Report

GHG financing models and support schemes in the EU

Best-practice examples from selected EU countries and their relevance for the Cyprus context

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On behalf of:

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OEB

The **Cyprus Employers and Industrialists Federation (OEB)** was founded in 1960 by 19 pioneering entrepreneurs. Today, its members are active in all sectors of the economy and employ more than 60% of the private sector's workforce. OEB is a Pancyprian, independent non-profit organization comprising of 60 of the main professional/sectoral Associations as well as hundreds of companies from the Manufacturing, Services, Commercial, Construction and Agricultural Sectors. In total, OEB has more than 5.000 Member/Enterprises.

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There are many projects have been developed by the Energy & Environment Division that aim e.g. the promotion of eco-innovation, blue energy, GHG emission reduction etc.

OEB operates in environmentally friendly manner. Since 2017 OEB is EMAS certified as well as produces on site renewable electricity through PV net metering system.

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List of Abbreviations

a	Annum
CERA	Cyprus Energy Regulatory Authority
GW	Gigawatt
GWh	Gigawatt hour
kW	Kilowatt
kWh	Kilowatt hour
MW	Megawatt
MWh	Megawatt hour
BAFA	Federal Office for Economic Affairs and Export Control
BMU	Federal Ministry for Environment, Nature Conservation and Nuclear Safety
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EEA	European Environment Agency
EED	Energy Efficiency Directive (Directive 2012/27/EU)
EEFIG	Energy Efficiency Financial Institutions Group
EPC	Energy Performance Contracting
EIB	European Investment Bank
EnEV	Energy Saving Ordinance
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificates
ERDF	European Regional Development Fund
ESCO	Energy Service Company
ETS	Emissions Trading System
ES	Energy Savings
EU	European Union
FI	Financial Instruments
GCP	Global Carbon Project
GDP	Gross National Product
GHG	Greenhouse Gas
GWP	Global Warming Potential
IEA	International Energy Agency
IMF	International Monetary Fund

MARDE	Ministry of Agriculture, Rural Development & the Environment
MECIT	Ministry of Energy, Commerce, Industry and Tourism
MunSEFF	Municipal Finance Facility – Energy Efficiency
NEEAP	National Energy Efficiency Action Plan
SEAs	Simple Energy Audits
SEAP	Sustainable Energy Action Plans
SEFF	Sustainable Energy Finance Facility
SFRB	State Housing Development Fund
SME	Small and Medium-sized Enterprises
RES	Renewable Energy Sources
UNFCCC	United Nations Framework Convention on Climate Change

Introduction

2018 saw several climate change upheavals and, according to the Global Carbon Project (GCP) 2018 report, after an increase of 1,6% in 2017, global fossil fuel-derived CO_2 emissions are likely to be subject to an even more significant rise of around 2,7% in 2019. As a consequence, the EU has increased the amount of public funds available for energy efficiency in order to foster the transformation to a low-carbon green economy. In total, the IEA (2017) projects for a 2°C in the upcoming decade that the EU's investment needs in energy efficiency will reach USD 1.300 billion in buildings and USD 154 billion in industry. Thus, to meet the energy and climate policy objectives of the EU and to support the transition to a clean energy system in member states such as Cyprus, there is a need to further unlock private financing, in particular for energy efficiency investments. It is estimated that an additional EUR 177 billion per year will be necessary over the period 2021-2030 to reach the EU's energy and climate objectives for 2030 (EC, 2019).

Energy Efficiency is a hidden financial resource, which needs investment or support to be exploited. Even cash-starved local governments, subject to tight budget constraints, could take advantage of various financing methodologies to implement energy efficiency projects from pre-feasibility analysis to monitoring and verification of energy savings (Bertoldi & Atanasiu, 2007). One of the key points is to provide information, best practices and examples of successful implementations.

Consequently, the aim of this report is to identify successful models for financing climate and energy projects across the European Union and to give insight into existing strategies. On the ground, a multitude of financing initiatives are taking action, all with the common goal to mitigate climate change by providing the necessary funds for a transformation to a green economy. In line with these efforts, the aim of the Business4Climate+ project is to develop a roadmap for financing projects to reduce greenhouse gas emissions in businesses in Cyprus, with the ultimate goal of incorporating these measures into the national climate and energy strategy 2030. Subsequently, it is vital to tailor current practices in GHG mitigation and energy efficiency financing to the specific situation in Cyprus.

The report is structured in the following way: First, the current financing situation in Cyprus is analysed in Chapter 1 with a focus on the national context and barriers as well as current financing gaps. The role of key actors is also part of the analysis. Chapter 0 provides an overview on the available financing models for energy efficiency and GHG mitigation, followed by a summary of current EU support schemes. Finally, Chapter 3 provides a selection of best-practice examples from EU member states. This chapter is divided in two sub-categories: Chapter 3.1 deals with financial instruments related to banks while Chapter 3.2 is focused on financial instruments related to governmental support schemes. The report is complemented by a detailed overview of support schemes available in all member states that is presented in the Annex.

1 Current situation in Cyprus

1.1 National context

Cyprus' national emissions reduction targets for non-ETS sectors are 5% by 2020 and 24% by 2030, each compared to the baseline of 2005. According to data from the Department of Environment of Cyprus (MARDE) for 2015, emissions from non-ETS sectors amount to 48% of the total emissions of 2015. Even if the national target for Cyprus of a 5% reduction in emissions is achieved in 2020, the new target for 2030 (a decrease of 24% compared to 2005) is considered extremely difficult to be achieved. As shown by Zachariadis et al. (2017), the long-term development of energy use indicates that Cyprus is very far from complying with the broad EU decarbonisation target for the mid-21st century. However, the National Energy & Climate Action Plan for 2030 has already been approved by the Council of Ministers in January 2019.

The National Energy Efficiency Action Plan of Cyprus (NEEAP) outlines the peculiarities of Cyprus in respect to energy, e.g. isolated energy system, high energy supply costs, increasing dependency on imported oil products, low energy supply security and seasonal fluctuations in energy demand (NEEAP, 2017). Additionally, the Cypriot market is small and therefore, in conjunction with the relatively low energy generation from RES, the cost of imported oil products is very high.

With its energy dependence amounting to 97,7% in 2015, Cyprus ranks among the most energy dependent of the EU Member States (Economidou, 2018). While the share of renewable energy in gross final energy consumption experienced a three-fold increase over the past 10 years in Cyprus alone (from 3% in 2004 to 9% in 2015), its energy needs are also growing (Economidou, 2018). Following a dip in consumption from 2008 to 2014 - largely attributed to the impact of the financial crisis on the real economy as well as energy crisis that hit Cyprus after the destruction of its second-largest power station - the energy consumption of the country has been on an upward trend and is expected to continue to do so under the latest baseline and energy efficiency scenario projections (Figure 1).

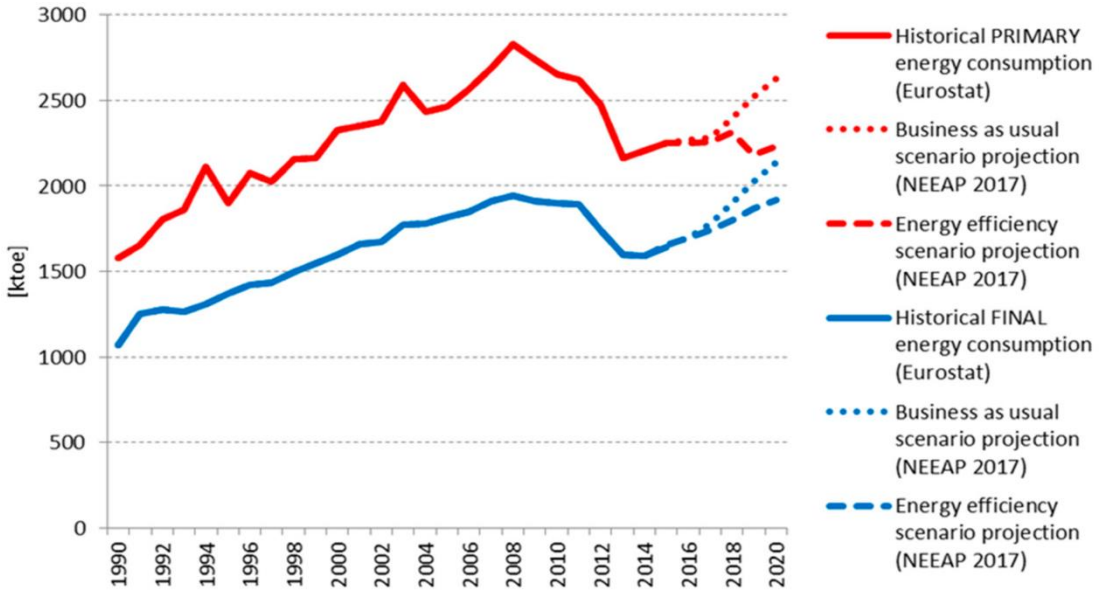

Figure 1: Cyprus historical (1990–2015) and projected (2016–2020) energy consumption in thousand tonnes of oil equivalent (ktoe); Source: Eurostat (2017) and Cyprus National Energy Efficiency Action Plan (NEEAP, 2017)

For Cyprus, as an integral part to any climate change mitigation strategy, energy efficiency plays an important role in stabilising these trends and ensuring that future energy and climate targets are met. The building sector, which accounted for 32% of the total final energy consumption in Cyprus in 2015, is associated with a significant energy savings potential and tapping into this potential requires addressing both new and existing buildings (Economidou, 2018). Major interventions should include measures to replace old heating installations with modern highly efficient heat pump systems, and to promote cogeneration in buildings of the tertiary sector like hospitals and hotels. Among the sectors that can contribute the most towards the 2030 targets is also the industry sector. Measures in the Cypriot industry should focus on the installation of modern highly efficient LPG fuelled burners and the promotion of industrial cogeneration.

