can only be made once the parameters for the instrument are defined further. The values for the expected results of the key indicators will be added to the ex-ante assessment at a later stage. **Key indicators:** • Number of SMEs supported (split between micro-enterprises and small and medium enterprises) • Number of new SMEs created • Number of new SMEs created in urban areas • Number of new SMEs created by target population groups • Gross value added in sectors where SMEs are best represented in Cyprus
Trigger for the review and update of the ex-ante assessment **(Art. 37 (2) g))**	The investment strategy proposed in this study is intended to inform the MA when drawing up its investment strategy for Cyprus. It does not take into account the interest of financial intermediaries with regard to certain characteristics of the financial instruments proposed, and in particular: i. Rules for the selection of financial intermediaries; ii. Instrument-specific mechanisms (eg counterparty or portfolio risk management); iii. The rules relating to the use of the ESI Funds; and iv. The obligations of the selected financial intermediaries, including monitoring, reporting, monitoring of State aid, auditing, and communication and visibility measures of the financial instrument. The decision to review, and if necessary update the ex-ante assessment during implementation of the investment strategy is at the discretion of the MA. The study should be updated when the ex-ante evaluation can no longer accurately represent the market conditions prevailing at the time when the financial instrument was launched, either because these market conditions have evolved in the meantime, or as other financial instruments became available that are more appropriate for addressing

	the financing gap since the finalisation of this study.

FI 1b – Uncapped portfolio guarantee

An alternative to the capped portfolio is an uncapped portfolio guarantee. It offers the financial intermediary an enhanced credit risk protection as there is no cap on the losses incurred on the portfolio. Like the capped portfolio guarantee it provides benefits to final recipients in form of reduced guarantee fees, reduced collateral requirements and lower interest rate. It furthermore can provide capital relief to the financial intermediaries. This may specifically address concerns of banks in Cyprus as regards to lending to SMEs. The key parameters remain the same as in the capped portfolio guarantee.

The option No 1 of the SME Initiative is an uncapped portfolio guarantee. The MA may consider joining the SME Initiative as the Commission has proposed an amendment to the CPR through the 'Omnibus Regulation', such as the extension of the Initiative to 2020 and simplified requirements regarding changes to the Operational Programme. The 'Omnibus Regulation' is currently in the co-decision process between European Parliament and Council and is expected to come into force in 2018[127].

An effective way to reduce the financing gaps would be for the MA to decide to set up the SME Initiative to facilitate SMEs' access to bank financing. Under the CPR, Member States may use part of their ERDF allocation to contribute to financial instruments set up at European level, namely COSME or Horizon 2020. The SME Initiative is a joint initiative between the European Commission and the EIB Group established under Article 39 of Regulation 1303/2013 (CPR); Two risk-sharing financial instruments are proposed under two options: • Option 1: An uncapped guarantee instrument for the creation of a portfolio of new SME loans; • Option 2: A securitisation instrument allowing the securitisation of existing portfolios for SMEs and other enterprises with fewer than 500 employees. **The main advantages:** • The SME Initiative is based on an ex-ante analysis that has already been carried out by the European Commission and the EIB Group; • The SME Initiative is built on an already existing framework that allows for rapid action and a

[127] The proposed 'Omnibus Regulation' COM (2016) 605 final is amending a number of regulations and decisions, among other Common Provision Regulation. The changes are expected to come into force in 2018.

significant impact;

- Unlike traditional products using ESI funds, where Member States must co-finance part of the eligible expenditure, the SME Initiative does not require any particular co-financing, saving up national resources;
- The ESI Funds under the Financing Agreement of the SME Initiative are paid immediately by the European Commission;
- The SME Initiative involves the financial participation of the EIB and the EIF and enables to benefit from their expertise in the structuring, execution, implementation and monitoring of guarantees and / or securitisation;
- The SME Initiative allows to combine different resources, including ERDF, COSME and / or Horizon 2020;
- With regard to State aid, the calculation of the Gross Subsidy Equivalent has been defined on an ad hoc basis and has been approved by the Commission;
- For comparative purposes and lessons learned, this initiative has been set up in Italy (EUR 102m from ERDF), Finland (EUR 50m from ERDF), Malta (EUR 20m from ERDF), Bulgaria (EUR 100m from ERDF) and Romania (EUR 100m from ERDF).

Funding Objectives:

- SMEs as defined by the European Commission;
- Investment projects but also the financing of the working capital;
- Loans, leasing, collateral, revolving loans (although restructuring is prohibited);
- Minimum loan maturity: 24 months;
- Other criteria apply: certain sectors are excluded, a maximum amount of loans exists, and a concentration limit is established with the financial intermediaries.
- A portion of the guaranteed portfolio must meet the H2020 or COSME criteria:
  - H2020, for innovative SMEs; and or
  - COSME, for risky SMEs.
- Penalties are incurred in the event of a breach in terms of volume in relation to the target volume of H2020 and ESI Funds.

Work to be carried out by the MA within the framework of the SME Initiative:

- Develop a dedicated single operational programme (very simple to define and the EIB Group can help the MA on this point);
- Create a separate Priority Axis in the Operational Programme;
- In both cases, the MA should take decisions on:
  - Which option to choose (instrument of option 1 or option 2) and
  - Under which programme it wishes an EU contribution (COSME or Horizon 2020)

FI 2 - Co-investment facility

This financial instrument aims to support all SMEs, with a focus on start-ups. Support would be provided through an equity and quasi-equity contribution.

This instrument would finance the development phases with an increased risk profile. To ensure that the MA has the maximum possible alignment between the public and the private contribution, this instrument needs to have an obligation to co-invest with private investors.

Within this framework, the objectives of the co-investment instrument could be the following:

- Strengthen the equity financing of Cyprus-based SMEs in the start-up phase.
- Co-invest with the available market players (business angels, venture capital and private equity funds) already active in Cyprus and attract, among others, external private equity operators. And
- Set up operations following a commercial logic, in order to achieve profits in the medium term.

This fund will co-invest in the capital of SMEs, using public and private contributions. The proportions will have to be defined during negotiations between the MA and the fund managers, as well as depending on the contribution of the private co-investment partners. Other funds must be economically and legally independent from the co-investment fund. In addition, the co-investment fund manager will be an independent entity that will make all investment and divestment decisions with the diligence of a professional manager. The financial intermediary selected will have to be economically and legally independent from the MA. Finally, the governance of the co-investment fund should include mechanisms to avoid potential conflicts of interest within the co-investment fund manager.

In the Cypriot financial environment, which is still predominantly based on debt instruments, it could be beneficial to expand the equity instrument also to quasi-equity financing. This option should be further assessed during the market testing which will be carried out with Cypriot banks.

In this context, the application of the off-the-shelf instrument could be advantageous to ensure a fast launch and a streamlined implementation of the financial instrument[128]. The co-investment facility aims to co-invest in the equity of SMEs through financial intermediaries

[128] Commission Implementing Regulation (EU) 2016/1157 of 11 July 2016, Annex V

and other private investors. In comparison to a Venture Capital fund, the co-investment mechanism is more suitable for less developed equity markets and more compatible for Business Angel investors. It nevertheless requires an active fund management team, preferably located in the country, identifying potential companies to invest in and to mobilise private co-investors. Despite the limited size and development of the Cypriot equity market, it should be possible to identify a fund manager with the competencies required to manage the co-investment facility.

While a co-investment facility can enhance access to capital to start-ups, the analysis has shown that start-ups in Cyprus face also other non-financial hurdles. These include lack of technical support and coaching, which could allow the start-ups to enhance their business concept and financial model. We therefore recommend to put in place technical support which could assist the existing accelerators in delivering their services. Participation to the activities of the accelerator should be highly encouraged for the start-ups wishing to accessing financing through the co-investment facility. Putting in place the accelerator would on one side stimulate the demand for equity financing, and on the other side reinforce the financing and the business model of the start-ups applying for finance. This, in turn, could ensure that a larger number of start-ups succeed in their early stage. Hence, the participation to the Accelerator could encourage private investors in investing in the start-ups. Ideally, the Accelerator should be put in place prior to the launch of the co-investment facility. Alternatively, it could be implemented in parallel, ensuring that the start-ups which will benefit from equity financing will be supported by the Accelerator following the allocation of funding.

The table below summarises the main elements of the co-investment facility.

Nature / Type of product	Equity instrument
ESI Funds allocations	Proposed amount of public contribution from the ERDF: EUR 20m TO 1: Strengthening the research, technological development and innovation TO 3: Strengthening the Competitiveness of SMEs
Expected leverage effect	2x

Amounts of financing for the targeted SMEs	Based on the above funds allocation and the potential leverage effect, EUR 40m
Scope of the FI and target beneficiaries	**Scope of the FI:** Co-investment facility providing equity and quasi-equity instruments to SMEs **Target beneficiaries:** All SMEs, with a focus on those in the early stage development
Geographical coverage	Republic of Cyprus
Objectives	• Strengthen equity financing for SMEs, with a focus on start-ups; • Strengthen the capitalisation of high-potential SMEs; • Promote the structuring and strengthening of the existing financing offer for all SMEs, with a focus on start-ups; • Complete existing supply of equity, co-invest with market participants (business angels, venture capital funds, later stage investments and others) and attract external investors
Expected advantages	Investment by the financial intermediary and other private investors (manager of the co-investment fund) into the capital of the SMEs, through ESI funds, national financing and own financing resources and the resources of other investors to be mobilised
Market gaps analysis **(Article 37 (2) a))**	Please refer to the Building Block 1 of this ex-ante assessment
Expected socioeconomic results / Added-Value of the instrument **(Article 37 (2) b))**	• Leverage effect • Promotion of entrepreneurship and enterprise creation • Job creation • Reduction of unemployment • Support to the development of SMEs • Reuse of ESI funds • Risk sharing with the private sector (financial intermediaries)

	• Leverage of the competences of the financial intermediaries for project selection
Consistency with other interventions targeting the same market **(Article 37 (2) b))**	This FI could complement the current supply of equity, which cannot satisfy the total demand for risk capital. Indeed, an increase in the number of instruments and operators allows for a better diversification of the risk taking for each operation and for a stimulating competition between the operators active at the current stage, which may be beneficial to SMEs in Cyprus
Consistency with the Common Strategic Framework and the OP Competitiveness and Sustainable Development 2014-2020	This FI is consistent with the TO 1: Strengthening the research, technological development and innovation and TO 3: Strengthening the Competitiveness of SMEs
State aid and grants: planned interventions and measures to reduce the market distortions **(Article 37 (2) b))**	To minimise market distortions, it is recommended that this instrument is put in place under the *article 21* of the Regulation n. 651/2014 of 17 June 2014 (GBER), applied most frequently with equity instruments
Estimation of Public and Private resources **(Article 37 (2) c))**	Based on a leverage effect of x2 and on financing from ESI Funds of EUR 20m, the potential public and private resources could be estimated in total at EUR 40m. These funds would be financed by financial intermediaries
Use of reflows of the instrument (Article 44 (1))	As indicated in the CPR (Art. 44(1)), *resources paid back to the financial instrument from the release of resources committed for guarantee contracts, and any other income generated shall be re-used* for: • *further investments, through the same or other FIs;* • *preferential remuneration of private or public investors;* • *reimbursement of management costs and payment of management fees of the financial instrument*. The use of reflows of funds should be included in the call for tenders for the selection of the financial intermediaries and be defined in the funding

	agreements between the MA and the FoF, as well as between the FoF and the financial intermediaries. In the context of the co-investment facility, which has an indicative duration of 10 years, it is assumed that, at until the end of the programming period, the reflow of funds from the FI will be extremely limited.
Evaluation of the optimal remuneration levels allowing to maximise the leverage of counterpart funds from private investors **(Article 37 (2) c))**	The establishment of remuneration levels for investors and fund manager(s) is at the discretion of the MA, and should be determined through discussions between the MA, the FoF Manager, and the Financial Intermediary (ies) as appropriate or through call for tenders. When deciding on the optimal remuneration levels, the MA should consider that "*the preferential remuneration shall not exceed what is necessary to create the incentives for attracting private counterpart resources and shall not over-compensate private investors, or public investors operating under the market economy principle. The alignment of interest shall be ensured through an appropriate sharing of risk and profit and shall be carried out on a normal commercial basis and be compatible with the EU State aid rules*", *cf.* Art.44 (1) of the CPR. Should an off-the-shelf co-investment facility be implemented, the aggregate private participation rate should reach at least the thresholds set in the Annex V of the Reg.(EU) 1157/2017, which range from 10% to 60%, depending upon the final beneficiary's past investment experience.
Evaluation of the past lessons learnt **(Article 37 (2) d))**	Please refer to the Building Block 1 of this ex-ante assessment
Proposed investment strategy with financial products, targets and blending with grants **(Article 37 (2) e))**	The proposed investment strategy is presented in Building Block 2 of the present study. Grants could be associated with this FI in order to provide technical support to the recipients. Investments supported by this FI may also receive grants under the conditions that they comply with the rules on combination of support (state aid, double financing).

Expected results and corresponding key indicators **(Art. 37 (2) f))**	**Expected results:** The expected results to be achieved depend on the eligibility requirements set for the instrument. Quantification of the results can only be made once the parameters for the instrument are defined further. The values for the expected results of the key indicators will be added to the ex-ante assessment at a later stage. **Key indicators for TO1:** • Number of SMEs adopting innovation **Key indicators for TO3:** • Gross value added in the sectors where SMEs are best represented in Cyprus • Number of new SMEs created • Number of new SMEs created from targeted population groups • Number of new SMEs created in urban areas • Number of SMEs supported
Trigger for the review and update of the ex-ante assessment **(Art. 37 (2) g))**	The investment strategy proposed in this study is intended to inform the MA when drawing up its investment strategy for Cyprus. It does not take into account the interest of financial intermediaries with regard to certain characteristics of the financial instruments proposed, and in particular: i. Rules for the selection of financial intermediaries; ii. Instrument-specific mechanisms (eg counterparty or portfolio risk management); iii. The rules relating to the use of the ESI Funds; and iv. The obligations of the selected financial intermediaries, including monitoring, reporting, monitoring of State aid, auditing, and communication and visibility measures of the financial instrument. The decision to review, and if necessary update the ex-ante assessment during implementation of the investment strategy is at the discretion of the MA. The study should be updated when the ex-ante evaluation can no longer accurately represent the market conditions prevailing at the time when the financial instrument was launched, either because these market conditions have evolved in the meantime, or as other financial instruments became available that are more appropriate for addressing the financing gap since the finalisation of this

	study.

Since the market for equity is still underdeveloped and the actual demand and supply are uncertain, it could be envisaged to launch an equity instrument through a "pilot" scheme, with a budget of EUR 4 - 8m. Should this initiative be successful and have high absorption rates, additional funds could then be allocated to this instrument. In this way, a pilot scheme would allow to test the feasibility of an equity instrument, and to demonstrate the feasibility of equity financing, thereby stimulating additional supply and demand.

Technical support for SMEs

Based on the lessons learned both in Cyprus and in other MS, the study has identified a clear need to pair the proposed FIs for SMEs with additional support, particularly for the use of equity financing, which is not in wide use. Cyprus has not traditionally had a strong entrepreneurial culture. As a result, there is a lack of native know-how and institutional structures in place to support SMEs, and especially early-stage start-ups. In particular, support to SMEs is needed to help with the development of business plans, and financial strategies, including the potential benefits of equity and quasi-equity financing from Business Angels and Venture Capital funds.

This kind of support could be offered through an accelerator. Accelerators provide assistance in improving the business development strategy (i.e. reviewing the business plan) and in the definition of the optimal financing structure. They can provide coaching to enhance the entrepreneur's skills in pitching for financing and give access to a network of equity providers for fundraising. The accelerator allows enterprises to rethink and significantly improve the financial and commercial strategy of the organisations, and to improve the competences of the team.

To be successful, the services provided by the accelerator should be delivered by professionals with relevant experience in this field. To implement this initiative, a budget of EUR 2 - 3m should be invested within 3 years.

There are currently two accelerators already in place in Cyprus, which could potentially take on this role. In addition, the government is working with the EBRD on a plan to provide technical assistance to SMEs in Cyprus, including coaching services. Technical support

offered in conjunction with FIs should capitalise on, and coordinate with existing or planned services to reduce duplication of effort and confusion among potential beneficiaries.

9.1.2 Low-Carbon Economy

FI 3 - Funded loan instrument for RE and EE investments

Based on the analysis of the financing issues faced by SMEs, households and public authorities when investing in EE and RE, a soft loan instrument could improve the credit conditions applicable to EE and RE investments.

More specifically, this instrument would allow for loans with lower interest rates, an extended payback period, which could also include payback grace periods. If associated with grants, they can also widen the access to financing to financially vulnerable beneficiaries, such as low-income households. The steps for granting, analysing, documenting and allocating loans to the borrowers should be carried out by the financial intermediary (ies) according to the procedures developed internally for EE and RE financing. The financial intermediary (ies) will retain a direct credit relationship with each borrower.

The funded loan instrument would provide capital to the financial intermediaries selected, to be allocated for the disbursement of loans for EE and RE investments.

While the potential for EE improvements through building renovation is very important in Cyprus, the demand for financing needs to be stimulated further. For EE investments, it is difficult to assess the potential energy savings and returns on investment, since the final recipients often underestimate the potential savings associated with energy renovation works. Energy audits provide estimations of the energy and financial savings generated through investments in energy renovation. They can provide estimations on the degree to which investments in energy renovation can be profitable, which should then be considered for the technical and financial screening of loan applications, as they provide insight into the beneficiary's capacity to reimburse the loan, hence on its risk profile. Therefore, we suggest a standardised EE loan application procedure, which would require to submit energy audits together with the relevant financial documentation. Since the investment in energy audits could discourage potential beneficiaries from applying to the scheme, we recommend to put in place a subsidy scheme for the promotion of energy audits. This scheme will be detailed in the next section. We therefore consider that subsidised energy audits are essential for the successful implementation of the funded loan instrument. The necessary technical assistance programme should be set up as a separate operation but in parallel to the launch of the debt instrument.

As an alternative to a stand-alone loan instrument ESIF funds could also be allocated to the PF4EE instrument. Currently, one financial intermediary is negotiating with the EIB on implementing the instrument. It is expected that the instrument is operational in 2018 and that the allocations from PF4EE are insufficient to cover the investment needs for the current programming period. PF4EE consists of a portfolio guarantee funded by the LIFE programme, a long-term loan instrument funded by the EIB and technical assistance. In this case, the funds would be allocated to an EU level instrument with the ESIF contributions by the MA being ring-fenced for investments in Cyprus. The actual implementation of this option will however depend on the signature of the funding agreement between the financial intermediary and the EIB.

Nature / Type of product	Loan instrument for RE and EE investments
ESI Funds allocations	Proposed amount of public contribution from ERDF and CF: EUR 40m TO 4: *Supporting the shift towards a low-carbon economy in all sectors*
Expected leverage effect	2-3x
Amounts of financing for the targeted recipients	Based on the above funds allocation and the potential leverage effect, EUR 80-120m
Scope of the FI and target recipients	**Scope of the FI:** Loan amounts starting from o EUR (maximum amount to be defined) Loan with low interest rates, extended payback periods, payback grace periods This financial instrument has a broad area of intervention and a large target population, since the market gap identified for the loans covers private persons, public authorities and SMEs Applicable to investments in EE in housing and public infrastructure and in RE, as specified under the TO4 Can be put in place by one or several financial intermediaries **Target beneficiaries:** All private persons, public authorities and SMEs eligible under the TO4
Objectives	Improve the credit conditions applying to EE and RE investments, in terms of interest rates, payback periods and payback grace periods

Expected advantages	Limits the constraints linked to the access to finance for RE and EE investments and improves the overall credit conditions (lower interest rate, longer payback period, payback grace period).
Market gaps analysis **(Article 37 (2) a))**	Please refer to the Building Block 1 of this ex-ante assessment
Expected socioeconomic results / Added-Value of the instrument **(Article 37 (2) b))**	• Leverage effect • Reuse of ESI funds • Increase in RE production • Reduce GHG emissions • Create jobs • Create additional income sources or enhance the financial savings of SMEs, public authorities and households • Reduce the number of households facing energy poverty • Improve air quality
Consistency with other interventions targeting the same market **(Article 37 (2) b))**	The implementing financial intermediaries will be selected through a Call for Expression of Interest or tender. No other funded loan instruments are provided currently in Cyprus for RE and EE financing

Consistency with the Common Strategic Framework and the OP Competitiveness and Sustainable Development 2014-2020	This FI is consistent with the TO 4: *Supporting the shift towards a low-carbon economy in all sectors*
State aid and grants: planned interventions and measures to reduce the market distortions **(Article 37 (2) b))**	To minimise market distortions, it is recommended that this instrument is put in place under the *de minimis* rule when final recipient is an enterprise.
Estimation of Public and Private resources **(Article 37 (2) c))**	Based on a leverage effect of x2-3 and on financing from ESI Funds of EUR 40m, the potential private resources from financial intermediaries could be estimated at EUR 80 - 120m
Use of reflows of the instrument (Article 43 (2), Article 44 (1))	As indicated in the CPR (Art. 44(1)), *resources paid back to the financial instrument from the release of resources committed for guarantee contracts, and any other income generated shall be re-used* for: • *further investments, through the same or other FIs;* • *preferential remuneration of private or public investors;* • *reimbursement of management costs and payment of management fees of the financial instrument*. The use of reflows of funds should be included in the call for tenders for the selection of the financial intermediaries and be defined in the funding agreements between the MA and the FoF, as well as between the FoF and the financial intermediaries. Because the maturity of loans can be of up to 20 years and may be combined with grace periods, principal and interest payments coming into the financial instrument prior to 2023 will likely comprise just a fraction of the total allocation.
Evaluation of the optimal remuneration levels allowing to maximise the leverage of counterpart	Preferential remuneration of private investors shall be set in line with Art. 44(1) of Reg. (EU) No 1303/2013 and Art. 38 of Reg. (EU) No 651/2014. The establishment of remuneration levels for investors and fund manager(s) is at the discretion of the MA, and should be determined

funds from private investors **(Article 37 (2) c))**	through discussions between the MA, the FoF Manager, and the Financial Intermediary (ies) as appropriate or through call for tenders. When deciding on the optimal remuneration levels, the MA should consider that *"the preferential remuneration shall not exceed what is necessary to create the incentives for attracting private counterpart resources and shall not over-compensate private investors, or public investors operating under the market economy principle. The alignment of interest shall be ensured through an appropriate sharing of risk and profit and shall be carried out on a normal commercial basis and be compatible with the EU State aid rules",* cf. Article 44 (1) of the CPR. If implemented with the same features of an off-the-shelf renovation loan, this instrument should have a contribution of at least 15% of the loan fund from the financial intermediary, as stated in Article 8 of the Reg.(EU) No 964/2014.
Evaluation of the past lessons learnt **(Article 37 (2) d))**	Please refer to the Building Block 1 of this ex-ante assessment
Proposed investment strategy with financial products, targets and blending with grants **(Article 37 (2) e))**	The proposed investment strategy is presented in Building Block 2 of this ex ante assessment. It is strongly recommended that this FI be accompanied with a standalone grant programme to subsidise the cost of energy audits (see below). In addition, grants could also be used to fund a part of the total financing to the final recipient, thus reducing the total loan amount.
Expected results and corresponding key indicators **(Art. 37 (2) f))**	**Expected results:** The expected results to be achieved depend on the eligibility requirements set for the instrument especially if the instrument focusses more on energy efficiency or on renewable energy investments. Quantification of the results can only be made once the parameters for the instrument are defined further. The values for the expected results of the key indicators will be added to the ex-ante assessment at a later stage. **Key indicators:** • Number of SMEs / households / public authorities supported

	• Additional RE capacity installed • Additional number of buildings renovated • Annual power production from RE sources • Annual primary energy savings from EE measures • Estimated reduction of GHG emissions
Trigger for the review and update of the ex-ante assessment **(Art. 37 (2) g))**	The investment strategy proposed in this study is intended to inform the MA when drawing up its investment strategy for Cyprus. It does not take into account the interest of financial intermediaries with regard to certain characteristics of the financial instruments proposed, and in particular: i. Rules for the selection of financial intermediaries; ii. Instrument-specific mechanisms (eg counterparty or portfolio risk management); iii. The rules relating to the use of the ESI Funds; and iv. The obligations of the selected financial intermediaries, including monitoring, reporting, monitoring of State aid, auditing, and communication and visibility measures of the financial instrument. The decision to review, and if necessary update the ex-ante assessment during implementation of the investment strategy is at the discretion of the MA. The study should be updated when the ex-ante evaluation can no longer accurately represent the market conditions prevailing at the time when the financial instrument was launched, either because these market conditions have evolved in the meantime, or as other financial instruments became available that are more appropriate for addressing the financing gap since the finalisation of this study.

Technical support for EE

To ensure the successful uptake of an EE FI, the MA is strongly advised to subsidise energy audits for potential beneficiaries. Energy audits are crucial in boosting the demand for energy renovation works, since they assess the potential savings which can be achieved through the renovation and, ultimately, the profitability of EE investments. They are also very useful for the financial evaluation of loan applications. Energy audits provide information on the investments needed and on the energy and financial savings achievable. As such, they give insight into whether and to which extent the EE investments will be profitable, which in turn

influences the capacity of the beneficiaries to reimburse the loan. For these reasons, energy audit reports are the most reliable source of information for the first financial and technical screening of EE loan applications.

Putting in place subsidised energy audits would require a nation-wide awareness and information spreading campaign. The campaign should be led by a team with the relevant competencies, able to select the relevant qualified experts to conduct the energy audits and to choose the most effective instruments to conduct the awareness raising campaign.

Currently, there are several engineering offices providing energy audit services in Cyprus. At the national level, the Cyprus Energy Agency works in close collaboration with the public authorities and the professional organisations to support these entities in securing funding and technical assistance for EE and RE investments. While it does not provide energy audit services, it has the competencies and certifications needed to issue energy audits. Given the current role of this entity and the network it can rely upon, the Cyprus Energy Agency seems to be a valid candidate to carry out the implementation of the technical assistance for energy efficiency.

To ensure a successful set-up of the technical assistance, an action plan should be defined in the first place, defining the selection criteria of the entity which should provide the technical assistance and the operational details (scope of the services, technical specifications of the energy audits) relating to the set-up of the subsidised energy audits. The budget, which can be estimated at EUR 2m for the initial phase, should then be adjusted depending on the requirements set and the expected number of target beneficiaries.

A support scheme for energy audits has to be in line with the requirements on combination of FI and other forms of support as described in the guidance note on combination of support. Because audits that do not result in successful application for financing under the EE FI would be ineligible for ESIF support, these subsidies would likely have to be established as a separate grant operation.

9.1.3 Comparison between the proposed FIs

Given the limited resources available in the current programming period in terms of both administrative capacity and available funds (approximately EUR 40m) , it will be necessary for the MA to prioritise among the proposed FIs. To that end, Table 54 presents some of the strengths and weaknesses of the proposed FIs.

Table 54: Strengths and weaknesses of the proposed FIs

FI 1: Capped portfolio Guarantee for SMEs	• Addresses a major identified financing gap for SMEs, including for microcredit • Can overcome the high collateral requirements, a major barrier for many SMEs in Cyprus	• Given high leverage rates among SMEs, loans provided under a guarantee instrument may not be viable for many in need of financing • Based on prior experience and perceived riskiness, there may be a lack of interest and of capacity among potential financial intermediaries to participate in a guarantee instrument
FI 2: Co-investment facility for SMEs	• Equity financing could offer a valuable alternative to debt in Cyprus's highly leveraged SME sector • Introduction of an equity instrument could provide an important stimulus to one of the EU's least developed equity markets • The equity instrument targets early stage start-ups, which are underrepresented in Cyprus	• The size of the Cyprus SME market may not be sufficient to support a dedicated equity instrument • There is a lack of awareness of, and willingness to use equity financing among Cyprus SMEs
FI 3: Funded loan instrument for RE & EE	• The grant scheme implemented in the past years to finance EE & RE investments proved successful, showing that the EE & small scale RE market is mature and that substantial unmet demand exists • The assessment has confirmed a high demand for EE & RE financing for all potential final recipients (SMEs, households and public authorities) • Lessons learnt from the JEREMIE Programme showed that the financial intermediaries preferred the funded loan instrument to the guarantee, which was easier to manage and commercialise • Financial intermediaries have	• There may be a lack of willingness to apply for loans based on past experience with grants.

	signalled strong interest in energy efficiency instruments.	

To sum up the information above and considering constrains identified the funded loan instrument for RE & EE is expected to provide the highest added value and is it is expected the instrument to be successfully absorbed in the remaining programming period. If the MA decides to implement this instrument the majority of resources available in the OP for FIs should be allocated to his instrument. The co-investment facility also provides high added value, but do to the limited maturity of the market, only a pilot instrument with limited contributions should be set up with amounts significantly lower than what is required by the financing gap as the market still needs to evolve over the next years. The guarantee instrument.

9.1.4 General conditions applying to the FIs

Mechanisms for the monitoring and revision of the ex-ante evaluation

The three main objectives related to the **monitoring and reporting** on the FIs are:

- Enhancement of the transparency regarding the implementation of FIs
- Allowing better assessment of the overall performance of FIs
- Regularly updating the relevant stakeholders on the progress in financing and implementing the FIs

The monitoring and reporting provisions have a twofold purpose. They help the relevant authorities meet the reporting requirements defined by the providers of funds. They should also provide a complete overview of the operations and of the volumes of funding involved to help the authorities adjust/adapt their investment strategy during implementation.

To ensure that all the relevant information is reported in a consistent and comparable way and can, where necessary, be consolidated and aggregated, the authorities should use the standard model for the reporting included in the relevant Implementing act.

Two basic elements are essential with respect to the monitoring system suggested:

- Result and output Indicators to monitor the progress of the FIs
- Standard financial indicators to assess the performance of the funds

The reporting schedule could be organised as follows:

On a monthly basis for key data, such as total amounts disbursed, number of loans approved/signed/disbursed, total number of final recipients supported.

On a quarterly basis for more fine-tuned information, such as the split between different types of projects.

If some of the defined indicators are not at the expected level of achievement, the authorities could consider either revising the funding agreement, or launch another call to select other financial intermediaries, or modify the FIs/products offered.

The market conditions and the investment trends may change before and in the course of the implementation of the FI. As a result, **Article 37 (2) (g) CPR requires the ex-ante assessment to comprise provisions for its revision and update**, in case the MA considers that the conclusions of the ex-ante assessment no longer match the new market conditions.

More specifically, the main drivers of change to which the MA should pay attention and which may require an update are the following:

- Poor accuracy of the proposed targets compared to observed results
- Inadequate volume of the support scheme compared to observed demand (e.g. a situation where the volume proposed for the FIs is too low to meet the new demand)
- Miscalculation of the risk taken by the FI: it may occur that the risk profile of an FI is significantly higher than expected. This would imply the FI to incur significant losses, hence compromising its revolving nature
- Changes in the political settings
- Improvement of the Cypriot economic conditions (with a corresponding shift the supply of funding upward or increase the demand of funding with ambiguous implications for the resulting financing gap)
- Market failures are fully addressed and there is no need for intervention

In addition, given the background of this study, an update of the ex-ante assessment may be required following the results of a call for expression of interest or call for tenders initiated by the MA and seeking to identify suitable projects for the support by means of FIs. The need for update and review of the assessment could be followed through:

- Regular reporting/monitoring of the FI (at least annually)

- Through ad hoc or planned evaluations (e.g. ongoing evaluations)

Following the conclusion of the updated ex-ante assessment, the MA should take action, if required, to improve the strategic fit of the FIs. This procedure is both initiated and performed at the discretion of the MA alone.

9.2 Proposed governance structure of the Financial Instruments

This section illustrates the governance options applicable for the implementation of the FI. First, the viable governance options, comprising the most relevant governance options, are presented. Then, the proposed governance structure is illustrated.

Following article 37(2) of the CPR, the investment strategy proposed above includes an analysis of the implementation options as presented in Article 38 of the CPR.

In the 2014-2020 Programming Period, financial Instruments can be implemented following two options (Art.38 (1) of the CPR):

- Intervene as part of the financial instruments created at EU level and managed directly or indirectly by the EC; and / or
- Intervene through instruments created and managed by the Managing Authority (or under their responsibility).

Instruments created at EU level and managed directly or indirectly by the EC

The EU programmes managed by the EC directly or indirectly and which could contribute to the financing of SMEs in Cyprus are COSME and Horizon 2020.

The EC has delegated to the EIB Group the deployment of part of the COSME and Horizon 2020 programmes, whose objective is to cooperate with financial and credit institutions, venture capital funds and other intermediaries in financing SMEs in the EU. COSME can provide equity and loan guarantees. Horizon 2020, through the "InnovFin" instruments, provides equity instruments, debt financing, guarantees and counter-guarantees for loans ranging between EUR 25k and 7.5m to innovative companies. The Horizon 2020 and the COSME programme allow selected financial intermediaries to access EU funds. Also the programmes LIFE and EaSI are partly implemented through financial instruments managed by the EC and delegated to the EIB Group.