In compliance with various EU directives, Cyprus has already put in place various policy instruments aimed at reducing energy demand. These include the implementation of Directive 2010/31/EU on Energy Performance of Buildings (EPBD) alongside the set-up of its energy performance certification scheme, minimum energy performance requirements in new constructions and major renovations, schemes for boilers and/or air conditioning systems, and nearly zero energy standards for new buildings from 2021 onwards. Minimum EE standards and mandatory energy labelling requirements for energy-related products have also been set up with the implementation of Directive 2009/125/ on eco-design requirements for energy-related products and Directive 2010/30/EU on energy labelling, respectively. Lastly the development of a well-functioning energy services market has been driven by Directives 32/2006/EC and 2012/27/EU.

The industry sector regards enhancing the energy efficiency of industrial processes and equipment in Cyprus as a focal point in recent years (NEEAP, 2017). The policies taken into account in the additional energy efficiency scenario in this sector includes the ones provided for in the EED (2012/27/EU), as well as training for energy auditors and energy managers (NEEAP, 2017). Provision has also been made for certain small-scale

industrial investments in automation systems or replacement of electric motors or pressurised air systems with other more efficient ones.

1.2 Targets, barriers and current financing gaps in the Cypriot market

In order to comply with the provisions of the EU Energy Efficiency Directive, the Energy Service of the MECIT in Cyprus has regulated the registry of its energy auditors (today Cyprus has 69 registered energy auditors) and Energy Service Companies (today Cyprus has 11 registered ESCOs). The role of energy auditors as well as the ESCOs is expected to be crucial for the future identification and implementation of energy efficiency projects. Enterprises wishing to cut their energy use and costs may outsource some or all of the work to specialist service providers, which may also require sourcing external finance.

In December 2017, the 4th NEEAP has been adopted and according to this action plan, the following national indicative targets should be met by 2020:

- Total primary energy consumption for 2020 to be maintained at 2,2 Mtoe.
- Save primary energy by 375.000 ITP by 2020.

According to the requirements of Article 7 of the Energy Efficiency Directive 2012/27 / EU, a cumulative energy savings target of 241.588 toe for the period 2014-2020 has been set as well as 3.316 GWh on an annual basis. Additionally, the implementation of energy saving measures in the public sector contribute to achieving the objective of Article 5 - for public bodies to play an exemplary role.

The binding national target of Cyprus regarding the share of renewable energy in the final energy consumption by 2020 is 13%. Another binding target for 2020 pertains to the use of biofuels in the transport sector, set at 10%. According to the National RES Action Plan, the overall 13% target can be achieved by the three sectoral targets which are: 23,5% share of RES-heating and cooling to the final energy consumption, 16% RES electricity and 4,9% the use of biofuels for transport.

According to the recent data of the Ministry of Energy, Commerce, Industry & Tourism's Energy Service, the progress towards 2020 targets can be summarized in the following table:

Table 1: Cyprus progress towards RES targets in 2016 and the targets for 2020 (Data from MECIT, 2018)

	Progress 2016	Target 2020
RES – Heating & Cooling	**23,72%**	**23,5%**
RES – Electricity	**8,64%**	**16%**
RES – Transport	**2,63%**	**10%**
Total share of RES (%)	**9,27%**	**13%**

Currently, the highest contribution to the total share of RES in the Cyprus Energy Balance comes from solar thermal systems (solar hot water heating systems) 46,84%, followed by biomass utilization for heating 21,33% (mainly wood stoves and fireplaces), electricity generation from wind farms 13,22%, electricity generation from PV systems 8,61%, biofuels due to import obligation 6%, electricity generation from biogas 3% and geothermal heat pumps 1%.

There are often discussions of the “fines” that Cyprus will be obliged to pay in case it fails to reach its 13% target by 2020, which is often referred to as compliance cost. This is a lump sum or penalty payment imposed by the Court of Justice of the European Union pursuant to an action brought by the European Commission. The daily “fine” has not yet been defined; however the European Commission in 2013 brought a case against Cyprus for failing to transpose the Renewable Energy Directive, which is aimed at ensuring a 20% share of renewable energy in the EU by 2020. The Directive was required to be transposed by the Member States by 5 December 2010 with noncompliance resulting in a penalty payment of EUR 11.404,80 for each day that Cyprus had not fully transposed the Directive.

Alternatively, Cyprus has the option to use the so-called “statistical transfers”, introduced by Article 6 of the 2009 Renewable Energy Directive. In a statistical transfer, a specified amount of renewable energy is deducted from one country’s share of renewable energy in gross final energy consumption and added to another’s. This is an accounting procedure and no actual energy changes hands. Further, Member States can only sell statistical transfers if they have already exceeded their nationally binding target, as the Directive states that “a statistical transfer shall not affect the achievement of the national target of the Member State making the transfer”.

Through this mechanism, the Cyprus government could purchase renewable energy credits from countries that have already exceeded their 2020 targets. This cost has yet to be properly calculated. As an example, we look to the case of Ireland, where the University College Cork estimates that covering a three percent (3%) shortfall could cost Ireland between €68 million and €315 million.

In 2017 the MECIT announced a so-called Support Scheme and Special Fund for large RES projects which can enter the electricity system with “avoidance cost”. The goal is that their entry to electricity market is competitively priced by the time the market opens to competitors. Interest in the scheme is high, and many applications (391,2 MW) have been received.

The current situation regarding Cyprus lagging behind their 2020 RES electricity target can be summarized by the following table:

Table 2: Cyprus RES electricity targets and progress (Data from MECIT, 2018)

	PV (MW)	Wind (MW)	CSP (MW)	Biomass/Biogas (MW)
Installed capacity in 2017	**121**	**157,5**	**0**	**12,8**
Target according to the National 2020 RES-e targets	**288**	**175**	**50**	**15**
Missing MW towards 2020 target	**167**	**17,5**	**50**	**2,2**

When the RES 2020 binding targets are combined with the CO_2 emissions reductions and energy efficiency national targets it seems that Cyprus will achieve the national targets for CO_2 emissions reductions, however for energy efficiency it is not yet very clear.

Further complicating the situation, the transport sector is in particular need of attention. Lacking any currently operating railways, transportation within Cyprus is almost exclusively done via automobile. Additionally, the Cypriot vehicle fleet is one of the least efficient in the EU (5th highest in the EU) with average emissions of 144,5 gCO_2/km. Cyprus has enacted a bonus/malus calculation as part of its registration tax. The tax benefits are given to any car that emits less than 150 gCO_2/km, i.e. there is no incentive provided for consumers to purchase a car that is more efficient than the current average. Furthermore, taxes on petrol are among the lowest in the EU.

Globally, rising electricity prices, public campaigns, and financial incentives have contributed to increased interest in energy efficiency and renewables. However, there are still strong barriers for the development of an ESCO market in Cyprus which would allow the country to meet targets for the Energy Efficiency or Renewable Energy Directives. These include lack of awareness of the ESCO concept, mistrustful and unstable clients, and the small size of projects with relatively high transaction costs. Furthermore, the financial crisis has lowered the priority of energy efficiency investments. Some tools have the potential to increase investment in order for Cyprus to meet their demanding targets for energy efficiency and renewables: Dissemination of information on the importance of energy savings and RES in combating climate change; encouraging energy audits through financial incentives; and tax benefits for energy efficiency investments which would reduce the payback time. However, these tools require further development and investment.

In Cyprus the typical barriers for the promotion of energy efficiency projects, renewables and climate, are given in the in the following text box:

Main barriers in Cyprus for the promotion of climate and energy efficiency projects

- Low awareness, lack of information and scepticism
- Misunderstanding the concept of an energy efficiency project
- Balance-sheet problems, accounting rules
- Rules for public procurement are non-supportive
- Lack of effective support and supplementary support schemes
- Legal and regulatory frameworks (e.g. in public sector, planning and building permits)
- Lack of motivation and commitment
- Lack of any tax incentives e.g. enterprises which take a loan for a GHG reduction project to be excluded from any imposed bank tax obligations, reduction of real estate tax.
- Capacity building, personal development of bankers. Banks need technical expertise to assess energy projects.

These are just a few key examples of barriers to finance climate, energy efficiency projects, and/or RES. Many additional underlying issues come into play. For example, the lack of attractive financing structures is still one of the biggest hurdles for upscaling energy efficiency projects and therefore, GHG emissions reduction projects. Banks are not encouraging energy efficiency and renewable energy projects, for instance, by offering low-cost, readily accessible loans. The governmental support schemes need to be reshaped in order to meet the current market needs, to be supportive and supplementary, to be sector specific and address the problems.

Further, established commercial banks usually assess energy efficiency projects as traditional asset-backed loans. This results in prohibitive collateral requirements and unaffordable loan terms for energy-saving schemes.

Cyprus has a number of registered ESCOs, however its banks are reluctant to finance efficiency projects using their own resources. National authorities, through the Ministries have constantly emphasized the need to find alternative solutions to spread efficiency in energy-intensive sectors and to achieve national emission targets.

Cyprus' support schemes that are currently or will be in operation this financial period (until 2020) include the financial incentives for energy audits in SMEs, energy renovation of buildings (mainly residential as the commercial and industrial are under financial instruments), replacement of domestic solar water heaters, and investments in agriculture sector (eg storage systems for PVs, installation of PVs, waste management stations, etc.) More details are provided in the Annex.

Further to financial incentives, the Town Planning and Housing Department allows 5% extra building factor when 25% of the building's energy needs are covered by RES, assuming that the building EPC is Class A.

For the next programming period 2020-2025 the Cyprus Government has decided to allocate the 40% of the budget to energy and environmental projects. The National Action Plan for

Climate and Energy, which adopted by the Council of Ministers in January 2019, will include provision for the development of support schemes on greenhouse gas reduction projects through either the Structural Funds budget or annual budget.

A recent study (EIB, 2017) that aimed to assess the potential; of FI in Cyprus, concluded it is possible to implement FIs in Cyprus through Banks. The Directorate General for European Programmes, Coordination and Development, in cooperation with EIB will launch in 2019 a financing tool to support RES and energy efficiency projects in SMEs and likely households as well. The total budget available until 2020 is 120 million Euros.

Regarding the promotion of EVs, actions are being taken in terms of infrastructure (eg installation of additional charging points for EVs along highways, obligatory installation of power sockets for EVs in premises with two or more parking slots). However, are currently no incentives to buy an electric vehicle.

The revenues from the EU-ETS trading system amount to approximately 30-40 million Euros so far. However, because of the slow and bureaucratic public procedures (eg budget ceilings of the Ministries) it's extremely difficult to efficiently use these resources in climate projects or any other financing. The bureaucratic procedures of the Ministries are an important obstacle in taking quick and efficient decisions, especially when it comes to the development and implementation of support schemes.

Also, the lack of data availability, electronic databases and weak cooperation between governmental departments make the process of examining applications to provide grants, too time consuming.

In Cyprus tax incentives could be introduced, e.g. the exclusion of land tax for those build or renovate buildings beyond the EPBD, however, as this tax is very low in Cyprus it would not act as a true incentive and the effectiveness could be a failure.

When it comes to the banking sector, the interested SMEs seeking investments in such projects, come across several problems. The GHG emissions reduction projects, RES and energy efficiency do not receive any specific treatment by the Banks, as banks don't develop specific financing models for energy projects or climate projects and operate on a project-basis. These projects are normally examined through the standard procedure of the bank of any loan. If an enterprise is capable to pay off a loan, then they will proceed with financing. Banks lack of technical knowledge and expertise, in order to properly assess ESCO projects and other energy saving projects in SMEs. There are some low interest loans but target the private individuals mainly for domestic PV installation and residential housing renovation.

1.3 The role of key actors

Until recently the cooperation between the serval stakeholders in Cyprus has been weak, without substantial interconnections. Thus, the Government had the tendency to decide claiming that they understand the trends and needs of the civil society and businesses without any public consultations; and then informing the stakeholders. In many cases governmental officials had no idea about the broader picture of the market needs, trends and demands, resulting in many failed policies.

The last half decade there is a greater degree of communication among stakeholders in Cyprus. This progress has been made due to EU context and due to the request and

constant insistent of stakeholders' groups. Nowadays, there are several join initiatives and more consultations among stakeholders.

The current situation in Cyprus regarding the stakeholders' cooperation is well described by the diagram (World Economic Forum/KPMG) which is given in Figure 1. The stakeholders cooperation few years ago, is characterised as the old paradigm, having the major stakeholders (Government, Business and Civil Society) acting independently to influence each other, with some degree of interconnection but each defines its own role. Nowadays, the cooperation of stakeholders in Cyprus has a greater degree of communication and there is a diversification of the traditional roles.

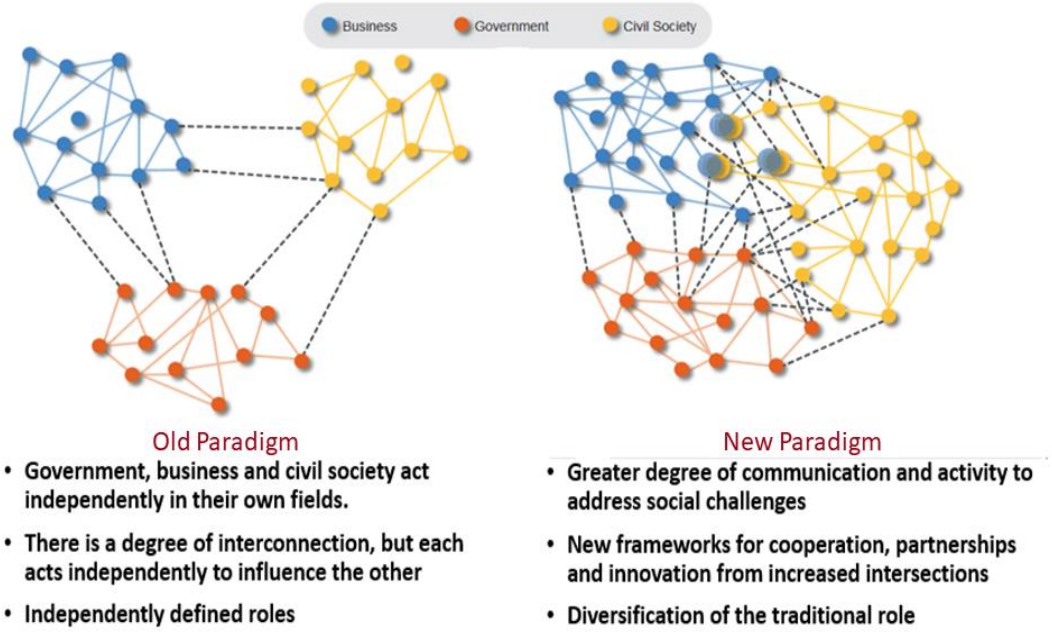

Figure 2: Old and New paradigm regarding stakeholders' cooperation; Source: (World Economic Forum, KPMG)

To map the stakeholders, the onion map has been used (GIZ GmbH, 2017). The major stakeholders (State, Private and Civil) have been mapped as key, primary and secondary, as presented in the following Table and Figure. The key stakeholders have defined role in the effort of promoting GHG reduction and energy efficiency. The stakeholders mapping is important as gives clearer picture of the competences and roles.