When a MA decides to contribute to an EU level instrument, these contributions are deployed by the financial intermediaries already selected. The investments from the MA's contributions are ring-fenced for the territory of the OP. The contributions from ESIF to EU

level instrument need to comply with the requirements set out for the specific instrument, the CPR and the OP, such as eligibility, reporting or state aid.

Financial instruments created and managed by the Managing Authority

The CPR also makes it possible for one or more financial instruments to be set up and managed by or under the responsibility of the MA. Article 38 provides three options for managing financial instruments:

1. **Invest in the capital of existing or newly created legal entities;**
2. **Assign execution tasks to mandated entities** (potentially through a Fund-of-Funds)**; and**
3. **The MA implements directly the FIs.**

In view of the discussions held with DG EPCD, the MA does not plan to manage or implement directly the FI. In this framework, an analysis of the advantages and disadvantages of assigning execution tasks to mandated entities will be further explored in this section.

9.3 Governance options for the FIs financed through ESI Funds

9.3.1 Key roles and responsibilities of the proposed governance structure

The FoF structure involves the following stakeholders and their roles and responsibilities:

- **DG EPCD:** responsible for the management of the ESI funds in Cyprus
- **Strategic supervisory committee:** is the supervisory body of the management of the Fund-of-Funds. The investment committee incorporates representatives of the MA and other potential co-investors, whenever applicable
- **FoF manager:** role delegated by the MA to implement the FoF's investment strategy. FoF manager is responsible for the internal administration of the FI in relation to the performance of the FoF's actions. In particular, the activities that can be performed by the FoF manager include:
  - Pursuit of the strategy set out in the investment strategy
  - Launch and manage one or more calls for expression of interest in order to identify and select one or more financial intermediaries. Under this respect, it will:
    - Review and, where appropriate, further evaluate the Business Plans submitted by the financial intermediaries
    - Negotiate the Operational Agreement with the financial intermediaries

- Monitor and control of the operations in accordance with the terms and conditions of the applicable operational agreement
- Reporting to the Strategic supervisory committee on the progress of the various operations
- Treasury management of the balance of the Funds

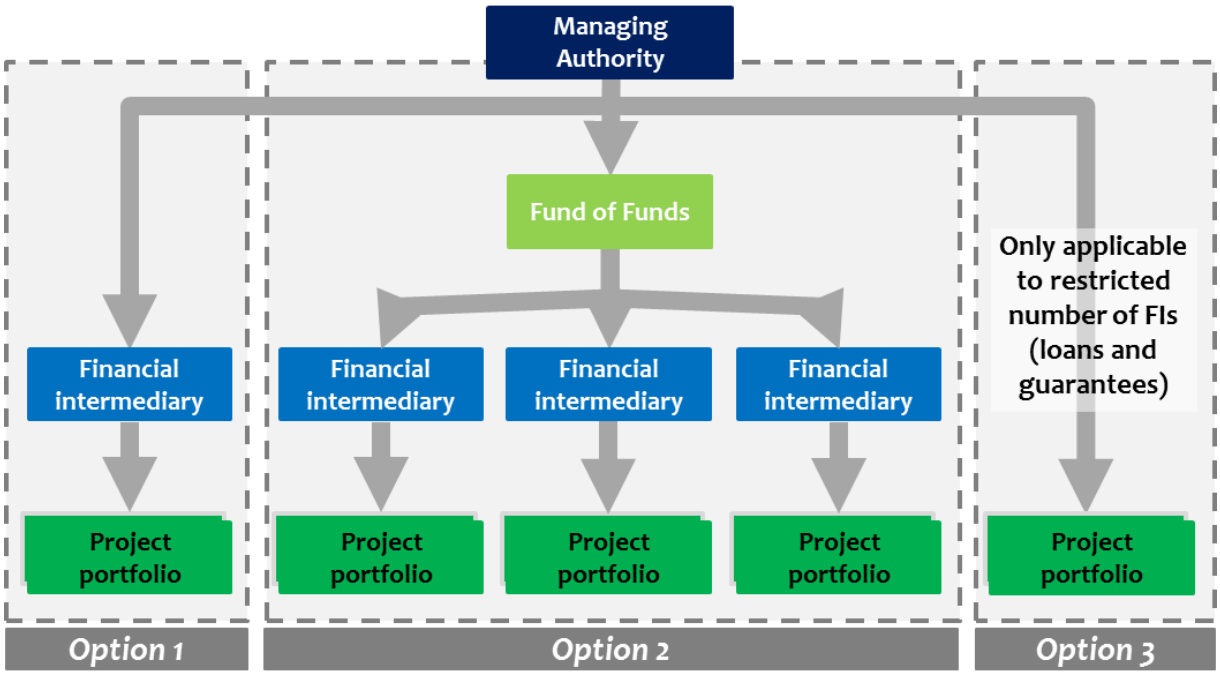
Please note that the FoF distributes the financing through financial intermediaries that would have been previously selected via open, transparent, proportionate and non-discriminatory procedures (Article 38 (5) CPR).

Financial Intermediaries selected by the FoF manager, responsible for implementing investment strategies in the specific priority areas through investing in projects. The Financial Intermediary must ensure that the financed projects are viable from an economic, social and technical point of view, and that they meet the eligibility criteria established. In view of that, the financial intermediary must analyse the associated risks, the financing structure and the income foreseen for the parties involved in the projects in order to establish the conditions required for the participation of the fund in the financing of these projects.

9.3.2 Viable governance options according to the EU legislation

As explained earlier, the MA can implement FIs financed through ESI Funds following three options (Article 38 of CPR), as shown in the figure below.

Figure 47: Potential governance options for the management of financial instruments



The relative advantages and drawbacks of the three governance options are outlined below.

Table 55: Comparison of the governance options

1	**Invest in the capital of existing or newly created legal entities**	• Provides a good control of the implementation conditions to the MA	• Risk of conflict of interest, risk of political influence and limitation of deployment options • The creation of a legal entity implies heavy implementation procedures and delays in implementation • Possible dispersion of FIs according to the specialisations of legal entities created: limited strategic visibility on all instruments, little flexibility between instruments, separated reporting for each instrument • Uncertainty on the actual availability of appropriately qualified fund managers in Cyprus • Cost of carrying out a call for tenders to select the future Fund Manager
2	**Assign execution tasks to mandated entities** **(Fund-of-funds)**	• The FoF could be operational within a relatively short period of time • Reduced risk of political influence and increased deployment options through the selection of financial intermediaries • Possible financial contribution of the managing entity at the Fund-of-Funds level • Enables synergies between financial instruments • Lower risk of conflict of interest between the FoF manager and the selected financial intermediaries • The appointed FoF Manager has the expertise & experience in managing FIs and structural funds for SME access to finance and the low-carbon economy • The FIs could be grouped under a single FoF, allowing:	• MA has no direct control in the implementation of the FIs (a disadvantage which may also be an advantage in the event of a lack of competent resources within the MA). However, it is recommended to set up a Steering Committee for the follow-up of the MA • Terms of the FoF mandate management or the mandate management of a single FI to be negotiated (with each of the future managers: the Fund of Funds and / or each of the FIs) • Visibility of the MA is smaller than in direct management, requiring specific and dedicated communication / coordination arrangements between the MA and the Fund Manager • Cost of carrying out a call for tender to select future FoF

		- A strategic vision of all instruments, guaranteeing a consolidation of the monitoring and reporting of all FIs specified under the same priority axis - Direct intervention by the MA in the implementation of FIs (within the framework of setting up a Steering Committee) - With regards to the proposed FIs, a very high visibility of the MA and the use of ERDF resources - Possible synergies between FIs - Assurance that the financial benefits is passed on to the final recipients - Ensuring transparent selection and that the Terms of Agreements (Financing Agreement and Operational Agreement) are in line with Annex IV of the CPR	manager in case this is not an international financial institution or a national promotional bank.
3	**Direct implementation by MA (or by an intermediate body)**	• Does not require a funding agreement, but requires the development of a "strategy paper" to be submitted to the Monitoring Committee (the essential elements of which are set out in Annex IV of the CPR) • EC payment system similar to that of subsidies i.e. "ex-post" reimbursement of loans disbursed or guarantees incurred • If the MA has sufficient technical know-how and the instruments have proved necessary in the ex-ante assessment, relatively rapid implementation and development of potentially existing activities • Avoids additional monitoring and reporting procedures • More direct control of implementation conditions	• Requires legal / regulatory, technical and human skills to set up such instruments within the MA • Additional resources dedicated by the Republic of Cyprus may be envisaged for the monitoring and reporting of past operations • Subject to national legislation which must explicitly authorise the MA to grant loans or issue guarantees • Impossible to finance equity or quasi-equity • Limited synergies between FIs • Advance payments or ex-post reimbursement not possible • Management cost and fees not eligible • Risk of conflict of interest, risk of political influence and

		• Cost of can be covered by the OP's Technical Assistance budget	limitation of deployment options • Higher audit risks and risks of ineligibility of expenses

Whatever the mode of governance selected, it is important to clarify that if this mode of governance involves a financial intermediary (whether at the level of the Fund of Funds or the FI), this financial intermediary should represent the interests of the MA. For instance, the MA must be able to fully take advantage of the benefits of the FI, such as the revolving effect.

In the first analysis, it would seem desirable - with regards to the number of financial instruments proposed and their large scope of action - for the MA to set up a Fund of Funds which would group together the various financial instruments in Cyprus.

The FoF structure offers several advantages:

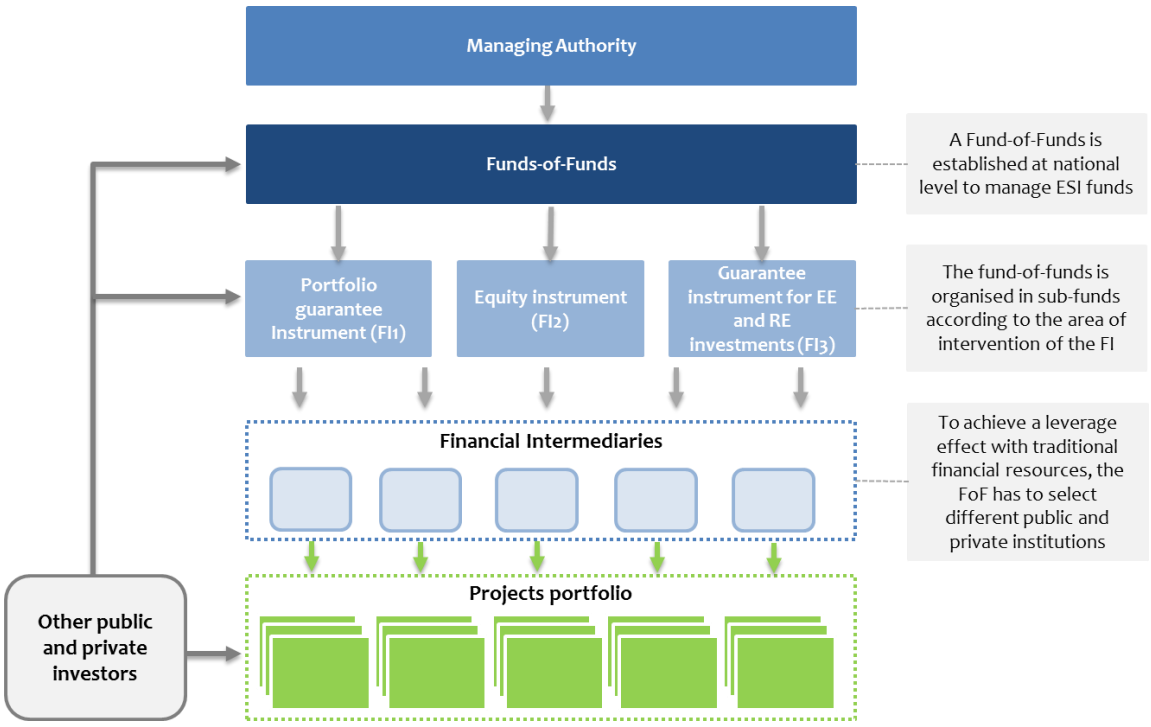
- **Rationalisation and optimisation for all FIs**, including the possibility of obtaining a critical size of financing, allowing for synergies between instruments. This also offers the possibility to carry out calls for expressions of interest (as part of a FoF managed by the EIB Group) to solicit local financial intermediaries, allowing competition between them and allow a harmonisation of monitoring and reporting methods and to offer an optimisation of the treasury management;
- **An overview of the use of ESI Funds** in the form of financial instruments and, more generally, of the MA's undertaking for the final recipients throughout Cyprus;
- **Co-investments from public and / or private players** will be possible at the different levels (Fund of Funds, each sub-fund, including each financial instrument or financial intermediary, and for each project). EIB participation in the framework of the European Fund for Strategic Investments (EFSI) is also possible. The EIB participation can be discussed with the MA with a view to increasing the leverage effect of the financial instruments.

Should the MA decide not to set up a Fund-of-Funds, each FI will be managed separately by a different fund manager. The MA in that case has to select the fund managers through a competitive tender in line with the procurement directive. Each of the fund managers would coordinate with the MA in order to implement the decisions taken on the investment strategy of its FI.

Accordingly, it seems beneficial for the DG EPCD to set up a Fund-of-Funds which would bring together the various FIs proposed in this study. Different proposals for a governance

structure are possible for the establishment of such a Fund of Funds. The structure of such governance is presented in the figure below.

Figure 48: FoF Governance option



9.3.3 Proposed governance structure

The management of the FIs described above can take several forms of governance. In the case where a Fund-of-Funds is set up at national level, there are three options that the MA can choose from:

1. The management is undertaken by the EIB Group, as proposed in Article 38(4)(b) of the CPR
2. The management is carried out by the MA or a dedicated operator, under the exclusive control of the MA; and
3. The selection of an external public or private fund manager, and the implementation of a Fund-of-Funds under the exclusive management of the MA.

Irrespective of the governance chosen, all proposals are based on a common set of structuring elements, namely:

- The sources of financing should be systematically mentioned when mobilised by financial intermediaries;
- The MA will play an important supervisory role;
- The Fund of Funds manager will play a key coordinating role in defining the various financial instruments that will constitute the FoF sub-funds;
- The financial intermediaries have to be selected by the MA or the FoF Manager, for each of the financial instruments that the MA has chosen to implement for the 2014-2020 programming period; and
- Co-investments from public and / or private sources will be possible at different levels: the FoF, each sub-fund (and therefore each financial instrument or financial intermediary) and for each project. EIB participation in the framework of the European Fund for Strategic Investments (EFSI) is also possible.

These three governance propositions are presented in detail and compared in the following subsections.

Governance proposition 1 - Fund-of-Funds management by the EIB Group

A first possibility for the MA would be to mandate the EIB to intervene in Cyprus. This option implies that the FoF would be managed by the EIB Group. This management method would make it possible to develop new investment opportunities, e.g. by leveraging on the Investment Plan for Europe.

This proposal would also make it possible to:

- Use the experience of the EIB Group and expertise in the matter to facilitate the management of the FoF, in particular for the Funding Agreement and the underlying Operating Agreements;
- Discuss with potential financial intermediaries (candidates) to detail the FIs and determine their appetite to participate in calls for expressions of interest;
- Transparently select financial intermediaries;
- Under financial instrument 1 (guarantee instrument), calculate and evaluate on behalf of the MA the ex-ante risk of the instrument (in accordance with the Delegated Acts); and
- If relevant, coordinate with the MA on the adaptation measures needed to make the FIs evolve during the 2014-2020 programming period.

Governance proposition 2 - Fund-of-Funds management by an entity set up by the MA

In the context of the creation of a fund for the management of FIs in Cyprus, the MA could manage the FoF directly with its own powers, through a dedicated operator (Governance Proposition 2). This operator would have the same mandate as that of the Governance Proposition 1, but would remain under the supervision of the MA.

The FoF operator would therefore coordinate with the Managing Authority to ensure that investment decisions are followed up and would be the guarantor of such decisions. However, the establishment of the FoF under the Managing Authority implies:

- A potentially large time frame for structuring and setting up the Fund-of-Funds management either in-house or through a dedicated operator;
- Determining a Funding Agreement in accordance with Union legislation and agreeing with the dedicated operator created (and future manager of the FoF); and
- Ensuring that the Fund Manager has the capacity to establish and negotiate the Operating Agreements between the Fund Manager and the selected financial intermediaries (e.g., have the capacity to provide guarantees or be able to determine and to assess the ex-ante risk of a guarantee instrument under the European provisions in the light of the Delegated Acts).

Past experiences suggest that the set-up and launch of a fund managed directly by the MA or by a dedicated operator typically requires more than two years. It would also imply that dedicated staff should be appointed to this project. Due to these time and resource constraints, this option cannot be envisaged in the current programming period.