Table 3: Stakeholders in Cyprus (Analysis by OEB, 2018)

	State	Private sector	Civil society
Key stakeholder	Ministry of Energy, Commerce, Industry & Tourism (MECIT) Ministry of Agriculture, Rural development & the Environment (MARDE) Ministry of Transport, Communication & Works (MTCW) Directorate General of European Programmes,	Enterprises/ Associations of Industries & Businesses (Cyprus Federation of Employers & Industrialists)	

	State	Private sector	Civil society
	Cooperation and Development (DG EPCD) Ministry of Finance (MoF)		
Primary	Research Promotion Foundation Research and Innovation Council	Banks (all private banks e.g. Bank of Cyprus, Hellenic Bank, Ancoria, Eurobank, National Bank of Greece etc) Investors (many private investors)	NGOs mainly environmental (Federation of Environmental Organisations)
Secondary	State Universities (University of Cyprus, Cyprus University of Technology)	Universities (University of Nicosia, European University) Other research institutes (Cyprus Institute)	

The key actors, regarding the Government, are several departments that are involved either in the policy making of climate and energy or in the financing as described in the previous table. In the primary actors, the Research Promotion Foundation of Cyprus plays a clear role, having recently undertaken the promotion of financing innovation in SMEs. State universities also play a significant role, but only as secondary actors.

When it comes to Civil Society, a limited role emerges through the environmental NGOs, hence being classified as primary actors and not as key actors.

Regarding the private sector, key actors include businesses and the associations of business e.g. OEB (Cyprus Federation of Employers & Industrialists) and primary actors are the Banks, Investors and bank Association. Private universities and other research institutes also play a role as secondary actors.

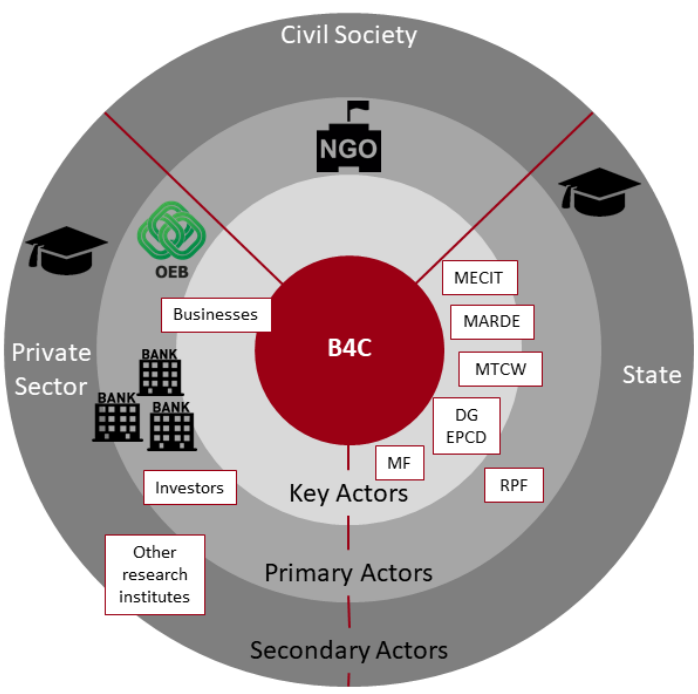

Figure 3: Onion map for Stakeholders in Cyprus; Source: (Capacity WORKS, GIZ GmbH, 2017)

2 Financing models for GHG mitigation in the European Union

2.1 Financing models at a glance

One of the most frequently cited reason for private organisations and local governments not engaging in comprehensive building retrofit and energy efficiency activities is a perceived "lack of capital". However, up-scaling energy efficiency investments has multiple benefits which are often overlooked. They increase security of supply by reducing reliance on imported energy, enhancing the competitiveness of industry, and reducing global as well as local environmental emissions (Bertoldi & Atanasiu, 2007). Furthermore, there is growing evidence that the risks associated with energy efficiency investments are lower than the level perceived by the market and that the associated probability of default is lower than other types of investment. However, it is still difficult for banks and investors to assess the risks associated with energy efficiency investments (EC, 2019).

Buildings are responsible for 40% of final energy consumption in the EU, and yet 75% of Europe's buildings were built with no or minimal energy-related building codes and most of today's buildings will still be in use in 2050 (EEFIG, 2019). Industry is responsible for 26% of final energy consumption and while European industry is relatively well positioned in energy efficiency, there are still substantial potential savings to be made (EEFIG, 2019). Therefore, over the coming decade energy efficiency investments will become mission critical to deliver competitive industries and high performing buildings.

But where does the money for energy efficiency investments usually come from? The IEA's Energy Efficiency Market Report (2016) states that about 60% of efficiency investments rely on self-financing with most of the rest financed through loans. Thus, in order to reach the ambitious targets, there is a need for a significant increase in third party financing through the deployment of financing mechanisms that help enterprises avoid the upfront capital cost with repayments made out of savings and using new sources of finance via equity markets, securitisation and, ultimately, bonds.

There are several types of FIs which can be used for investing in GHG mitigation and energy efficiency as well as function as leverage for existing private and business capital. The most common and frequently used are outlined as follows:

Internal Financing: Many companies prefer to finance their climate-related sustainability projects internally, using available cash or infusions of capital from the parent company. When possible, internal financing is relatively cheap - with no interest payments and few restrictive covenants - but the company must weigh potential returns from a project against other investment opportunities, such as debt money (WBCSD, 2017)**.**

Loans are a classic form of financing that is used for instance for the purpose of investing in the improvement of the energy performance of buildings. On the market there is a wide range of specific banking products offered by commercial and development banks. The financing conditions are often stipulated by financial institutions by achieving predefined energy savings. It is important to note that interest rates on loans that are significantly below market conditions, are also considered to be a form of state aid, and are subject to restrictions governed by the European Commission.

Subsidized loans are forms of lending capital under conditions that are more favourable than the standard market conditions. This can apply not only to lower interest rates but also to longer repayment periods than those on the market. However, these loan types tend to be limited to specific innovation types or geographies or both. The interest rates, payback periods, and other conditions of such loans are less rigid than those of market loans. In energy renovation projects they are often referred to as specialized renovation loans. In addition to traditional loans they may appear in the form of leasing services, factoring and services or hybrid products such as energy savings.

Contributions to a loan are one-time dedicated subsidies (Maras, 2015). Usually they are defined by the type of investment as a percentage of eligible (standard) cost of the project.

Guarantees are collateral for the loan repayment. They are based on the control (impairment) of market risks that are common obstacles in energy-efficiency related project implementation (Maras, 2015). They can be used in the framework of public-private partnerships in which public institutions provide guarantees to private investors / participants of the projects in form of an incentive.

Insurance policies are also instruments of risk controlling for project financing. They are either associated with the property (insurance matters and property interests, liability insurance), loans (insurance funds or billing) or legal persons involved in the project (accident insurance, life insurance) (Maras, 2015).

Green Bonds: A green bond is a bond issued by both public and private institutions. Green bonds are very similar to conventional bonds, but their proceeds are reserved for funding green projects. Green bonds are priced very tightly, with comparable coupons to ordinary bonds (WBCSD, 2017). Supranational agencies dominated the green bond scene in its early days, later joined by municipalities. Over the past three years, numerous companies have joined the green bond issuing community from utilities to renewable energy companies to brands such as Apple and Starbucks. The global green bond universe is estimated at almost $700 billion, of which $118 billion qualifies as labelled green bonds (WBCSD, 2017). Given each green bond's inherent mitigative or adaptive climate risk aspect, and the issuing entity's usually very strong credit rating, green bonds have become popular in the investor community.

Energy Service Companies (ESCOs) are service providers that guarantee future savings made on energy bills and can fund projects upfront that are refinanced through the savings achieved. In an ESCO financing model the service provider usually charges the building owner a fee to deliver energy savings on the owner's utility payments. In addition, savings are often guaranteed over a set period of time (see illustration).

The development of ESCOs in Europe is expected to help implement the EU's Energy Services Directive, which obliges public authorities to improve energy efficiency and encourages the use of financial instruments for energy savings, such as third-party financing contracts and energy performance contracts.