Governance proposition 3 - Fund-of-Funds management by a financial institution at Member State level

A final option would be to entrust the implementation of the fund to a financial institution established in Cyprus under the control of a public authority, such as an NPB. Where such a national level financial institution is not already in place, as is the case in Cyprus, it could be envisaged to create an investment fund which would be in charge of managing the FoF, under the supervision of the MA. It would coordinate with the MA to follow up on the decisions taken on the investment strategy.

However, the time required to set up such an investment fund would introduce substantial delays in the implementation of FIs in Cyprus. As such, it is not recommended to implement this governance option in the current programming period.

Recommended governance structure

Of the three governance propositions outlined above, the FoF managed by the EIB Group (governance proposition 1) is the recommended option for Cyprus.

Indeed, neither of the other two options put forward can be considered viable. Governance propositions 2 and 3 would both require the creation of a new entity under the supervision of the MA. However, the MA lacks sufficient financial and administrative capacity to oversee this process directly. Furthermore, the set-up of such an entity would introduce significant delays to the implementation of FIs. Given the time constraints involved in delivering ESI funding through FIs, such delays may be prohibitive.

Governance proposition 1 is thus preferable as it would allow the MA to rely upon the administrative capacity of the EIB Group, and substantially reduce the time needed to implement the FIs.

9.4 Next steps in the implementation of the financial instruments proposed

The implementation of the FI can be facilitated through the predefined steps indicated below. While they do not refer to the EU regulatory framework and do not constitute a prerequisite for the ex-ante assessment, these stages are crucial for the successful implementation of the FIs.

Accept the ex-ante assessment: DG EPCD should agree on the data at hand about gaps and potential solutions, which will be used as the basis of national discussion on priority setting and necessary political decisions. For each FI, its aim and the final recipients should be clearly set.

Decide on the envelope: DG EPCD should set the budget available in total, and how this will be distributed among the envisaged FIs. The amounts allocated should be consistent with the financing gaps identified and the potential leverage effect which could be achieved through private and public sector contributions. **Decide on the implementation of the FIs:** once the scope and scale of the FI will be agreed upon, DG EPCD will need to set up the future FI governance, in line with the applicable EU regulatory framework and the proposed governance options illustrated in this report. To select a body other than the EIB Group as the fund manager, DG EPCD will need to launch a call for tenders. Once the relevant fund manager will be selected, a funding agreement should be finalised between the entity entrusted and DG EPCD.

Decide on the Technical Assistance for SMEs and energy efficiency: for the specific target recipients, the identified market failures and suboptimal investment situations cannot exclusively be tackled through financial instruments. In these cases, technical assistance can help to better structure and stimulate the demand of the targeted final recipients.

More specifically, for SMEs, it is essential to further develop the services provided by the Cypriot accelerators, with the aim to develop comprehensive services to SMEs, including coaching and business plan development, enabling these companies to become bankable and able to benefit from FIs. To avoid crowding out of the private sector and maximise efficiency, other similar initiatives which will be implemented in Cyprus in the future should be included in this Technical Assistance programme.

For energy efficiency, the setup of subsidised energy audits can stimulate the demand for energy efficiency investments. DG EPCD will have to identify a national body which could be in charge of this. This role could be under the responsibility of the Cyprus Energy Agency, which can leverage on the required technical expertise and on a strong national network.

In the medium term, establish capacity of managing FIs in Cyprus: the Government should put in place a strategy to set up a national investment fund or a dedicated FI management unit in the MA which could assume responsibility for implementing FIs by 2020. This process, described in greater detail below, should be put into place in parallel with the implementation of FIs outlined above in order to facilitate the transfer of competencies from the selected fund (of funds) manager to the MA or the investment vehicle. The goal should be to have a body in place that is ready and able to take over management and operational responsibilities for FIs in Cyprus by the start of the next programming period in 2021.

9.4.1 Action plan for the implementation of the financial instruments

This section presents the calendar with the dates and deadlines for the implementation of the financial instruments in Cyprus.

Table 56: Calendar for the implementation of the action plan

Validation of the ex-ante assessment by the Managing Authority, including the financial instruments and the governance proposed	1.5 month	
For the governance option 1, contact with	1.5 month	

the EIB Group Or For the governance option 2, selection of a Fund-of-Funds manager		
Publication of a summary of the ex-ante assessment by the Managing Authority	3 months	

9.4.2 Development of national capacity

In considering the governance options for implementing FIs, the MA currently is lacking the necessary administrative capacity to manage FIs itself and furthermore Cyprus does not have an independent public entity to manage FIs. For MS that began the current programming period with this capacity, such as an NPB or, in limited cases, the MA itself, this governance option is often preferred. In other cases, the MA has chosen to establish a national investment vehicle before implementing an FI, a process which involves substantial delay in the set-up of the FI.

With the current programming period already half over, there is not sufficient time to build up the necessary local investment capacity before implementing FIs. However, drawing on the positive experience from other MAs, it is advisable to move forward with the creation of a national investment capacity in parallel with the implementation of FIs. The goal would be to have the national capacity in place to take over the management of existing FIs by the end of the current programming period, and available to implement any future FIs in the next programming period.

The following section describes some of the key steps to be taken in the coming years to establish either an independent, national investment vehicle in Cyprus or the capacity within the MA capable of implementing future FIs.

To allow the build up of capacity at national level a separate programme of technical support needs to be put in place. This programme could be implemented by 2020 and could allow the investment fund to be operational by 2021.

In order to do so, the MA will need to define the strategy to be pursued. In this, the MA is encouraged to collaborate with the EIB Group, which can contribute both subject matter

expertise to inform the debate and define the options available, as well as administrative capacity to support DG EPCD staff. In order to learn from best practise also peer-to-peer exchange supported by the EC can be used[129]. The strategy should then be used as a starting point for the definition of a work plan, entailing the relevant objectives, activities, the budget and the staff required.

The strategy setting process should provide a setting for the MA and other relevant policymakers to discuss the potential options for the setting up of the investment vehicle or administrative capacity within the MA. Among the elements that need to be examined and agreed upon in the strategy are:

- **Set-up.** In case a separate investment fund is chosen, the first question to address is the regulatory regime under which this investment fund is going to be established. There are a number of options available under EU and Cypriot Law that are consistent with the Article 38(4)(c) of the CPR.
- **Management.** Whatever the legal arrangements, a management board will need to be appointed to the newly created entity to ensure the appropriate level of decision making, and to avoid any possible conflict of interest. Alternatively, if an internal capacity is chosen the organisational status of the unit within the MA should be decided.
- **Budget and staff resources.** In the case of both options it is necessary to identify its needs in terms of budgetary resources and the staff necessary for the set-up and implementation phases.
- **Technical Assistance.** In order to supplement the capacity of investment fund or internal capacity, technical assistance support should be brought in to support should be mobilised at least during the set-up and early implementation stages. This could involve some combination of training of staff, help with developing key processes such as monitoring and reporting, advice on navigating state aid implications, awareness-raising and communications. The possibility of short term staff exchange with experienced fund managers or MAs should be considered for training on the job.
- **Manual of procedures.** One of the first key tasks for staff of the investment fund or new unit within the DG, is the drafting of a clear manual of procedure to ensure that all

[129] TAIEX REGIO PEER 2 PEER http://ec.europa.eu/regional_policy/de/policy/how/improving-investment/taiex-regio-peer-2-peer/

activities are undertaken in compliance with the relevant Cypriot and EU laws and regulations. Technical assistance can contribute to this task as well.

Once the strategy is in place, set-up and implementation should begin with the goal to have the national capacity in place and able to begin actively managing FIs by 2020. At this point, responsibility for investment activities can incrementally be transferred to the investment vehicle from the managers of the FIs described above with the goal that the investment vehicle should take over management for the FIs in 2021.

Annexes

10 Annex A - Online survey

Questionnaire for the online survey

1. *In which territorial area is based the main business activity of your company? (Please select from the list below)*

- Famagusta (area control by Republic of Cyprus)
- Larnaca
- Limassol
- Nicosia
- Paphos

2. *In which sector does your business primarily operate? (Please select from the list below. State activity that company is performing in reality, if it is different from the registered one)*

- Agriculture, forestry and fishing
- Mining and quarrying
- Manufacturing
- Electricity, gas, steam and air conditioning supply
- Water supply; sewerage, waste management and remediation activities
- Construction
- Wholesale and retail trade; repair of motor vehicles and motorcycles
- Transportation and storage
- Accommodation and food service activities
- Information and communication
- Financial and insurance activities
- Real estate activities
- Professional, scientific and technical activities
- Administrative and support service activities
- Public administration and defence; compulsory social security
- Education

- Human health and social work activities
- Arts, entertainment and recreation
- Other service activities
- Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
- Activities of extraterritorial organisations and bodies

3. *Do you export your products / services to other countries?*

- Yes (up to 10% of turnover)
- Yes (between 11-30% of turnover)
- Yes (above 30% of turnover)
- No

4. *Over the last three years (2014, 2015, 2016), on average how many full-time staff or full-time staff equivalent ("FTE") were working in your company? (Please select from the list and answer for each year)*

	1 - 9 employees	10 - 49 employees	50 - 249 employees	250+ employees
2016	○	○	○	○
2015	○	○	○	○
2014	○	○	○	○

5. *At which growth phase would you currently position your company / activity?*

- Initiation [business model is created, no commercial activity]
- Creation [commercial activity initiated, product not marketed]
- Post-creation [activity has begun, no profit]
- Development [profitable growth phase]
- Maturity [stable activity with frail or stagnant growth]
- Reorganisation [implementing or planning future restructuring processes in order to become profitable]
- Takeover / transfer to new ownership/ buy-out

6. *How did the following factors change in 2016 as compared to 2014, in your opinion? (Please indicate your answers in the fields provided below)*

	Much Worse	Worse	Un-changed	Better	Much Better	No opinion
The financial situation of your business	○	○	○	○	○	○
Turnover	○	○	○	○	○	○
The cost (interest, fees and other) of obtaining finance for your business	○	○	○	○	○	○
The debt/turnover ratio of your business	○	○	○	○	○	○
Other terms or conditions of finance (e.g. loan maturity, collateral levels, etc.)	○	○	○	○	○	○
The burden or effort to obtain finance for your business	○	○	○	○	○	○
The willingness of banks to provide finance	○	○	○	○	○	○
The willingness of investors to invest in your business	○	○	○	○	○	○

7. *Over the last three years (2014, 2015, 2016), which source(s) of financing has your company used? (Please indicate all the sources of finance you have used)*

- Short-term loans, bank overdrafts and credit lines (< 1 year)
- Medium and long-term loans (> 1 year)
- Loans guaranteed by a public or private entity
- Loan provided with interest rate subsidy
- Loan obtained from parent company
- Leasing

- Bank guarantees (including export guarantees)
- Factoring
- Investment funds
- VCF, i.e. capital provided by investors acting together in a fund set-up for the purpose of providing finance to start-up and small businesses
- BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring
- Technology transfer funds
- Equity, i.e. direct investment in company share, from national, regional or foreign institutions
- Rescue / turnaround and buyout capital
- Mezzanine or hybrid financing, i.e. debt convertible in company share under specific agreement (combining loans and equity)
- Public grants
- Corporate bonds
- Other private investors
- Private grants or donations
- Retained earnings
- Capital contributions of shareholders
- External capital contributions (family or friends)
- Other financing sources

8. *How successful were you in obtaining each type of the products listed below over the last three years (2014, 2015, 2016)?*

   Please indicate the level of success for each of the following sources, where "partially successful" refers to not getting the requested amount or receiving it with unsatisfactory terms.

   Whatever was not ticked in Q6 should be ticked as "N/A" in this question

	Successful	Partially Successful	Unsuccessful	N/A
Short-term loans, bank overdrafts and credit lines (< 1 year)	○	○	○	○
Medium and long-term loans (> 1 year)	○	○	○	○

Loans guaranteed by a public or private entity	○	○	○	○
Loan provided with interest rate subsidy	○	○	○	○
Loan obtained from parent company	○	○	○	○
Leasing	○	○	○	○
Bank guarantees (including export guarantees)	○	○	○	○
Factoring	○	○	○	○
Investment funds	○	○	○	○
Venture capital funds, i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses	○	○	○	○
BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring	○	○	○	○
Technology transfer funds	○	○	○	○
Equity, i.e. direct investment in company share, from national, regional or foreign institutions	○	○	○	○
Rescue / turnaround and buyout capital	○	○	○	○
Mezzanine or hybrid financing, *i.e. debt convertible in company share under specific agreement* (combining loans and equity)	○	○	○	○
Public grants	○	○	○	○
Corporate bonds	○	○	○	○
Other private investors	○	○	○	○
Private grants or donations	○	○	○	○
Retained earnings	○	○	○	○
Capital contributions of shareholders	○	○	○	○
External capital contributions (family or friends)	○	○	○	○
Other sources of finance	○	○	○	○

9. *For what purpose did you seek finance in the last three years (2014, 2015, 2016)? (Please select one or more options from the list below)*

- Finance working capital
- Ensure debt consolidation, refinancing
- Acquire another company
- Purchase of machinery / equipment
- Purchase office or production space
- Rent machinery/equipment
- Launch a new product / service
- Develop international activities / enter a new market (geographic expansion)
- Finance export sales
- Finance R&D and innovation
- Transfer ownership (e.g. financing exit of partner from business)
- Acquisition of an intangible asset
- Improve energy efficiency of your company
- Other needs

10. *During the last three years (2014, 2015, 2016), in your opinion, what were the reasons for any difficulties in obtaining finance that you experienced? (Please indicate one or more options from the list below).*

- The financial situation of your business
- The cost (interest and other) of obtaining finance for your business
- The debt / turnover ratio of your business
- Other terms or conditions of finance (e.g. loan maturity, collateral levels, covenants, guarantee, conditions, duration, etc.)
- The burden or effort to obtain finance for your business
- The lack of expertise of your team to find or negotiate the best option
- The limited availability of equity investors
- The difficulties related to file the application
- The willingness of banks to provide finance
- Corruption

11. *Over the last three years (2014, 2015, 2016), have you ever felt discouraged from seeking finance, because of requirements (collateral, interest rates) or because of difficult financial situation?*

(Please indicate one or more of the options listed below)

- Never
- Rarely
- Occasionally
- Often
- Always

12. *Over the last three years (2014, 2015, 2016), what type of guarantee did you provide for your loan(s)?*

(Please indicate one or more of the options listed below)

- Owner's assets
- Family and friends
- Company assets (collateral on building or other company premise)
- Promissory note
- Warranty
- Pledge on movable property, stocks of goods, the subject of acquisition
- Business partners
- Mutual guarantee schemes such as cooperatives
- Other guarantee schemes (Private, public, national or regional)
- Other institution
- Not applicable: Our company did not use loan financing or did not need to provide collateral

13. *Over the last three years (2014, 2015, 2016), which do you believe were the reasons for being unsuccessful - or partially unsuccessful - in receiving loan financing? (Please indicate one or more of the options listed below)*

- Poor credit rating
- Lack of own capital
- Insufficient collateral or guarantee
- Insufficient potential or too high a risk (of the business or project)
- Already too much debt
- No credit history
- Poor credit history
- No reason given
- Interest rates were too high
- Other conditions of the loan were unacceptable (e.g. maturity, covenants)
- Not applicable: Our company did not request loan financing or was successful in receiving loan financing over these years

14. *Did you experience changes in bank financing terms and conditions over the last three years (2014, 2015, 2016)? (Please indicate any changes per option provided)*

	Increased	**Decreased**	**Unchanged**
Interest rates	○	○	○
Other costs related to the loan (other than interest rate)	○	○	○
Amount of the loan / credit line available	○	○	○
Maturity of the loan	○	○	○
Collateral requirements	○	○	○
Contractual issues related to the loan / Information requirements, etc.	○	○	○

15. *Over the last three years (2014, 2015, 2016), what sources of equity finance* (i.e. direct investment in company share) *did you use? (Please indicate all the equity sources you have used for the time period 2014-2016)*

- Existing owners
- Directors in your company who were not previously shareholders
- Other employees of your business
- Family, friends or other individuals
- Venture capital funds i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses
- BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring
- Mezzanine or hybrid financing, i.e. debt convertible in company share under specific agreement (combining loans and equity)
- Initial Public Offering (IPO) or other stock market offerings i.e. the first issue of shares by a private company to the public in order to generate capital
- Banks
- Other financial institutions e.g. subsidiaries of banks

- Other companies
- Public equity funds
- Other equity finance source
- Not Applicable: Our company did not seek equity finance in these years

16. *What amount of loan and equity financing did you SEEK during the last three years? (Please provide an estimate in thousands of EUR of the financing amount sought for loan and equity)*

	2014-2016 (thousands EUR)
Debt (all types of loan or credit)	
Equity finance (all types of equity and mezzanine financing)	
Grants or subsidies	

17. *What amount of loan and equity financing did you OBTAIN during the last three years? (Please provide an estimate in thousands of EUR of the financing amount obtained for loan and equity)*

	2014-2016 (thousands EUR)
Debt (all types of loan or credit)	
Equity finance (all types of equity and mezzanine financing)	
Grants or subsidies	

18. *Do you feel you have sufficient access to the following financing sources in Cyprus?*

	Yes	No	Type of

			financing not relevant to me
Short-term loans, bank overdrafts and credit lines (< 1 year)	○	○	○
Medium and long-term loans (> 1 year)	○	○	○
Loans guaranteed by a public or private entity	○	○	○
Loan provided with interest rate subsidy	○	○	○
Loan obtained from parent company	○	○	○
Leasing	○	○	○
Bank guarantees (including export guarantees)	○	○	○
Factoring	○	○	○
Investment funds	○	○	○
Venture capital funds i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses	○	○	○
BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring	○	○	○
Technology transfer funds	○	○	○
Equity from national, regional or foreign institutions i.e. direct investment in company share, from national, regional or foreign institutions	○	○	○
Rescue / turnaround and buyout capital	○	○	○
Mezzanine or hybrid financing i.e. debt convertible in company share under specific agreement (combining loans and equity)	○	○	○
Public grants	○	○	○
Corporate bonds	○	○	○
Other private investors	○	○	○
Private grants or donations	○	○	○
Retained earnings	○	○	○
Capital contributions of shareholders	○	○	○

External capital contributions (family or friends)	○	○	○
Other financing sources	○	○	○

19. *Please select the FIVE forms of financing you prefer.*

- Short-term loans, bank overdrafts and credit lines (<1 year)
- Medium and long-term loans (> 1 year)
- Loans guaranteed by a public or private entity
- Loan provided with interest rate subsidy
- Loan obtained from parent company
- Leasing
- Bank guarantees (including export guarantees)
- Factoring
- Investment funds
- Venture capital funds i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses
- BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring
- Technology transfer funds
- Equity, i.e. direct investment in company share, from national, regional or foreign institutions
- Rescue / turnaround and buyout capital
- Mezzanine or hybrid financing, i.e. debt convertible in company share under specific agreement (combining loans and equity)
- Public grants
- Corporate bonds
- Other private investors
- Private grants or donations
- Retained earnings
- Capital contributions of shareholders
- External capital contributions (family or friends)
- Other financing sources

20. *What amount of each of the following financing sources do you intend to request in* ***2017*** *(Amount in thousands of EUR)? (If not applicable leave blank)*

	(thousands EUR)
	2017
Short-term loans, bank overdrafts and credit lines (< 1 year)	
Medium and long-term loans (> 1 year)	
Loans guaranteed by a public or private entity	
Loan provided with interest rate subsidy	
Loan obtained from parent company	
Leasing	
Bank guarantees (including export guarantees)	
Factoring	
Investment funds	
Venture capital funds i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses	
BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring	
Technology transfer funds	
Equity i.e. direct investment in company share, from national, regional or foreign institutions	
Rescue / turnaround and buyout capital	
Mezzanine or hybrid financing i.e. debt convertible in company share under specific agreement (combining loans and equity)	
Public grants	
Corporate bonds	
Other private investors	
Private grants or donations	

Retained earnings	
Capital contributions of shareholders	
External capital contributions (family or friends)	
Other financing sources	

21. *For what purpose is this financing being sought? (Please indicate one or more options)*

- Finance working capital
- Ensure debt consolidation, refinancing
- Acquire another company
- Acquire land / building(s)
- Rent land / building(s)
- Acquire machinery / equipment
- Rent machinery / equipment
- Launch a new product / service
- Develop international activities / enter a new market (geographic expansion)
- Finance export sales
- Finance R&D and innovation
- Transfer ownership
- Acquisition of an intangible asset
- Other needs

22. *When looking for finance, do you feel you lacked support from:*

	Yes	No	Did not ask for support from this organisation
Your city	○	○	○
State authorities	○	○	○
Guarantee funds	○	○	○

Public Investment funds	○	○	○
Venture capital funds i.e. capital provided by investors acting together in a fund set up for the purpose of providing finance to start-up and small businesses	○	○	○
BA i.e. individuals investing in start-ups and entrepreneurs and often providing mentoring	○	○	○
Commercial banks	○	○	○
Chamber of Commerce and Industry	○	○	○
Social Media (Facebook / Twitter…)	○	○	○
Support networks	○	○	○
Your accountant or an accounting, tax or finance consultant	○	○	○
Innovation infrastructure such as incubators, innovation centres, technology parks, cluster	○	○	○
Your social environment such as friends, family	○	○	○

23. *Please choose THREE most important factors limiting business growth in Cyprus and rank them by importance (1-3):*

1 = most important factor; 3 = least important factor

- Limited demand in local market
- Limited demand in foreign markets
- Limited availability of suitable new staff
- Loss of existing staff
- Business transfer problems e.g. inheritance
- Increasing cost of labour
- Inability to finance necessary investment into equipment
- Products getting outdated (R&D necessary, product lead time)
- Difficulty keeping up with technological change
- Change in the competition (as new entrants in the market)
- Price competition / small margins
- Unfair competition, e.g. dumping

- Regulatory framework (related to issues such as labour code, public procurement procedures, tax regulation)
- Lack of fiscal incentives
- Insufficient financing supply
- Available financing not appropriate to your needs
- Corruption
- Do not see constraints (nothing ticked above)

Questions relating to the ICT sector

24. *Do you have access to high-speed broadband connection in your company?*
- Yes
- No

25. *[CONDITIONAL / IF NO] Does the lack of a high-speed broadband connection constitute a hurdle to the development of your business?*
- Yes
- No

26. *Do you carry out e-transactions/do you have an e-commerce activity?*
- Yes
- No

27. *[CONDITIONAL / IF NO to 26] Which are the reasons why you cannot carry out e-transactions and/or you do not have an e-commerce activity?*
- Lack of ICT equipment in the company
- No website / online company account
- Lack of broadband connection
- Lack of skilled staff able to manage electronic accounts
- Other

28. *Do you think that e-commerce could boost / has boosted your turnover significantly?*
- Yes
- No

Questions relating to the Low-carbon economy / EE & RE

29. *Do you estimate that energy efficiency measures could lead to significant savings in your company?*

- Yes
- No

30. *In which area do you estimate that there is the most important need for low-carbon investments, as far as your company is concerned?*

- Energy efficiency in buildings through improved building insulation
- Energy efficiency in buildings through improved heating and cooling technologies
- Energy efficiency in buildings through smart energy management
- Small scale renewable energy production and/or combined heat and power generation

11 Annex B - Interview guide

Interview guide for demand side representatives including public sector stakeholders

Your investment needs in the targeted sector(s)

- SMEs, including those involved in tourism, the manufacturing and professional services, as well as start-ups, in particular for women and youth entrepreneurship and for RDI
- ICT sector, including ICT products, services and e-commerce
- Energy efficiency, smart energy management and renewable energy products and services for the public and private sector, including SMEs

Market trends and challenges

1. How would you assess the total **market demand** for financing in this sector?
2. What **actors and projects** would you say are most likely to experience growth in demand in Cyprus? What would be the most likely objectives or target areas for investment?
3. What are the **emerging trends** (positive and negative) in financing this sector in Cyprus in terms of:
    - Financial Instruments from the private sector
    - Financial Instruments, mechanisms or grants from the public sector
    - Policy framework (Changes in policy that allow access to financing)
    - Other, please state
4. What **financial needs** have been identified in this sector/for this project? Are these needs covered sufficiently?
5. What are the **key challenges** for funding projects in this sector in Cyprus?
6. What **type of financial sources** have been traditionally used for these type of projects? Is there experience with EU-related funding? Is there experience with Financial Instruments?
7. Is market demand higher than the current supply? Is there a **funding gap** in Cyprus?

Prospective solutions

1. What **type of projects** do you believe are most suitable to be financed through Financial Instruments? Which ones are less suitable?
2. What are the **risks associated with using Financial Instruments** in this sector/project(s)?
3. What **measures** could be put in place to support the use of Financial Instruments in the future?
4. Taking into account the instruments already implemented in Cyprus (e.g. SME Guarantee Facility / JEREMIE), what could be the new **prospective instruments**?
5. Which are the most effective **models to fund** projects in this sector?
6. How do you see the **role of private funding** for supporting **public sector funding** in this sector?
7. Do you consider that there is the necessary skill to evaluate projects in this sector(s) in the suppliers of financing?
8. Are you aware of initiatives in terms of financing in the sector(s) from:

   EU and similar International Institutions)

   Government institutions

   Private Institutions

   Other, Please state

Questions related to project pipeline

1. Do you have particular projects in mind that would require financing in these sector(s)?
2. What are the **most typical projects** that are carried out in this sector? What types of projects are suitable for the **use of financial instruments**?
3. What types of financial instruments are suitable for the projects in this sector - under which conditions would these **financial instruments be viable and attractive** for the potential beneficiaries?

a) Volume

b) Interest rate

c) Maturity

4. What kind of **technical assistance** is needed to build a project pipeline in the sector?
5. What **other measures** would be necessary in Cyprus (e.g. regulatory, legal issues) to make these projects investment-ready?

Interview guide for supply side representatives

Description of the existing financial products

1. Could you please briefly describe what the **role** of your institution is in the sector(s)?
2. Could you briefly describe the three key **solutions/products** that you are currently offering to finance projects in the sector(s)?
    a. What is the volume invested in each product and your capacity for the next three years?
    b. What are the eligibility criteria for each solution?
    c. Are you adopting a single or multi-player approach? If *Yes*, which actors do you involve in the process (co-investment)?

Please find below several options for answers:

Description	Volume	Eligibility criteria	Approach
loans, guarantees, equity, quasi-equity, microcredit, others, Leasing	Quantify	e.g. size of investment, sector, location, type of investment (target activities / objectives)	Single or multi-player

3. What **type of investment** is preferred among the actors in this sector(s)?
4. What are the **types of projects** that you typically fund? And what is the **typical volume** of those projects?
5. What are the key **Strengths, Weaknesses, Opportunities and Threats** of your current funding provision to projects in this sector(s)?
6. What are some of the reasons why you **declined** applications for financing (e.g. related to management, product, commercial considerations, guarantee, legal complexity, etc.)?

7. What are the main **risks and obstacles** the potential beneficiaries face on these projects (such as cost, market acceptance, legal complexity, expectations for guarantees)?
8. What specific **obstacles** do you face as a bank / promotional bank / agency investing in Cyprus (e.g. cost, market acceptance, legal complexity, expectations for guarantees, risk profile, better conditions outside Cyprus)?
9. What type of **financing needs should be secured by the public sector** so that these projects are implemented, e.g. guarantees, equity, etc.?
10. Does your organisation have experience with EU funds?
11. Do you think that EU funding related to the sector(s) would be interesting addition to our product portfolio?

Market trends and challenges

1. How would you assess the total **market demand** for the financial instruments in this sector?
2. What types of projects in your territory fit into **your potential pipeline**?
3. What **actors and projects** would you say are most likely to experience growth in demand in Cyprus? What would be the most likely objectives or target areas for investment?
4. What are the **key challenges** for funding projects in this sector in Cyprus?
5. What are the **emerging trends** in financing this sector in Cyprus in terms of:
    a. Instruments from the private sector;
    b. Instruments and mechanisms from co-operation between the private and the public sector;
    c. Policy framework;
    d. Others, please state.
6. Is market demand higher than the current supply? In your experience, is there a **funding gap** in Cyprus?

Prospective solutions

1. Which are the most effective **models to fund** projects in this sector in Cyprus?

2. How do you see the **role of private funding** for supporting **public sector funding** in this sector?
3. What is the difference between projects promoted by the private sector compared to projects developed by the public sector?
4. **What type of incentives** do you see in the use of financial instruments that use public funding (e.g. longer term to maturity, lower interests, subordinate loans, provisional equity)?
5. Would you be able, or be interested in playing the **role of a fund manager** for any future financial instrument drawing from EU funds?
6. If yes, in what sector(s) would you be interested?

12 Annex C - Methodological information

12.1 Methodology used to estimate the supply

12.1.1 Quantification of the supply for SMEs

The anticipated annual supply of the main financial products available to SMEs in 2017 was calculated based on numerous sources of information, market trends, and projections. The main sources for quantitative data where from the following sources:

- Statistical Service of the Republic of Cyprus: Information on the number of SME enterprises, and their categorisation based on NACE rev 2 nomenclature;
- Eurostat: Comparative information for Cyprus relative to other European nation states;
- Central Bank of Cyprus: Information on the total stock of loans, evidence of short term and long-term loans, and new loans during the period 2011-2016.

The general approach for the calculation of supply is described in the following steps:

- First, the analysis considers all the amounts provided to SMEs in Cyprus, for products with available data over the recent years.
- Within the supply of financial products to SMEs, amounts provided to each size category, (1) micro, (2) small and (3) medium-sized companies are also estimated. This categorisation was achieved by the use of information provided by the literature, statistical data, stakeholder interviews, and assumptions.
- The amounts to be forecast for 2017 are determined by taking into account:
  - Available data for the years 2011 to 2016;
  - The market dynamics anticipated by market stakeholders;
  - Assumptions set.

The trend analysis is a necessary component of the methodology since the development of future supply of financial products depends, to some extent, on the supply characteristics of the past. The current economic condition of Cyprus is also an important indicator. Finally, an extremely important source of information were the insights provided by relevant financial institutions as well as other stakeholders.

The assumptions undertaken as part of the quantification of the supply for SMEs are illustrated below.

The majority of the assumptions relate to the supply side of the financing of SMEs. Data in Cyprus is not disaggregated in Micro, Small and Medium size enterprises. Quite often some information in the general size of SMEs exist in the total stock of loans and not in the flow of new loans. Therefore, the following assumptions:

(a) Use responses from the survey to evaluate parts of the supply for which there are no answers e.g. microfinance. When this takes place it will be explicitly noted in the document. Answers are intended to be pulled of the survey for the approved loans by SMEs of under 25,000 euros and make a proportional assumption vis a vis the population.

(b) In terms of future growth of loans the average of loans given since 2013 annually rather than GDP will be extended. The historical data of banking loans has very low correlation with GDP since banking deregulation in Cyprus.

(c) December 2016 data are not available. Significant reduction in December loans is not observed. The assumption will be that December loans are in proportion to the average of the 11 months.

Quantification of the supply of loans

The Central Bank of Cyprus data was divided into micro, small and medium size enterprises based on the following method.

First, the Central Bank of Cyprus indicated that the restructured loans are part of the data on new business loans. Having only information about the size of restructured loans to the total stock of loans, the proportion on the total stock of loans per year to estimate the new loans that count as restructured in the year was used. The estimation for 2017 used an average of the stock of loans that were restructured in the years 2014-2016.

The next step was to estimate short term, medium term, and long-term financing. However the data on new business loans was differentiated on the size of loan (under EUR 25,000, between EUR 25,000 and EUR 1m, over EUR 1m) and not on the duration of the loan. Yet there is evidence in loan duration in the total stock of loans. In order to break the data for the new loans in categories of loan duration the loan duration percentage in the total stock of loans was taken into account.

For 2017, three possible scenarios were created: pessimistic, intermediate, and optimistic to estimate the lower bound and upper bound of new loans. In the pessimistic scenario, it was considered that the efforts of the banks to consolidate their balance sheet would lead to the new loans in 2017 to be the same amount as the new loans in 2016. In the optimistic scenario, it was considered that the trend growth of new loans for 2014-2016 would continue in 2017. The intermediate scenario assumes growth of loans but a lower trend than the optimistic scenario. This is rational to avoid the effect of loans given in 2014 were at a very low base; thus it was needed to reduce the trend rate of growth to take account of a larger base of new loans given in 2016.

Now that the new loans divided into the duration of the loan are available, the supply of these new loans in micro, small, and medium enterprises was estimated. The Central Bank reports the stock of loans given to SMEs per year. This was combined with the information for new loans per size of loan to give an indication of loans that were given to the SMEs in the period 2014-2016. Loans that were given to SMEs but were over EUR 1 m were assigned as loans given to medium sized enterprises. Loans under EUR 25,000 were assigned to micro enterprises. The loans defined as between EUR 25,000 and EUR 1 m were assigned using a weighted average to small and micro enterprises.

Assumptions regarding stock and flow concepts

(a) The assumption is that the restructured loans as a percentage of the new loans based on an average of the stock of restructured loans as there is no flow of data on restructured loans, and interviews have confirmed that restructured loans are represented in the new loans data.