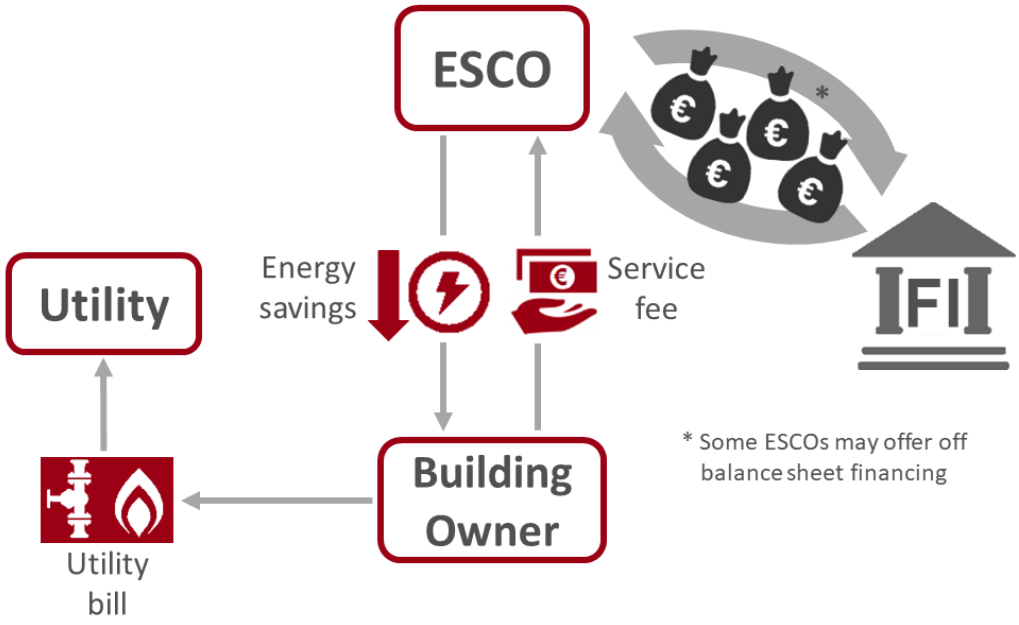

Figure 4: Building Technologies Program; Source: (USDA, 2013)

An ESCO will assess the efficiency opportunity, purchase equipment necessary to improve performance, and install the equipment. Most ESCOs will provide a financing option for these services as well, but depending on the ESCO, the building owner may be required to seek outside financing.

As the Commission's Energy Efficiency Plan underlines, ESCOs can help public authorities to upgrade buildings by grouping them into scalable projects under energy performance contracts (EIB, 2012). This is supported by an initiative to make the use of Energy Performance Contracting more accessible to the public sector.

Energy Services Agreements (ESA) build on the historical use of PPAs in power plant project finance and, more recently, in renewable energy project finance. Third party entities negotiate ESAs, arrange/provide capital, develop projects and manage installed equipment for large industrial and commercial projects. The SPE is capitalized by third party investors and finances the costs of the efficiency improvement. The host signs an ESA with a project developer and agrees to pay either a fixed or floating rate for the energy savings received. A floating rate is equal to a percentage (e.g. 80%) of their actual utility rate. A fixed payment is based on a cost per avoided energy basis (e.g. EUR per kWh avoided or EUR per therm of natural gas avoided). The host agrees to make payments for contractual terms of their agreement (e.g. 5-15 years). This structure enables energy efficiency to be treated as a service and an off-balance sheet transaction.

Tailored financing strategies for different project stages matches FIs with maturity stages of investment projects, which also acts an important criterion to consider when selecting the appropriating financing strategy (WBCSD, 2017). Financing vehicles and green projects tend to vary depending on their stage of maturity and investor requirements (see figure). Players in the early stage rarely have access to bank loans or the equity market, so they typically rely on grants, government or public loans, private sector loans, and venture capital for financing. Established companies may be able to finance all or part of their projects internally, with available cash flow. Companies in the middle stage may not be

eligible for government support, and most grants are too small to supply the scale of financing needed. These companies cannot generate enough attention to produce a stable and supportive regulatory environment, which would increase investor confidence. Instead, they may self-fund with internal cash flow, use internal or external loans, or attract private equity from investors (WBCSD, 2017).

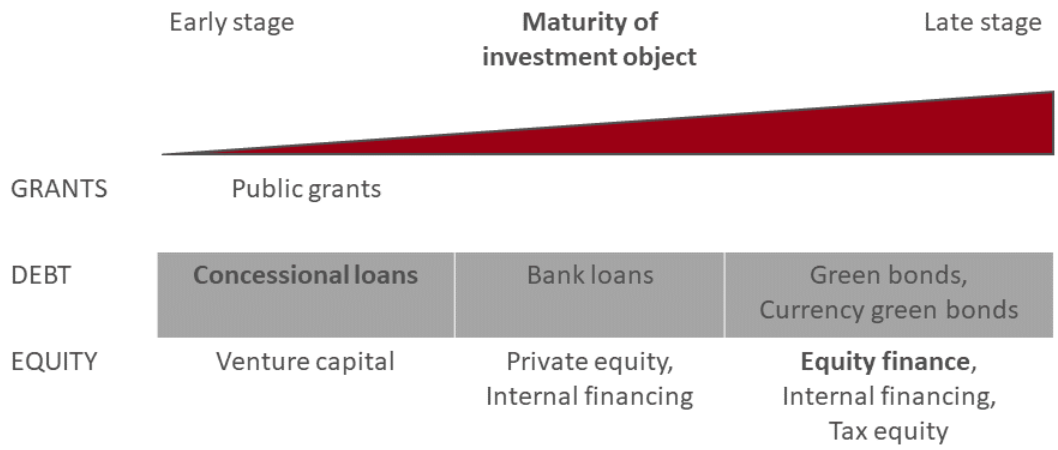

Figure 5: Financing vehicles for different maturity stages; Source: (WBCSD, 2017, p.25)

2.2 EU Support Schemes

Many project promoters, who may be cities, individuals, or businesses, need assistance to take their energy efficiency projects from idea to implementation. Beside the well-known funding opportunity via the **European Structural and Investment Funds (ESIF)**, the European Commission aims to guide projects through the financing process and has set up Project Development Assistance (PDA) facilities to help promoters (EC, 2019). Figure 3 outlines some of the most prominent EU financing schemes beside the ESIF.

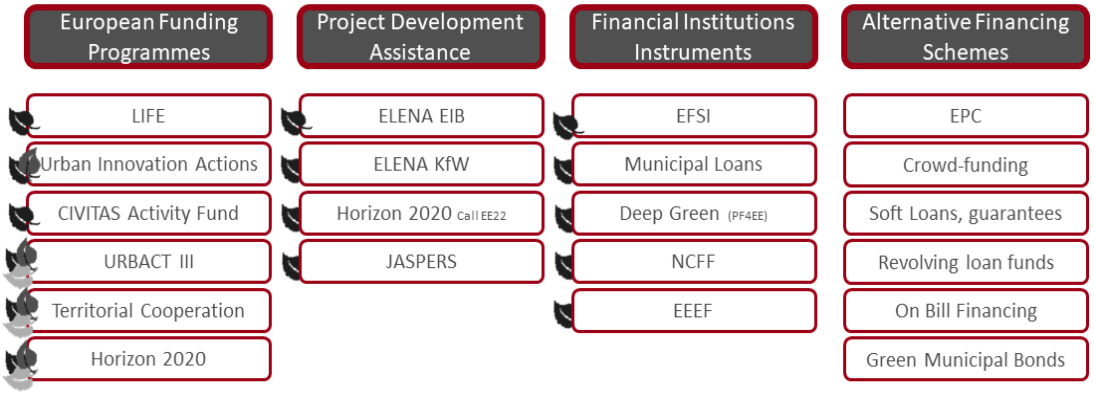

Figure 6: EU Financing Schemes for Climate & Energy Action; Source: (COM, 2016)

Those EU support schemes which are of particular relevance for GHG mitigation and energy efficiency financing in Cyprus are outlined in more detail below:

European Local ENergy Assistance (ELENA), managed by the EIB, supports private and public promoters to develop and launch large-scale bankable sustainable energy investments (above € 30 million) (EIB, 2012). The aim is to generate bankable investment projects that can attract outside finance, for example from local banks or other financial institutions, such as the EIB. These projects can also be implemented by ESCOs (see Chapter 2.1) ELENA provides grants for technical assistance focused on the implementation of energy efficiency, distributed renewable energy and urban transport programmes (EIB, 2019). ELENA covers up to 90% of project development costs (EC, 2019).

Typically, ELENA supports programmes above EUR 30 million with a 3-year implementation period for energy efficiency. It can cover up to 90% of technical assistance/project development costs. Smaller projects can be supported when they are integrated into larger investment programmes. The annual grant budget is currently between EUR 40 and 50 million (EIB, 2019). Projects are evaluated and grants are allocated on a first-come-first-served basis. Cyprus currently has no projects under this program.

ELENA Case Study: Efficient public lightning and buildings in the Region of Epirus (Greece)

The project aims at improving the energy efficiency of public buildings and public lighting systems located in the Region of Epirus (Greece) and deploy sustainable transport (EIB, 2016). The programme proposed has a substantial scale for the Region as well as a high level of ambition in terms of energy efficiency performance objectives set. All investments schemes will be realised through a PPP initiative. The ELENA-contribution for this project is set for EUR 1,6 million, while the total investment is aimed for EUR 63,3 million (EIB, 2016*)*. Thus, a considerable leverage factor of 42 is expected from this project.

It is a first project of that kind in Greece. The ELENA assistance contributes substantially to the implementation of the investment programme by bringing in missing resources and expertise. The ELENA support is designed with the aim of strengthening the Regions capacities.

The project implementation is scheduled between 2016 and 2019. The expected results are (EIB, 2016):

• Energy Efficiency - annual energy saved 13,6 GWhel and 7,1 GWhth

• Renewable Energy - annual total energy generation 1,2 GWh

• CO2 emissions reductions – annual total reductions of CO2 emissions 25.400 t CO2 eq.

Project Development Assistance (PDA) facilities support investments in energy efficiency by funding all project development activities such as feasibility studies, financial engineering, business plans, technical specifications or procurement procedures, as shown in Figure 4 (Canevari, 2018).

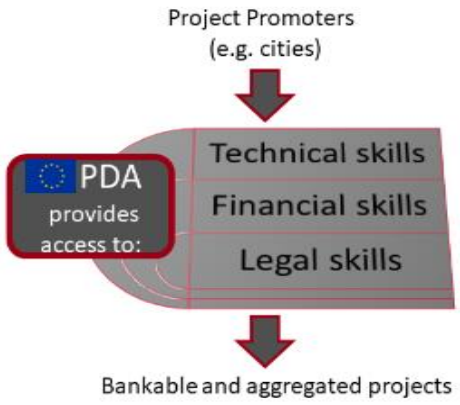

Figure 7: EU Project Development Assistance; Source: (Canevari, 2018, p.9)

PDAs help public and private promoters develop models for sustainable energy projects, focusing on small and medium-sized energy investments of at least EUR 7,5 million and up to EUR 50 million, covering up to 100% of eligible project development costs. In every project funded, a significant investment portfolio is built. For every million EUR of support, investments of at least EUR 15 million is said to be triggered. This in turn boosts the further development of the sustainable energy market and accelerates the achievement of related EU targets. By facilitating project bundling and investment structuring, PDA helps to attract additional funding and bridge the gap between project developers and financiers.

PDA Case Study: Zagreb Energy Efficient city (ZagEE)

The City of Zagreb was one of the first European capital cities to join the Covenant of Mayors initiative and it has set ambitious targets in order to meet the obligations defined in its Sustainable Energy Action Plan.

With ZagEE the city renovates a significant share of its public building stock, covering 87 public buildings, and public lighting. Near to 50% of energy savings will be achieved in the retrofitted buildings and 70% in public lighting. By implementing the proposed project measures, energy savings of 33.526 MWh per year will be achieved as well as 290 MWh of generated green electricity (EASME, 2018). The funding scheme which will be used for the ZagEE project is the most basic self-financing budget scheme, since there are no innovative financial instruments available in Croatia at the time (EC, 2016).

Expected key results of ZagEE are (EASME, 2018):

- Realization of average energy saving amounting to 49% in buildings and 72% in public lighting, i.e. an annual energy saving of 33.526 MWh in objects included in the ZagEE project;
- Using energy from renewable sources in an amount of 490 MWh annually in buildings;
- Reduction of greenhouse gas emissions by 8.390 tCO2 per year through energy refurbishment measures implemented in objects as part of the project;

The ZagEE project is a pioneer project in Croatia and the wider region; it will serve as a shining example and roadmap for other local authorities to follow and learn how to implement large scale sustainable energy projects (EASME, 2018).

3 Best-practice examples from EU member states

3.1 Financial instruments related to Banks

3.1.1 Slovakia - SlovSEFF

The Slovak Sustainable Energy Financing Facility (SlovSEFF) is a credit line provided by the European Bank for Reconstruction and Development (EBRD) through local banks aimed at promoting sustainable energy investments in the Slovak Republic's private sector. It was one of the first in a series of SEFF facilities implemented by the EBRD over recent years to encourage energy efficiency and renewable energy projects within private industrial companies and housing associations. SlovSEFF intends to channel financing to sustainable energy projects which reduce GHG emissions and also aims at transferring knowledge and building expertise among banks and companies related to sustainable energy investments. This is done by providing loans (EUR 20.000 – 2.500.000) and incentive payments in case of successful completion and verification of a project. Integral to the project design is also supplemental grant funding (EUR 30 million) for technical assistance which is free to borrowers and assumed to be one of the successful programs within the facility (EBRD, 2014).

Projects have been financed in different sectors, with the largest uptake in the housing sector (accounting for 61% of the funds) followed by industry-related projects (27%) and few investments in renewables (12%) (EBRD, 2014). By 2015, the SlovSEFF had supported more than 700 energy efficiency projects and sustainable energy investments that contribute to lowering emissions-intensive energy with a combined value of over EUR 200 million, resulting in combined annual energy savings equivalent to the total household electricity consumption of a city the size of Slovakia's capital city, Bratislava (EBRD, 2014). Since 2014, measures have resulted in an estimated 582 GWh of additional renewable energy generated in addition to the combined energy savings.

Sustainable energy projects financed under SlovSEFF III, which was implemented in 2014, are expected to achieve annual GHG emission savings of 40.000 tonnes of CO_2 equivalent. Launched in 2007 and respectively 2010, the two previous SlovSEFF phases reduced the amount of CO_2 emissions by 115.000 tonnes each year (EBRD, 2014).

3.1.2 Germany – KfW Energy Efficiency Programmes

The KfW Energy Efficiency Programme for Production Facilities and Processes is a loan-scheme offering different kinds of promotional funds, for instance loans to finance investments in energy efficiency measures, of up to EUR 25 million per project.

There are several eligibility which apply to the program:

- For investments in and outside Germany that achieve substantial energy-saving effects.
- Replacement investments must lead to energy end-use savings of at least 10% on the basis of the average consumption of the previous 3 years.
- New investments must achieve energy savings of at least 10% compared with the industry average.

There are some features which make the KfW programme distinctive from other bank schemes, the most important being (KfW, 2017):

- Promotional funding starts from energy-saving of 10%
- Disbursement 100%
- Favourable interest rates

Within the framework of these promotional loans, the KfW endorses a broad spectrum of energy efficiency measures in the area of production facilities and processes of commercial enterprises. Specifically, these loans are used to finance investment measures, modernisation measures and new investments.

Support is provided for domestic and foreign commercial enterprises (majority privately owned), contracting providers (for energy services) and freelancers. Subsidiaries and joint ventures with significant German participation are also promoted for foreign projects. Support (up to 100% of eligible investment costs) is granted in the form of low-interest loans. The interest rate differs between the energy efficiency levels entry standard (energy savings of at least 10%) and premium standard (energy savings of at least 30%). For modernisation investments, the average consumption of the last 3 years is taken as the reference for improvements. Expenses associated with the investment for planning and implementation support, as well as energy management systems, can also be subsidised.

The range of support provided by the loan covers the following areas: Machines/plants/process technology, compressed air/vacuum/suction technology, electric drives/pumps, process heat, process cooling/cold stores/cold rooms, heat recovery/waste heat utilisation (for production processes), measurement, control and regulation technology, information and communication technology and combined heat and power plants.

Complementary Programs which are also available for companies include:

KfW Energy Efficiency Programme – Waste Heat

KfW Energy Efficiency Programme – Energy-Efficient Construction and Refurbishment

3.1.3 Lativa – LABEFF

The Latvian Baltic Energy Efficiency Facility (LABEEF) was developed specifically to address low energy efficiency in buildings (ESEB, 2016). The innovative investment platform was founded in 2016 and aims to support ESCOs that implement renovation measures in multi-family buildings based on energy performance contracting (EPC). EPC describes a financing mechanism in which the receivables consist of the cost savings achieved through greater energy efficiency of buildings. The ESCO finances renovation measures through a commercial bank and makes an EPC contract with the building owners. Once renovation measures are completed and their effectiveness has been monitored and verified, LABEEF forfeits the EPC contract and continues to collect the EPC receivables from the building owners until the renovation investment has refinanced itself. Through this mechanism, the execution risk stays with the ESCO while the financing risk is transferred to LABEEF. To be able to forfeit the EPC contracts, LABEEF has collected loans from the European Bank for Reconstruction and Development (EBRD).

Latvia's building stock consists of about 39.000 multifamily buildings with an estimated total floor area of around 55.000.000 m^2. Currently, the average heating energy intensity of the multifamily building stock is at around 160-180 kWh/m^2 (Miezis et al., 2016). In order to achieve the target of the Latvian Energy Strategy 2030, the average energy consumption

must decrease to 100 kWh/m^2. LABEEF aims to modernise at least 20% of all multifamily apartments in Latvia by 2022. If successful, this would translate to annual avoided emissions of 21 kg CO2e per m^2. As a rough estimate, an investment of EUR 7.600 is needed to avoid a ton of CO_2e in the first year after the completed renovation. Given that the lifetime of the building is prolonged by 30-50 years, this goes down to ca. EUR 250-150 per ton in the long-term. The platform is a market-based instrument that finances itself, meaning that in the long-term no public money must be spent to achieve CO_2e emission reductions.