(b) The most significant assumptions are made in breaking new loans to micro, SMEs. This is a multi-stage process. Assumptions made:

- The allocation to short, medium and long term for new loans was derived based on the proportion of short, medium and long term loans of the total loans. Thus it will be assumed that the stock concept of total loans which do have a differentiation for SMEs, apply to new loans.
- This assumption will be used for the forecast of the supply of loans in 2017 as well.
- The allocation to micro, small, medium and large companies was derived from the following assumptions and calculations using data available from central bank. The example with the data below to explain the process is used.

- The stock of loans that are given to large enterprises to remove the loans to large enterprises in new loans reducing the amount of loans by 58% is used.

Table 57: Example of the assumption using data from the Central Bank of Cyprus

	Total facilities (Gross) (k€)
Loans and advances total	59,749,583
General governments	1,170,149
Other financial corporations	8,891,969
Non-financial corporations	25,112,876
Of which: Small and Medium-sized Enterprises	14,583,237

- Existing available the data for new loans which are differentiated the amount of the loan (See Table 2) is used.
- Having that in mind, the following calculations (only for one year just for example) are made:

Table 58: Central Bank data on new loans differentiated by amount

	2016
Up 0,5 €m	155
Over 0,25 €m and up to 1 €m	283
Over 1 €m	1,594
TOTAL	**2,032**

- It is assumed that large companies represent 42% of the loans over EUR1 m. As a result it is assumed that 1594-854=740 m EUR to SMEs

- It is assumed that all loans under 0.25 m are given to Micro enterprises
- The remaining 1 m EUR loans not allocated to large companies are allocated to Medium enterprises
- The loan category "Over EUR 0.25m. and up to EUR 1m" were allocated proportionally (a weighted average) between the small and the medium companies. The total amount of Small enterprises in the population (3.73%) and Medium (0.63%) of the enterprises is used.

These assumptions allow us to encapsulate what we have confirmed in the qualitative information of the paucity of financing through loans of Micro and Small Enterprises.

12.1.2 Quantification of the supply for the low-carbon economy

The supply analysis for the low-carbon economy is based on the data collected through desk research and interviews. The desk research aimed to identify national and EU funded grant schemes that have funded, or will fund in the near future, any energy efficiency or renewable energy (EE/RE) projects in Cyprus.

The interviews conducted with three main commercial financial institutions provided information on the dedicated financial products available for such projects and the main challenges of this type of investments. Interviews with the Governmental authorities gave complementary insights into the national and EU support schemes. Financial institutions however did not provide any data on the volume of loans disbursed for EE/RE projects. Consequently, the volume of supply was estimated yearly, based on a number of assumptions, which were based on:

- The grants disbursed for EE/RE investments;
- The number of PV installations installed in Cyprus between 2014 and 2016;
- The obligation of public authorities to carry out an annual renovation of 3% of the surface of air-conditioned and heated public buildings owned by the State and used by the central government.[130]

More specifically, below are the main assumptions used for EE in buildings and RE.

[130] MECIT (2014): 3rd National Energy Efficiency Action Plan of Cyprus

Based on the interviews conducted, it has been estimated that 7.5% of total investment carried out by households for energy renovation works was financed through loans. This was calculated considering that low-income households benefited from 75% of grants, while being allocated 25% of the total budget and using loans to finance 90% of the total own investment share. For middle-income households, grants accounted for 50% of the investment cost. Considering that they benefited from 75% of the budget allocated to households and that they lent only 5% of the total private investment, this leads to a compounded financing rate of 7.5%. This calculation was based on the assumption that there was no substantial difference in the amounts allocated to the single projects financed through the scheme.

For SMEs, it has been assumed that the private contribution to the total investment was financed by 50% through debt and by 50% through own savings. Public authorities have the obligation to undertake the annual energy renovation of 3% of their public offices. The assumption is therefore that 90% of this investment has been financed through debt.

For renewable energy investments, the assumption considered is that half of RE installed by SMEs and in the latest three years in Cyprus have been financed through loans. For households, the main assumptions are that 1/3 of total small-scale PV installations have been financed through loans, knowing that in total 4,700 small scale units have been installed in the country since beginning of 2014.

12.1.3 Quantification of the supply for ICT and broadband

Regarding the ICT market there is lack of quantitative data concerning the supply of the ICT sector in Cyprus for various reasons. Firstly, Cypriot banks do not provide any customized products to SMEs of the ICT sector due to their limited number. In addition to that, Cypriot Banks do not consider the ICT investments as working capital investment instead of long – term investments and as a result, they could not provide us with any relevant data.

Secondly, as regards the national and structural grants, the quantification of the supply is hindered since there are no specific grants for ICT companies. Furthermore, two structural grant schemes that are relevant to ICT services (e-commerce and cloud services) are expected to open in 2017 but the budget allocated to those schemes is not yet finalised.[131]

[131] Information provided during stakeholders interviews

As regards the supply for broadband infrastructure, currently no FIs are provided for Cypriot companies.

12.2 Methodology used to estimate the demand

12.2.1 Quantification of the demand for SMEs

The estimation of demand for financing for SMEs has not taken place before in Cyprus. Due to the paucity of available quantitative data, an online survey has been conducted to generate real data. The advantage of this methodology is that it provides the current, self-identified needs of the SMEs themselves. The findings of the survey were then re-enforced by the qualitative material collected through the stakeholder interviews (see Annex E). The selection of stakeholders ensured that SMEs representing all sections of the economy were consulted, while placing a particular emphasis on the sectors where SMEs are most active. Annex D provides the sample statistics in relation to the population.

The survey results can be broken down according by size of SMEs to focus on micro, small or medium size companies. Participants SMEs were consulted about their past financing experiences as well as future needs, broken down by size and type of financial products. Additional questions addressing the easy or difficulty in securing finance, ICT use, including broadband capitalisation, and energy efficiency were also included in the questionnaire.

The information provided by SMEs in the survey was used in estimating demand for:

- Short term loans, bank overdrafts, and credit lines;
- Medium and long-term loans.

Demand for loans of up to EUR 350,000 were considered as viable, and anything greater was eliminated as outliers that could affect the validity of the result.

The average amount in short-term loans sought by micro enterprises is EUR 13,604 for short-term loans and EUR 49,200 for Medium and long terms loans.[132]

To calculate the total demand for the selected financial product, the total population of micro-enterprises has been identified on the following considerations:

[132] Medium and long term loans answers were cleared of outliers (zero entries, under EUR 1,000) and an entry of EUR 3,000,000

- The number of micro enterprises (23,124) under the category NACE T "Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use"
- The above number is multiplied by the rate of enterprises that prefer that particular bank loan: 30.9% for short term loans 29% for medium and long-term loans.
- This is then multiplied by average finance the survey companies have suggested they will seek for financing.

It bears mentioning here that there is sometimes a perception gap between SMEs' self-assessed financing needs and their ability to attract financing. Even under liquid supply conditions, a proportion of this potential demand might not be taken up. This is because the SME's might not convert their intention to seek finance into action and that many might not be able to meet the conditions set by the finance suppliers.[133] Often, a company's expressed demand for financing exceeds their financial capability to absorb, or to repay under realistic projections. In addition, there seems to be a lack of knowledge of the process and the procedures, which is perceived by SMEs as overly bureaucratic. It also must be kept in mind that this information is the result of self-reporting, which involves inherent bias on the part of respondents, and is based in part on their own assumptions about the near term business climate. Thus, the statistics presented below should be interpreted as one estimate of potential demand.

The computation has been concluded by using the following approach:

- Many firms did indicate that no financing was requested and those were considered valid. However, firms that indicated financing of under EUR 1,000 were considered as outliers and removed. Annex E also provides details on exclusion of a specific section of NACE rev.2 classification due to the possibility of creating spurious results through its inclusion.
- The average of the remaining products is calculated. The step is conducted for each financial product and each category of SMEs considered in the study (micro, small and medium enterprises).
- The final calculation of the demand for the entire population of each category of companies is estimated as follows:

[133] In fact for the box example evidenced above just 61% of the micro enterprises that applied for a short-term loan were successful.

- The total number of companies of the specific size category is computed based on 2015 data provided by the statistical office of the Republic of Cyprus.[134]
- The number is multiplied by the average amount that responded positively in the question about seeking finance in 2017.
- A Variation of ±5% applies as a confidence interval in the estimated amount.

In order to illustrate the computation method described above the following box gives an example of estimating demand for short-term loans for micro enterprises.

Box 1: Example of a calculation of demand estimate for short term loans from micro-enterprises

Step 1: Outliers

The amounts above EUR 100,000 or below EUR 1,000 have been removed from the computation, as these amounts, for short-term loans, are likely to have resulted from an overestimation of their funding needs by the respondents, or from their misunderstanding of the questionnaire question. Observations of Zero funding amounts have also been removed, as they are an indication that no funding is needed for the future. It was effectively considered those who answered 0 as not answering the question. Thus out of 272 micro enterprises in our sample, 32 answers between EUR 0-999 and 19 answers that were above EUR 100,001. 138 companies left the relevant question blank, indicating that they did not seek financing, were excluded.

Step 2: Calculating the weighted average amount of the sample

The average amount of the whole sample is EUR 13,604 and corresponds to the demand for short-term loans by a single micro enterprise that is intending to seek finance.

Step 3: Computing the potential demand from the population

The total population of micro-enterprises is 86,114, but by removing category T is left with 62,990.[135]

Then the amount of Micro enterprises that attempted to receive short term financing in 2016 (Indicated by question 20) were21% Thus it is expected that 13,604 Micro enterprises requested short term financing where:

[134] Cyprus Statistical Services (2016). Business register 2015.

[135] For the purpose of the computation of demand for loan products for SMEs, the sector "Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use (NACE T according to rev.2 classification) has been excluded for reason that is explained further the Annex on the computation of demand.

$$(62{,}990 * 21\%) = 13{,}604$$

The volume of the potential demand for short term loans from micro enterprises is then computed as follows:[136]

$$(13{,}604 * 19{,}464) = 179{,}571{,}312$$

A variation of ±5% around this volume is then considered to be a confidence interval. The lower bound is EUR 170,592,746 and the upper bound EUR 188,549,877

The demand for micro-enterprise medium-term and long-term loans is calculated is the same way as Box 2 above. The percentage of firms that indicated that there is a desire to request medium-term and long-term loans is 15%. For long term and medium-term it was allowed microenterprises to borrow a larger amount, up to EUR 350,000.[137] The sum of the weighted average amount is EUR 49,200.

It was necessary to split the Demand of small and medium size companies. The medium size companies that responded to the survey felt there had sufficient access to loan finance. For example in 70% of medium size companies responded they had adequate access to finance, in comparison to 50.6% for small companies.[138] It was felt thus that there could be a preferential access of medium size firms to finance due to the size of the economy. It could be biased against that by splitting the total loans for Small and medium size enterprises based on their proportion to the total SME population. These biases against medium size enterprises receiving funding, as they are disproportionally able to do so due to their larger size and availability of traditional collateral. This is important as it is considered in the later financing gap analysis that there is no gap for medium size enterprises in Cyprus: our method biases against such result, but a gap is still not found.

[136] Note: There is a question on whether additional micro enterprises should be removed prior to this calculation. As NACE T classification in Cyprus is very large and encompasses the majority of companies which are of a micro size and they would not seek financing, it was decided against further deductions

[137] Medium and long term loans answers were cleared of outliers (zero entries, under EUR 1,000) and an entry of EUR 3,000,000

[138] Source: PwC Online Survey, 2017. Question 16 responses from Small and Medium size enterprises

Quantification of the demand for microfinance

The lack of an existing framework for microfinance in Cyprus makes the understanding of the needs of micro-enterprises in this field difficult. This is especially true as microfinance in Cyprus. Microfinance can often be used in either targeting social exclusion, or to allow access to SMEs that cannot provide financial institutions with traditional collateral. However, it is noticed that Micro enterprises have much to gain from microfinance in Cyprus, particularly for small, short-term loans for SMEs with limited collateral.

As the amount sought in microfinance is typically under EUR 25,000, the lending request by companies in all the categories of lending (short term, medium term, guaranteed loans, loans with subsidy on the interest) of the micro enterprises that is equal or under EUR 25,000 was noted. The number of companies who undertook loans in 2014-2016 in these categories were noted as the potential clients of microfinance. All such demands across the SME spectrum were collated, and the category T of NACE rev.2 was also introduced that was removed from all other calculations. This is because within this category there are companies with no employees who could use microfinance to grow and expand their business, and thus hire employees in the future.

Microfinance can be especially useful when collateral is an issue for more traditional bank financing. In fact, 17% of all micro size enterprises have already stated that there have been minor or large changes in the demands of collateral for loans that were recently agreed up.[139] The results of the survey were used to see the amount of companies that use the Cyprus system of social and familial guarantees as the companies who would be in most demand for microfinance. It is not expected those enterprises that have more traditional collateral to satisfy banks to seek out micro financing. For microenterprises, the amount of companies that use guarantees of family and social networks is estimated by adding up the answer on the type of collateral put of two categories: Collateral put by family and friends (6.3%) and of guarantees (13.2%). Thus, a total of 19.5% of loans are on this basis.

The average amount demanded, but curtailing the demand to amounts up to EUR 25,000 was then calculated. Outliers under EUR 1,000 were removed. A confidence interval of ±5 upper and lower bound was placed on the total amount of microfinance demand.

[139] Source: PwC Online survey (2017): Response in question 14 by Micro-size companies

Quantification of the demand for equity financing

The average amount of equity financing to be sought by SMEs in Cyprus seems to indicate unrealistic goals, as they are many factors over and above the demands for financing. This could be due to the relative paucity of existing equity financing of SMEs by equity. The maximum amount of equity to an amount of EUR 500,000 and the minimum to EUR 1,000 was thus limited. It is possible that the setting of such threshold enables the removal of outliers, without ignoring that for some medium size enterprises, such an amount is within the possible financing through banking means.

This was necessary, as the lack of awareness led to often-unrealistic demands from equity financing. By combining possible equity financing, it is found that an average amount of EUR 79,286 in equity finance in 2017.[140] Based on the responses on of future financing plans, we estimated that 5.7% of SMEs will attempt to raise equity. This equity estimate is then places in a 15% confidence interval to estimate an upper and lower bound.

12.2.2 Quantification of the demand for the low-carbon economy

The analysis of the demand for finance in the low-carbon economy is based on desk research, interviews with stakeholders, and on targeted survey questions. This information was used to both qualify and quantify the demand for finance in energy efficiency in buildings as well as in renewable energy, for both households, SMEs and the public authorities.

The desk research has been instrumental in defining the general context, and as a primary source for quantitative data on demand. As part of this, the national strategies for energy efficiency (NEEAP) and renewable energy (NREAP), as well as statistical data on the penetration of renewable energy and the current level of energy efficiency in buildings were analysed. The assumptions derived from this analysis fed the model developed to quantify the demand. This model was later corroborated based on the information collected during the interviews. Banks could not share their deal flow data as they said that it could not be provided for SMEs alone.

For the qualitative evaluation of the demand, desk research focused on strategic policy papers analysing the main drivers and constraints of the development of renewable energy

[140] Amounts used for computation after the removal of outliers were categories "capital contribution of shareholders", "external capital contributions", "Business angels", "investment funds, "Venture capital funds," "technology transfer funds," "rescue / turnaround funds", "Mezzanine funds" "own funds from national, regional and foreign institutions" and "other private investors".

and energy efficiency in buildings in Cyprus (including the NEEAP, the NREAP, the IRENA Roadmap for Cyprus etc.), as well as analytical reports of the main actors involved. Further information on SMEs was provided through targeted questions in the online survey described above. The interviews which took place with the key actors of the RE and EE sectors, provided the main source of qualitative information. The list of interviewees is presented in the Annex E.

The demand was calculated separately for households, public authorities and SMEs.

For energy efficiency, the demand was calculated for the following scenarios:

- Renovation of the entire stock of non-renovated infrastructure;
- Investment needed to achieve the national targets for energy efficiency (NEEAP); and
- Investments needed to achieve the targets set out in the OP, or if the information was available, to finance the project pipelines identified.

For renewable energy, the demand was calculated for the investments needed to achieve the national targets of renewable energy (NREAP).

Quantification of the demand for energy efficiency investments

The demand for financing was calculated separately for households, SMEs and public buildings. For households, the quantification has taken into account all permanently occupied residential dwellings. The secondary residences have not been accounted. For the commercial buildings occupied by SMEs, there was a differentiation between private offices, wholesale and retail, hotels and restaurants. For the public buildings, separate calculations were carried out for public offices, educational and healthcare buildings. The relevant number of buildings, for each of these categories, has been retrieved from the NEEAP.