3.1.4 Bulgaria – ERDF (EFSI) Cohesion Policy Financing for Energy Efficiency related to SMEs

European Structural and Investment Funds (EFSI) is a EUR 16 billion guarantee from the EU budget plus EUR 5 billion from the EIB's own capital. EFSI has been integrated into the EIB Group and projects supported by EFSI are subject to the normal EIB project cycle and governance. Thematic concentration: obligatory % of European Regional Development Fund (ERDF) for different types of regions to be spent on innovation, digital growth, SME's, low-carbon economy (EC, 2018).

The Commission aims to guide projects through the financing process and to encourage the development of regional or local one-stop-shops covering the whole customer journey, and has set up Project Development Assistance (PDA) facilities to help promoters:

- ELENA, managed by the EIB, supports private and public promoters to develop and launch large-scale bankable sustainable energy investments (above EUR 30 million), including in sustainable transport. ELENA covers up to 90% of project development costs (EC, 2018).

- PDA H2020 helps public and private promoters develop model sustainable energy projects, focusing on small and medium-sized energy investments of at least EUR 7,5 million and up to EUR 50 million, covering up to 100% of eligible project development costs.

Allocation for low carbon economy thematic objective in Bulgaria = EUR 1,2 billion (EC, 2018):

- EUR 130,5 million in Energy efficiency in public buildings
- EUR 264 million Energy efficiency in enterprises
- EUR 208,1million Energy efficiency in housing sector
- EE in enterprises all contracted
- EUR 34 million for FIs for energy efficiency in enterprises.

Managing structure and coordination is provided by the national or Regional managing authorities and DG REGIO.

For the Bulgarian case a significant amount of energy efficiency related financing took place related to SMEs:

3.1.5 Belgium – Pilot Project Private Finance For Energy Efficiency (PF4EE)

The Private Finance for Energy Efficiency (PF4EE) instrument is a joint agreement between the EIB and the European Commission which aims to address the limited access to adequate and affordable commercial financing for energy efficiency investments. It is managed by the EIB and funded by the Programme for the Environment and Climate Action (LIFE programme).

The LIFE Programme committed EUR 80m to fund the credit risk protection and expert support services. The EIB will leverage this amount, making a minimum of EUR 480m available in long term financing.

The PF4EE instrument will provide:

- Portfolio-based credit risk protection provided by means of cash-collateral (Risk Sharing Facility)
- Long-term financing from the EIB via their Loan for Energy Efficiency
- Expert support services for the Financial Intermediaries (Expert Support Facility)

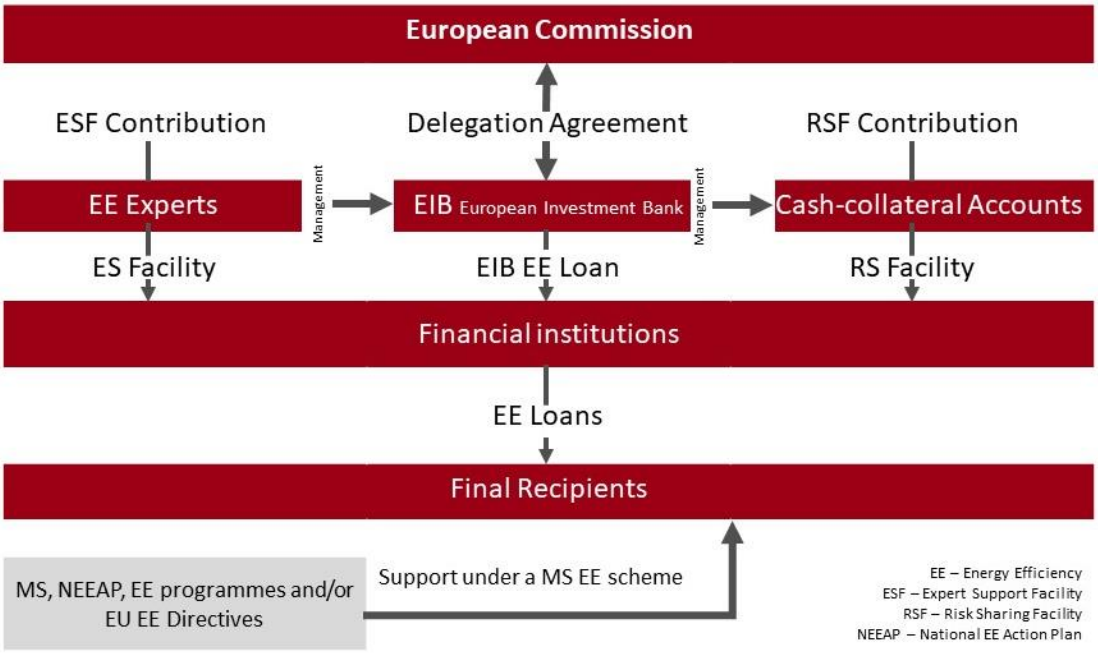

Figure 8: PF4EE schemes under the European Commission; Source: (EIB, 2016)

At the end of 2016, the Belfius Bank in Belgium drew up a pilot project, supported by the EIB (European Investment Bank), to lower the threshold for financing of energy-efficiency projects. The EIB is giving Belfius guarantees on possible losses of up to 80%. When this happens, it is easier for energy-efficiency projects to be approved. The targeted audience are especially SMEs.

The PF4EE instrument combines three elements. The first consists of an EIB loan for financing eligible energy efficiency projects, to be managed by local banks. The second component covers the losses potentially incurred by partner banks in relation to energy efficiency loans. The third component will bolster the implementation of the PF4EE

instrument by transferring the technical and financial experience acquired in the course of other similar projects.

This financing facility enables Belfius to provide businesses with EUR 75m in loans on favourable terms for investments aimed at improving energy efficiency in Belgium, thereby addressing key climate-change issues.

These loans are available to both businesses and ESCOs. Belfius has access to the technical and financial expertise of specialised consultants and benefits from a transfer of experience as part of PF4EE. These loans are also secured by the PF4EE guarantee up to 80% of their value.

Projects financed by PF4EE will aim, in particular, to improve the energy efficiency of existing buildings (insulation, heating, ventilation, cooling, lighting, decentralised renewable energy production, etc.), reduce the energy consumption and strengthen the energy efficiency of industrial sites and processes, refit or extend urban heating or cooling networks, and improve the energy performance of public lighting systems.

The projects will be implemented on behalf of either the borrowing companies themselves or their public or private sector customers.

This agreement with Belfius makes Belgium the fourth country to benefit from PF4EE after the Czech Republic, Spain and France. The European Commission and EIB aim to use this new instrument to generate EUR 1 billion in energy efficiency investments across Europe.

PF4EE Case Study – Energy and cost efficient renovation of a multi storage building in Brussels

The project covers the installation of an efficient cogeneration facility and the complete renovation of the 27-storey building's roof (see picture). This project benefited from financing under the Belfius Energy Efficiency Package (BEEP), developed in Belgium by Belfius and the European Investment Bank (EIB) as part of the EU's Private Finance For Energy Efficiency (PF4EE) programme (EIB, 2018).

The joint owners of the 430 apartments have not made any financial contributions, yet will benefit from free energy and even a financial return.

The repayment of the investment made will be covered by selling the cogenerated green electricity back to the network. This production will also make it possible to cut the jointly owned building's energy costs by around EUR 40.000 a year while also reducing CO_2 emissions by 27% (i.e. 292 tonnes a year) for heating and power in common areas (EIB, 2018).

3.2 Financial instruments related to (governmental) support schemes

3.2.1 Case Study: Integrated approach - Austria

The integrated approach of Austria, may be the most shining example in Europe, where a country sets specific targets and financially supports actions and measures that bring SMEs closer to climate strategy of the country.

The Environmental Aid Act (UFG) provides for the general support of projects which protect the environment. The UFG is divided into several fields of action; incentives to use energy from RES in the heating and cooling sector are provided in the Environmental Assistance in Austria (UFI) field of action. (§ 23 para. 1 UFG in conjunction with § 4 para. 1 Guidelines 2015). An annual budget of maximum € 130 million between 2009-2021 is granted for different purposes of environmental assistance by the Austrian Federal Ministry for Sustainability and Tourism (BMNT) (§ 6 para. 2f subpara. 1 UFG). For 2017-2021 the annual budget stands at EUR 80 million (Sternkopf, 2018).

As part of the environmental assistance, promoting small-scale RES heating and cooling is applied at a federal level carried out through the national corporate environmental support programme (UFI – betriebliche Umweltförderung im Inland). There are special investment incentives for solar thermal installations, heat pumps, geothermal energy and biomass heating plants, especially for businesses.