Based on these data, the current final energy consumption has been calculated for the whole building stock, by multiplying, for each building category, the final energy consumption (kWh/m^2) with the total surface. The total final energy consumption (MWh) was then multiplied by the PE conversion factor to calculate the total primary energy consumption. For public and commercial buildings, the conversion factor used to calculate the primary energy for commercial and public buildings was of 2.22[141]. For households, this actor amounted to

[141] Calculated based on the assumption that 80% of energy consumed was electricity and 20% was heating oil/LPG

1.85[142]. The energy costs have been calculated based on the energy consumption, by multiplying it with the weighted mean energy price. For households, the weighted mean energy price was estimated at 0.123 EUR/kWh[143]. For commercial and public buildings, the weighted mean energy price was estimated at 0.139 EUR/kWh[144]The investment needs for the renovation of the stock of dwellings have been calculated based on a unit cost of renovation (EUR/m^2) multiplied by the total surface to be renovated. The energy savings have been calculated by deducting the energy consumption after the renovation works from the initial energy consumption.

The final energy consumption levels used for the different building categories, before and after the renovation works were based on the information available in the NEEAP and were counterchecked based on the interviews conducted.

The mean building surface was estimated based on the desk research and interviews. The size of private offices and sales and wholesale buildings was based on the NEEAP. The size of the hotels was based on the IRENA 2015 Country Report. Since no information could be found on the size of the public buildings from the country's documentation, the size of the buildings was calculated based on a previous ex-ante assessment carried out in Croatia[145]. For the restaurants, due to the lack of data, the building size was estimated. This data was then corroborated during the interviews conducted with Cypriot energy professionals. The data is provided in Table 66 below.

Table 59: Main assumptions for quantification of EE demand for financing

Households	100 - 208	60 - 100	75	153
Public offices	120	65	100	629

[142] Calculated based on the assumption that 54% of energy consumed was electricity and 46% was heating oil/LPG
[143] Based on the assumption that the mix was made up of 54% electricity (0.147 EUR/kWh) and 46% heating oil (0.11 EUR/kWh)
[144] Based on the assumption that the mix was made up of 80% electricity (0.147 EUR/kWh) and 20% heating oil (0.11 EUR/kWh)
[145] EIB (2015) : Assessing the potential future use of financial instruments in Croatia

Educational buildings	80	45	75	1,665
Healthcare buildings	145	80	100	1,594
Private offices	120	65	100	1,000
Wholesale and retail	185	100	100	412
Hotels	145	80	100	4,740
Restaurants	100	70	100	200

Since no statistical information was available on the mean annual energy consumption of the residential housing, the yearly final energy consumption was estimated based on the construction period of the dwellings, dividing them into 7 main groups. The mean yearly energy consumption for the different classes of buildings was estimated based on the U-value of the building envelope, which was available in the NEEAP for the different construction periods. The dwellings built after 2010 were excluded, since they were built after the introduction of compulsory regulations to enhance energy efficiency standards. Also, for the remaining buildings, it has been assumed that 10% of the total dwellings had already undergone refurbishment works in the past. To avoid accounting also for the energy production of solar thermal energy, which does not constitute a cost for the dwellings, an amount of 2.1 MWh[146] was deduced from the total energy production, for each of the dwellings.

The total primary energy savings expected were calculated as an average of the savings which could be realised in 12 years, if the total stock would be renovated within four years' time. The investment needs were equally distributed in the first four years of the investment. The number of dwellings renovated per year was calculated by dividing the yearly investments with the relative cost of renovation and the average building size. The relative cost of retrofitting was calculated by dividing the total investment by the total primary

[146] Calculated based on the total solar thermal energy production of 750 GWh and distributed among the total residential building stock of 350,000 dwellings

energy savings. The payback period of the EE investments was calculated by dividing the total investment needs by the financial savings.

Quantification of the demand for renewable energy investments

Demand for renewable energy investments was calculated based on the current renewable energy capacity installed[147] and the planned NREAP targets for Cyprus for 2020. The difference between the future and the current capacity was then multiplied by the unit investment cost of these RE technologies, measured in EUR/MW. The relative cost of these technologies was based on the evidence gathered through desk research and was corroborated during the interviews[148].

Table 60: RE capacity and power production installed

Wind	158	300	1.3
Small scale PV	31	96	1.4
Large scale PV	46	96	1.1
CSP	0	75	3.8
Biomass / Biogas	10	17	4.0

It was then assumed that, in the upcoming years, the relative participation to the share of participation to the total RE investment of SMEs, households and public authorities would be as shown in Table 68.

[147] Based on data from 2015 from the CERA Annual Report
[148] Data from the Cyprus Association for Renewable Energy

Table 61: Share of future installed capacity by category

Wind	25%	0%	0%	75%
Small scale PV	10%	90%	0%	0%
Large scale PV	30%	0%	0%	70%
CSP	0%	0%	0%	100%
Biomass / Biogas	100%	0%	0%	0%

12.2.3 Quantification of the demand for ICT and broadband

The lack of ICT market[149] data, particularly as regards the micro size companies that make up the vast majority of firms in Cyprus (98%), hindered the quantification of demand for financing in the ICT sector.[150] This is driven in part by the fact that, because *Commission Regulation 808/2005 of the European Parliament and of the Council regarding the Statistics on the Information Society* does not oblige national statistical services to collect data on micro companies specifically, the Statistical Service of Cyprus does not.[151] This is a major barrier to efforts to quantify any potential financing gap.

As such, the analysis of demand regarding the ICT market had to rely primarily on qualitative information obtained via the stakeholder interviews, which included telecommunication providers, governmental officers (Ministry of Transport and MECIT), SMEs, Banks and VCs . This information was complimented by some ICT specific questions included in the online survey of SMEs.

According to the online survey, e-commerce is not considered a factor that could or has assisted in significantly increasing their turnover or profitability. However, stakeholders'

[149] The ICT market includes the SMEs that fall under the categories of ICT Manufacturing and ICT services under the NACE Rev.2 (Statistical Classification of Economic Activities in the European Community, 2008) nomenclature. Therefore, the companies that need strong ICT infrastructure to operate but belong to other sectors are not categorized under the ICT sector.

[150] According to DIW ECON, SME Performance Review 2016, the number of SMEs in the ICT sector is 2.1%

[151] COMMISSION REGULATION (EU) 2016/2015 of 17 November 2016 implementing Regulation (EC) No 808/2004 of the European Parliament and of the Council concerning Community statistics on the information society

interviews showed that grants directed in upgrading their current ICT infrastructure is preferable. The feedback received from the Bank representatives is also aligned and consistent with the above information.

As regards the broadband infrastructure (which is directly related to the demand for high-speed broadband and the analysis presented in section 5.3.3), the stakeholder analysis showed that while a governmental funding intervention in the form of grants would be useful in implementing the necessary infrastructure investments, publically supported financing was not considered to be needed. Low demand for high-speed broadband is also directly related to SMEs perception (including those in the ICT sector) that e-commerce would not substantially contribute in increasing their turnover/profitability.

12.3 Methodology used to calculate financing gaps

The financing gap is a function of the difference between the available supply and demand for each subsection of interest. The computation of the supply in each of the available categories is first presented, followed by the computation of the demand. The gap is then identified for each subsection.

12.3.1 Quantification of the financing gaps for SMEs

The first methodology to calculate financing gaps uses the estimated supply and the range of potential demand calculated in the previous section to report for each category of SME and each financial product. For each financial product considered per category of SMEs, two steps have been followed.

- The minimum estimated supply is subtracted from the lower figure of the potential demand.
- The maximum estimated supply is subtracted from the higher figure of the potential demand

For each of the subtractions when a positive number is obtained, a financing gap is identified. If a subtraction provides a negative number, it means that, under the assumptions defined in this document, the supply may cover the potential demand for the considered financial product.

Quantification of the viable financing gaps

A second methodology is used to estimate financing gaps for loans. It follows the approach based on "viable SMEs" that was suggested by the European commission.[152] This method, henceforth referred to as Viable Financing Gaps (VFGs) uses a different methodology to estimate the gap.

In said report, viable SMEs are defined as those who have reported in the survey as being profitable during the last year. Then the proportion of viable SMES that were unsuccessful in obtaining loan finance is considered in the EC report as the share of SMEs that applied for a bank loan but were either rejected or discouraged due to the interest rate offered. It also adds SMEs that were discouraged from applying.

Emulating the VFG using the survey and sources on supply. It is suggested to emulate the identification and calculation using the following process:

- Identifying the companies that state that are in a profitable state in their turnover.[153] Estimating afterwards the number of firms that are viable based on turnover;
- Noted how many of these commercially viable firms have had only partial success on their loan requests or their loans were rejected[154];
- Used that percentage to multiply with the total population of the relevant category of SME in terms of size;
- Multiplied that number of firms by previously calculated average amount that was sought.

The viable financing gaps are presented in the table below.

[152] European Commission (2013). Ex-ante assessment of the EU SME initiative. Staff Working Document, November 2013

[153] Source: PwC online survey, 2017. Question 5: In which development phase are you in your company or activity? The answers of Growth (there is profitability) and Stability (some profitability) were noted

[154] Source: PwC online survey, 2017. Question 8: How successful were you in acquiring the below financing resources during the past three years (2014-2016)? The answers Partial success of not successful were taken into consideration

Table 62: Viable Financing Gap estimation for Cyprus 2017

		Demand (€m)	Supply (€m)	Financing Gap (€m)
Micro enterprises	Short-term loans, bank overdrafts and credit lines	95 - 105	40 - 45	50 - 65
	Medium and long-term loans	225 - 250	115 - 140	85 - 135
	Microfinancing (a subset of total micro enterprise demand for finance)	245 - 270	0	245 - 270
Small Enterprises	Short-term loans, bank overdrafts and credit lines	115 - 125	45 - 50	65 - 80
	Medium and long-term loans	205 - 225	130 - 155	50 - 95
Medium Enterprises	Short-term loans, bank overdrafts and credit lines	N/A	140 - 160	0
	Medium and long-term loans	N/A	415 - 495	0
Equity Finance (All SMEs)	Equity	30 - 35	N/A	N/A

Source: PwC 2017

12.3.2 Quantification of the financing gaps for the low-carbon economy

For the low-carbon economy, financing gaps have been calculated as a difference between the range of potential demand and supply quantified.

The financing gap was calculated for two levels of potential demand:

- The higher range was based on the national targets for energy efficiency (NEEAP) and renewable energy (NREAP); and
- The lower range was based on the targets set out in the OP, or the project pipelines identified.

To calculate the gap, two steps have been followed.

- The estimated supply is subtracted from the lower figure of the potential demand.

- The estimated supply is subtracted from the higher figure of the potential demand.

Financing gaps have been calculated separately for households, SMEs, and public authorities, for energy efficiency and renewable energy investments.

13 Annex D - Note on the Sampling methodology on the online survey

The online survey was conducted in Cyprus from the period 18 January 2017 to 3 March 2017. The method used where through an email survey. This email survey was then supplemented by phone. The SME population of Cyprus was defined and stratified on the basis of three dimensions:

- Sectors using the NACE rev.2 Classification
- Districts. This was necessary as the whole are of Cyprus is classed as a single NUTs region and thus it is not apt for geographical classification
- Size of companies (Micro, small, medium-sized and large)

Starting from this stratification, a suitable sample of SMES in Cyprus was created by using the databases of the Cyprus Chamber of Commerce, of the Employers Association, of the European University Cyprus and Cyprus Agricultural Payments Association. Around 7,500 questionnaires were sent and 385 companies provided valid responses. In addition, a range of phone calls were made in companies in sectors where we felt SMEs were overrepresented, but were underrepresented in the email invitations. The phone survey randomised firms listed in the Cypriot yellow pages for specific NACE categories such as Manufacturing, Construction, Wholesale and Retail trade (which includes repair of motor vehicles and motorcycles), as well as in accommodation and food service activities. This enabled a broader representation in a geographical environment as well, as the invitation lists were largely centred in the two main business districts of Limassol and Nicosia.

There is an issue in Cyprus with the activities of households as employers, undifferentiated goods and services producing activities for households for own use (category T in the NACE rev.2 classification in Eurostat). Unlike countries of a similar size, such as Malta (which has two companies in this section), Cyprus has an unusually large category of SMEs in this category (23,124). It seems to be a catch all category for companies that are not defined in any other industry and thus is a function of the weakness of the data collection on the activities of the companies rather than a real definition of households as employers. This could be a weakness of the company registration process in Cyprus and the category caused issues for the survey. Companies that were approached to complete the survey could not identify what exactly is the category T, and whether they should self-identify with category T

or with the sector of the economy they were participating. Further it was considered that this is a category where the companies who what to use Cyprus as a business service centre might consider the most emendable to them to be registered in. It was decided to remove this category: by introducing it, we would run the risk of SMEs that partake the survey to misidentify themselves within this category rather than the category of their economic activity.

The questionnaire used for the online survey and the phone service were identical. The questionnaire used for the survey is presented in Annex A. The survey was sent out in 18 of January 2017 and closed on 3 March 2017.

Responses were monitored and the survey was closed when the responded population achieved a representation of each stratus, based on the three dimensions, with a sufficient degree of freedom to implement a relevant statistical analysis.

The results of the survey match closely the spread of establishments in the country. There is a greater dependence in the Survey in Nicosia which is to expected as the data is not directly comparable as often many companies have their headquarters in Nicosia and establishments in other districts as well, thus inflating the number of establishments in the districts. Table 70 below provides the stratification by sector that shows that the stratification ensures a good coverage of the SME activity, in terms of size, district, and economic sector.

Table 63: Stratification of respondents to the survey in Cyprus compared to the population of SMEs in the country

	SME population in Cyprus		Respondents	
	Number	**Percentage**	**Number**	**Percentage**
Size of enterprise[155]				
Micro-enterprises	86,114	95.6%	272	70.6%
Small enterprises	3,382	3.8%	85	22.1%
Medium-sized enterprises	569	0.6%	23	6.0%
Large enterprises	96	0.1%	5	1.3%
Region[127]				
Famagusta	6,694	6.8%	21	5.5%
Larnaca	15,534	15.7%	42	10.9%
Limassol	28,271	28.6%	93	24.2%
Nicosia	37,309	37.8%	170	44.2%
Pafos	10,957	11.1%	59	15.3%
Sector[156]				
A AGRICULTURE, FORESTRY AND FISHING	3616	5.4%	13	3.4%
B MINING AND QUARRYING	44	0.1%	0	0.0%

[155]Please note that data of establishments includes large companies as they are included in the geographical distribution of the statistical office.

[156]Activities of households are excluded from the statistical stratification as the category is unusually large in Cyprus and the definition of the activity is unclear

	SME population in Cyprus		Respondents	
	Number	Percentage	Number	Percentage
C MANUFACTURING	5,077	7.6%	34	8.8%
D ELECTRICITY,GAS,STEAM AND AIR CONDITIONING SUPPLY	60	0.1%	4	1.0%
E WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	199	0.3%	2	0.5%
F CONSTRUCTION	7,347	11.0%	42	10.9%
G WHOLESALE AND RETAIL TRADE;REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	16,267	24.3%	102	26.5%
H TRANSPORTATION AND STORAGE	3,031	4.5%	16	4.2%
I ACCOMMODATION AND FOOD SERVICE ACTIVITIES	5,536	8.3%	29	7.5%
J INFORMATION AND COMMUNICATION	1,176	1.8%	8	2.1%
K: FINANCIAL SERVICES AND INSURANCE COMAPNIES	2,317	3.5%	11	2.9%
L REAL ESTATE ACTIVITIES	819	1.2%	2	0.5%
M PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	6,438	9.6%	35	9.1%
N ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	2,395	3.6%	6	1.6%
P EDUCATION	430	0.6%	0	0.0%
Q HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	2,378	3.6%	9	2.3%
R ARTS, ENTERTAINMENT AND RECREATION	3,466	5.2%	20	5.2%
S OTHER SERVICE ACTIVITIES	1,696	2.5%	5	1.3%
T ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS AND SERVICES	4,649	6.9%	46	11.9%

	SME population in Cyprus		Respondents	
	Number	**Percentage**	**Number**	**Percentage**
PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE				
U ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES	1	0.0%	1	0.3%

Source: Statistical office of the Republic of Cyprus and "Assessing the potential use of Financial Instruments in Cyprus" ex-ante assessment study

The distribution of the respondents closely resembles the total population. For size categories, it was more important to obtain sufficient responses by category size than to match the population, because these categories are examined in more detail in the report.

14 Annex E - Stakeholders Interviews

Supply side Representatives
Bank of Cyprus
Central Cooperative Bank
Cyprus Business Angels Network
Emergo Ventures
Hellenic Bank
HighBrown VC
Governmental bodies and international institutions
DG EPCD
International Monetary Fund
Ministry of Energy, Commerce, Industry and Tourism - Energy Department
Ministry of Energy, Commerce, Industry and Tourism - Industry Department
Ministry of Finance
Ministry of Transports, Communications and Works - Department of Electronic Communications
Research Promotion Foundation
Demand analysis - SMEs Access to finance
Cyprus Chamber of Commerce and Industry
Cyprus Employers and Industrial Federation

Cyprus Hotel Association
European Start-up Network
Idea Accelerator - Bank of Cyprus
Start-up Cyprus
Demand analysis - Low-carbon economy
AGC - Building and Civil Contractor
Cyprus Association of Renewable Energy (CAREE)
Cyprus Employers and Industrialists Federation - Energy Department (OEB)
Cyprus Energy Agency
Cyprus Energy Regulatory Authority
Cyprus Ex commissioner of Environment - Current Member of the Parliament
GEMAC - Engineering office
Technology University of Cyprus
Demand analysis - ICT sector
Cablenet
Cyprus Telecommunications Authority
European Start-up Network
IDEA Accelerator - Bank of Cyprus
Logicom
Start-up Cyprus

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16 Annex G - National and ESIF Grant Schemes for SMEs

16.1 National grant schemes

Grant Scheme for recruiting graduates in Business

The grant covers 80% of these expenses incurred during the first 6 months of the graduate's employment with a maximum amount of EUR 5,700 per graduate

Grant Scheme for the long term unemployed

This type of financing is available to SMEs to cover 80% of the cost of the first 6 months of employment of a previously unemployed person with a maximum amount of EUR 5,220 per employee.

Grant Scheme for promoting medical tourism

The grant reimburses 80% of eligible costs capped at EUR 1,000 for one business trip abroad during the eligibility period of the Grant. The eligible costs include expenses for air-ticket and accommodation in a hotel for three days.

Grant Scheme for Promoting Sports Tourism

Activities related to promotion of Sports Tourism include attracting both professional sports teams coming to Cyprus for training purposes as well as individuals and other amateurs engaged in sports for recreational reasons. The costs eligible under the Scheme include air-tickets and accommodation in a hotel for three days 80% of total costs are reimbursed with the maximum total grant amount of EUR 1,000 per business trip. The executive body responsible for this grant is Cyprus Tourism Organisation.

Grant Scheme for Promoting Conference Tourism

The grant covers 80% of the costs with a maximum amount of EUR 1,000. It can be awarded to licensed travel agents specialising in conference tourism and to licensed tourism accommodation establishments offering conference facilities. The aforementioned organisations might be SMEs, large companies, service providers or other private bodies.

Grant scheme for agricultural firms to participate in trade shows

The eligible costs of the grant scheme are:

50% of the space rent (up to 15 m^2 for non-bulky exhibits and up to 50 m^2 for bulky exhibits), construction and equipment of the stand, clearance, and return of the exhibits.

50% of accommodation costs for one person, for the day before and the days of the exhibition, with a maximum grant amount of EUR 120 per day.

50% of airfare in economy class for one person.

The maximum grant is EUR 3,050 for non-bulky exhibits and EUR7,350 for bulky exhibits.

Grant scheme for companies participating in trade shows abroad

Eligible beneficiaries of this grant scheme include Cypriot enterprises active in manufacturing of industrial products or the processing and/or marketing of agricultural products. The grant consists of:

100% reimbursement for rent, construction of stand, shipping costs, custom clearance and import license, participation fees, water and electricity consumption and operational costs of the stand.

50% of accommodation costs for a person, with maximum grant of EUR 120 daily.

50% of air-ticket cost for a person.

EUR 1,200 for marketing material.

Grant scheme for manufacturing firms to participate in trade

The grant covers 50% of rent, construction, and equipment of stand, shipping costs, custom clearance, and import licenses, right to participate, costs of installation and the electricity, water consumption and telephone line provider costs. The maximum grant is EUR 3,050 for non-bulky exhibits and EUR 7,350 for bulky exhibits.

The table below presents the most important features of national grants.

Table 64: National grant schemes

		2010 - today	Human Resources Development Agency of Cyprus	Human Resources Development Agency of Cyprus	Not available	1.Graduate's staff cost 2 Cost of trainer 3. Other operational costs	Companies	€5,700	**80%**
		2010 - today	Human Resources Development Agency of Cyprus	Human Resources Development Agency of Cyprus	Not available	1.Unemployedperson's staff cost 2 Cost of trainer 3. Other operational costs	Companies	€5,220	**80%**

	Open.	2016-2017	Cyprus Tourism Organisation	Cyprus Tourism Organisation	N/A	1.Air-ticket 2.Accomodation	Travel Agents Private Hospitals Dentists Representatives of Cyprus Health Promoting Agency	€1,000	**80%**
	Open	2016 - 2017 Yearly Renewal	Cyprus Tourism Organisation	Cyprus Tourism Organisation	€15,000	1. Air-ticket 2.Accomodation	Travel Agents Sports Clubs Hotels and Tourism Accommodations	€1,000	**80%**
	Open	2014 - today	Cyprus Tourism Organisation	Cyprus Tourism Organisation	Subject to funds availability	1. Air-ticket 2.Accomodation	Travel Agents	€1,000	**80%**

		N/A	MECIT	MECIT	Not available	Costs of the trade show	Enterprises that process and sale agricultural products	€3,050 for non-bulky and €7,350 for bulky exhibits.	50%
		N/A	MECIT	MECIT	Not available	Costs of the trade show	Enterprises active in the field of: 1.Manufacturing of industrial products 2.Processing and/or marketing of agricultural products	N/A	50% - 100% depending on the type of costs.

		N/A	MECIT	MECIT	N/A	Costs of trade shows	companies which are active in the field of process manufacturing	€3,050 for non-bulky and €7,350 for bulky exhibits.	50%

Sources: Human Resources Development Authority Cyprus website, Cyprus Tourism Organisation website and Ministry of Energy, MECIT website

16.2 ESIF grant schemes

Grant scheme for the enhancement of youth entrepreneurship

The applicants applying for a grant should satisfy the criteria below.

a) Have a permanent presence in the area under the effective control of the Republic of Cyprus for at least 6 months before the submission of application.
b) Be at the age of 20 - 40.
c) Not have had involvement in any entrepreneurial activities for at least 6 months before the submission of application.

Potential individuals applying for this grant should develop a company in one of the following four sectors: e-commerce, services, tourism, and manufacturing. It is worthy of note that a special emphasis will be placed on companies that will utilise new technologies or innovative methods in production and promotion of products and services.

Grant scheme for the enhancement of women entrepreneurship

The principles of this grant scheme are similar to the principles of the previously mentioned scheme, except for the target group and the level of available budget.

The total amount assigned to "Enhancement of Youth Entrepreneurship" and "Enhancement of Women Entrepreneurship" schemes for the current programming period of 2014 - 2020 is EUR15.3m.

Grant scheme for the enhancement of competitiveness of manufacturing SMEs

The targeted activities eligible for funding are:

- Production of edible or non-edible ice.
- Disassembly of disused objects/engines services.
- Recycling metallic and non-metallic trash and waste.
- Car Painting.
- Technical Trials and Analyses.
- Food and Drink Chemistry.
- Trial laboratories for industrial products.
- Research and experimental growth in other physical sciences and mechanics.
- Fashion design regarding fabrics, clothing, shoes, jewellery, and furniture.

- Steam cleaning and clothes washing shops.
- Production of Cinema movies, video, and television programmes (TV shows, documentaries).

The eligible organisations are new and established SMEs. 50% of total costs can be covered with the maximum amount of grant of EUR 200,000

Grant Scheme for the manufacturing, marketing, and development of agricultural products

The specific objectives of the grant scheme are:

- Upgrade and/or creation of modern units of processing/or trading of agricultural products.
- Development of new products with high added value.
- Development of new processes, application of technologies related to the agricultural products and promotion of innovative investments.
- Exploitation of agricultural raw materials efficient use of energy as well as use of Renewable Energy Sources (RES).
- Promotion of measures aiming to protect the environment, including the reduction of energy use, production of energy using RES and the reduction of greenhouse gas emission.
- Conservation and promotion of traditional and organic products.
- Creation of new jobs, particularly in agricultural areas.

Both SMEs and large companies are eligible to apply for this grant scheme. The grant covers 40% of expenses with the maximum amount capped at EUR 400,000 for SMEs and large companies and EUR 200,000 for micro companies. However, in cases where micro companies are established in mountainous areas, the maximum total grant is EUR 300,000.

Grant scheme for strengthening business innovation

The maximum grant is EUR 250,000 for existing companies and EUR 50,000 for start-ups. The percentage of expenses covered by the grant may vary depending on the size of the company and the number of organisations participating to each project.

Restart programmes for research, technological development, and innovation 2016 - 2020

The activities eligible for funding under these sub-programmes are:

- Research and Development Activities (basic research, industrial research, experimental development, feasibility study).
- Innovation activities.
- Start-up activities.
- Personnel cost.
- Instruments and Equipment.
- Services.
- Costs of Research organisations from abroad.
- Travelling abroad.
- Consumables.
- Special costs.
- Indirect costs.

Beneficiaries eligible to apply for this Programme are research organisations (universities and research centres), public organisations (Governmental Departments, Municipalities, broader public sector), and private organisations (SMEs, NGO, Professional organisations, large companies).

RESTART programmes for research, technological development, and innovation 2016 - 2020

The programme is designed and implemented by Research Promotion Foundation. The total available budget is EUR 100m, which is provided by ERDF and the Republic of Cyprus. The Restart consists of around 22 sub-programmes, which are grouped, in three strategic pillars: Smart Growth, Sustainable RTI system and transformation of RTI system.

The following sub-programmes are offered to the companies within the Restart framework.

- **Research in enterprises**: supports the enterprises to develop or significantly improve new products, services, production methods of high added value that will be commercialised by the enterprises. The total budget of the sub-programme is EUR9.3m and the maximum allocation per project is EUR 200,000.

- **Research in newly established enterprises**: Supports the development of new products, services, production methods of high added value. The total budget is EUR 1 m and the maximum allocation per project is EUR 50,000.
- **Investigation of industrial application technology, know-how**: Business support to verify a technology, know-how which is owned by an enterprise and can have an industrial application. The verification should be done before the beginning of a large project related to technological development and innovation. The total available budget is EUR1.000.000 and the total allocation for project is EUR 25,000.
- **EUREKA and EUROSTARS**: Supports Cypriot enterprises to develop or significantly improve new products, services, production methods of high added value in collaboration with organisations from abroad. The results of the project should have high potential of commercialisation in the European countries. The total budget for EUREKA is EUR 1.2m and for EUROSTARS is EUR2.5 m. The maximum allocation per project is EUR 175,000. In the case where a Cypriot organisation is leading the proposal, the total allocation is EUR 200,000.
- **DOCTOR (PhD holder)**: Implementation of a research project by a young researcher who holds a PhD and is employed by a research organisation or enterprise. The total available budget is EUR 9.4 m of which the 1/3 is allocated for enterprises. The total budget per project is EUR 160,000 for projects related to Life Sciences, Physical Sciences and Engineering and EUR 120,000 for projects in the field of Social and Human Science.
- **SME Instrument[157] - Second Opportunity**: Innovative SMEs, which submitted a proposal for Horizon 2020 SME Instrument and scored above the threshold but did not receive the grant due to grant's budget constraint, are eligible to apply and receive EUR 50,000 under Phase 1 of SME Instrument and EUR 700,000 under Phase 2.
- **Innovation vouchers**: SMEs receive the innovation voucher, which can be used in order to acquire innovation consulting services from Organisations or other Enterprises. The innovation services should be related to SMEs' portfolio of products, services, processes. The total budget available is EUR 260,000. The maximum grant per application is

[157] SME Instrument is a programme of Horizon 2020. It supports SMEs in marketing innovative products, services, processes in international markets. It consists of three phases. At Phase 1, successful SMEs receive EUR 50,000 for developing a business plan. At Phase 2, SMEs receive up to EUR 2.5 m (EUR5m for clinical research) for further development and commercialisation their product, service, process. At Phase 3, SMEs receive business support in the form of consultancy services in order to access risk finance.

EUR 2,500 for innovation consulting services and EUR 5,000 for innovation support services[158].

- **Participation in events for international networking purposes**: Support of enterprises to participate in targeted events in order to expand their international network. The maximum amount is EUR900 per person. The budget that can be allocated to support companies participating in international networking events is EUR 140,000.
- **Commercialisation of research results by the enterprises**: Commercialisation of research results, which originated from funding programmes, designed and coordinated by Research Promotion Foundation. The aim of the sub-programme is the creation of highly competitive products, services, processes for international markets. This sub-programme consists of two phases. The budget available is EUR 1.27 m and the maximum grant for companies that will be successful in Phase 1 is EUR 30,000 and for companies that will be successful in Phase 2 is EUR 250,000.

Grant scheme for enriching and modernising tourism products

For the first time this scheme was introduced during the current programming period. The size of the grant and the percentage of the reimbursement depend on the type of investment, size of the company and geographic area where the investment will be made. The grant is given to the successful participants after the costs being incurred.

Grant Scheme for enhancing the competitiveness of the wine industry

The scheme is 100% funded by the European Agricultural Guarantee Fund and it is included in the first pillar of the Common Agricultural Policy. The total available budget for the period from October 2013 - October 2018 is EUR 23.2 m. All companies active in viniculture are eligible for financial support from this grant scheme. The last call of proposals was opened in February 2017 and the total budget availability was EUR 1.3 m.

[158] Innovation Consulting Services include activities such as development of technological applications, technology transfer, and feasibility studies. The Innovation Support Services include piloting, access to infrastructure, secondments, design, and development of prototyping.

The table below presents the important features of structural grant scheme.

Table 65: Structural grant schemes

	Second call for proposals is expected in 2017	2014 - 2020	MECIT	ERDF and CY Government	€15.3m	1.Equipement, Facilities for Disable People, Buildings 2.Training 3.Makreting Activities 4.Other Expenditure 5. Working Capital	a) Aged 20 -40 b) Permanent resident of Republic of Cyprus c) No entrepreneurial activity	€70,000 for Manufacturing €50,000 for E-commerce, Services and Tourism	50%
							a) Women aged 18 - 55 b) Permanent resident of Republic of Cyprus c) No entrepreneurial activity		

	Second call for proposals is expected in 2017	2014 - 2020	MECIT	ERDF and CY Government	€17.7m	1.Buildings and Space 2.Alterations New Equipment Means of Transport 3.Costs for management systems, 4.Certification of products and Accreditation costs 5.Projection/Promotion 6.Consultants' Payments	New or established SMEs of the Manufacturing Sector and other targeted activities	€200,000	50%

	The second call for proposals is expected in 2017	2014 - 2020	MECIT	European Agricultural Fund for Rural Development and CY Government	€15m	1.Buildings and extensions of buildings and premises 2. New machineries and equipment 3.Ttransportation costs 4.Generic expenses (consultants, system certification)	SMEs and Large companies	€400,000 for SMEs and large companies €200,000 for micro companies €300,000 for micro companies in mountainous areas	40%

	The second call for proposals is expected in 2017	2014 - 2020	MECIT	ERDF and CY Government	€18m	1.Personel Cost 2.Equipment, and instruments 3.Services provided by third parties 4.Intellectual Property Rights 5.Material/Supplies 6. Marketing activities abroad 7. Project Management fees	Private Bodies SMEs Researchers/Research Centres/ Institutions Large Enterprises	€250,000 for existing companies €50,000 for start-ups	60% for existing companies 80% for start ups

	Open	2016 - 2020	RPF	ERDF and CY Government	€100,000	1.Research and Development Activities 2.Innovation activities 3.Start-up activities 4.Personel cost 5.Instruments and Equipment 6.Services 7.Costs of Research organisations from abroad 8.Travelling abroad 9.Consumables 10.Special costs 11.Indirect costs	Public and Private organisations	€1 m	Varies depending the type of organisation and type of activity funded

	Next call for proposals is expected in 2017	2014 - 2020	Cyprus Tourism Organisation	ERDF and CY Government	€16m	1.Buldings 2.Machinery and Equipment 3.Consultants	Existing Companies	€200,000 - 1,800.00 (depending of the kind of investment)	10 - 70% (Depending on the size of the company and the geographic area where the investment will be made)

	Open	2016 - 2020	RPF	ERDF and CY Government	€100,000	1.Research and Development Activities 2.Innovation activities 3.Start-up activities 4.Personel cost 5.Instruments and Equipment 6.Services 7.Costs of Research organisations from abroad 8.Travelling abroad 9.Consumables 10.Special costs 11.Indirect costs	Public and Private organisations	€1 m	Varies depending the type of organisation and type of activity funded

Sources: Research Promotion Foundation website, Cyprus Tourism Organisation website and MECIT website