Thus, since the existence of this instrument, investments of EUR 33 billion in renewable energy, energy efficiency, climate-friendly mobility and other climate and environmental protection measures, promotion of water management and remediation initiated. This saved over 176 million tons of greenhouse emissions (Sternkopf, 2018).

3.2.2 Case Study: Bonus-Malus - France

France has introduced a bonus-malus system depending on both the horse power and CO_2-emission (Transport Malus Ecologique) for new passenger cars. The French bonus-malus system might be one of the best of its kind in the EU. The bonus system aims to reward, through long-term purchase or lease financing (2 years and more), purchasers of new cars or vans emitting from 0 to 20 grams of CO_2 per kilometre (Direction de l'information légale et administrative, 2019). This rebate system is one of the key tools that the French government is using to bring down carbon emissions from vehicles.

Set up in 2008, the bonus is reviewed annually in order to adapt to the evolution of the offer of low-emission vehicles. For its implementation, two cases are possible:

a. If the dealer agrees to advance the amount of the bonus, it is deducted from the purchase price inclusive of tax;
b. If the vehicle is purchased from a dealer who refuses to advance the bonus, the buyer can benefit from the bonus by using the application form for payment of the ecological bonus for individuals and return it to the Agency of Services and Payment (ASP), which is the agency in charge of the management of applications for this aid.

The bonus applies to new vehicles belonging to the category of passenger cars, vans and specialized motorized vehicles, as well as vehicles with two or three wheels and quadricycles within the meaning of the Article R. 311-1 of the Highway Code. Vehicles eligible for the bonus may be registered by individuals or by companies. A vehicle purchased

abroad and never registered, is eligible for the bonus. The purchase of used vehicles is not included in this aid (Direction de l'information légale et administrative, 2019).

3.2.3 Case Study: Biogas support - Denmark

The production of biogas in Denmark is rapidly increasing. The total production is expected to more than triple from 2012 to 2020, reaching a total annual production of 15 PJ (Danish Energy Agency, 2017/2018). To date the majority of the produced biogas is used in electricity production. In the future it is expected that a greater share of the produced biogas will be upgraded and delivered to the natural gas grid. The Danish state promotes the production of biogas through subsidies granted to applicants using biogas for a number of specified purposes. The subsidies for the different uses of biogas are generally divided into three different components:

- **General subsidy:** is regulated annually with 60% of the net price index.
- **Bonus 2:** is regulated according to the natural gas price.
- **Bonus 3:** is gradually reduced and will stop by 2020.

The supported uses of biogas are:

a. **Electricity production:** Electricity produced from biogas can receive support in the form of a fixed subsidy or a price bonus. If the electricity is produced on biogas only, owner of the electricity generation plant may, on a yearly basis, choose to receive either the fixed premium or the price bonus. If the electricity is produced on biogas together with other fuels, the owner of the electricity generation plant may receive the price bonus for the amount of electricity produced from biogas. In addition to either the fixed premium or the price bonus, the owner of the electricity generation plant may receive bonus 2 and 3.

b. **Upgrading of biogas and injection to the natural gas grid and district gas grids:** For companies that supply upgraded or cleaned biogas to either the natural gas grid or town gas grids, the following subsidy may be granted per sold GJ lower calorific value (Danish Energy Agency, 2017/2018).

c. **Industrial processes:** When biogas is used for processing purposes in the industry, a specific amount of subsidy can be granted per sold GJ lower calorific value.

d. **Fuel for transport:** When biogas is sold directly to an end-user as transport fuel, the subsidy may be granted per sold GJ lower calorific value: The subsidies are granted to the person that sells the biogas to an end-user for transportation purposes. Biogas that is upgraded and injected into the natural gas grid and later used for transportation, is not eligible for the transportation subsidy.

e. **Production of heat:** The used biogas for heat production purposes, is granted per sold GJ lower calorific value depending on the category of subsidy.

3.2.4 Case Study: Excise Tax - Lithuania

In Lithuania, electricity from renewable sources is mainly promoted through a sliding feed-in premium (Ministry of Finance of the Republic of Lithuania, 2018). RES plants with the installed capacity exceeding 10 kW acquire the guaranteed tariff rates through tenders (EC, 2019). Under the sliding feed-in premium scheme only the already existing RES plants are supported. Support is not available for new RES installations and no tenders are currently

being organised. However, a new support scheme for renewable technologies is planned to be introduced from 2019 - technology neutral tenders in combination with a fixed feed-in premium. Furthermore, the producers of renewable electricity may apply for subsidies and loans from the Environmental Project Management Agency (EPMA) under the Climate Change Special Programme and are exempt from the excise duty.

In Lithuania, the obligation to pay excise tax on electricity arises where:

a. it is sold or otherwise transmitted to a person who has no business licence
b. it is received by an unlicensed person from another EU member state
c. it is imported by an unlicensed person or
d. it is consumed by the holder of a licence or an electricity producer for own use *Electricity consumption for own use is defined as the consumption of electricity for purposes other than electricity production processes and production process maintenance.

Electricity from renewable sources is exempted from excise duty.

Also, excise tax relief applies to transport biofuels produced from biomass. The excise tax rate is reduced in proportion to the percentage of biomass per tonne of biofuel. The relief applies to bioethanol, biodiesel, bio-ETBE and vegetable oil.

For organic biofuel blends (only organic additives) of at least 30%, the tax relief is proportional to the percentage of organic additives. Biofuels produced entirely from materials of organic origin are fully exempt from excise duty (EC, 2019).

For other biofuel blends, the tax rate is reduced in proportion to the percentage of biofuels exceeding the mandatory percentage.

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Annex

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td rowspan="2">Austria</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: Environmental Assistance in Austria

The Environmental Aid Act (UFG) provides the general assistance for several support schemes to protect the environment in Austria. An annual budget of maximum € 90.238 million between 2009-2020 is allocated for different purposes of environmental assistance by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management.

The environmental assistance is provided at federal level, for investment grants aiming at the promotion of renewables in all sectors, energy efficiency, sustainable transport, waste management etc and the investment incentives for SMEs are described below:

1. <u>WASTE HEAT RECOVERY</u>

a. Grants for waste heat recovery will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings are also eligible for funding.

b. Measures to be funded:

i. Installations for the recovery of waste heat from industrial and commercial processes.

ii. The injection of waste heat into existing or new local district heating networks by means of transportation lines and distribution centres.

iii. Distribution grids with transfer stations.

iv. Heat pumps for the central temperature increase of waste heat for heating purposes.

v. Low-temperature or power grids with consumer-side heat pumps to use the waste heat.</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	c. Depending on the type of installation, the subsidy **is up to 35% of the eligible investment cost.** **d.** Moreover, the subsidy can be **increased by 5 % if the company is certified with EMAS.** **2. PURCHASE OF ELECTRIC BICYCLES, ELECTRIC TRANSPORT WHEELS AND TRANSPORT WHEELS** a. Funding is provided to all companies and other entrepreneurial organizations. In addition, public authorities, associations and religious buildings may also be beneficiaries at the scheme. b. The purchase of electric bicycles and electric transport wheels, which are operated exclusively with electricity from renewable energy sources. c. The funding is **€ 100 per electric bicycle, € 250 per electric transport and € 200 per transport wheel**. Maximum amount of subsidy is up to 30% of the total eligible cost. **3. PROMOTION OF ELECTRIC CARS FOR COMPANIES** a. The purchase of electric, fuel cell and plug-in hybrid drives as well as range extenders can be supported for funding in the framework of budgetary and time-limited promotion campaign. Registrations can be made up to 31.12.2018, depending on the available budget any resources. After registration, the applicants have a maximum of 24 weeks to submit an application. b. Funding is provided to all companies and the applicants can be also entrepreneurial organizations, public authorities, associations and religious buildings. c. Amount of subsidy: i. **€ 1.500 per vehicle for pure electric and fuel cell vehicles,** or **ii. € 750 per vehicle for Plug-In-Hybrid vehicles as well as Range Extender.** **4. PROMOTION OF ELECTROMOBILITY THROUGH CAMPAIGNS** a. Eligible to participate are all organizations or companies that can contribute to the further development of electromobility in Austria within the scope of acall for tenders. b. Based on previous experience and findings, the Climate and Energy Fund continued promotions to electromobility in 2018 and will continue to significantly accelerate the market penetration of electromobility through targeted awareness-raising and market-entry measures. Therefore, the sole topic of the call for proposals is awareness raising and measures to speed up the market launch.

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	Thus, projects eligible for funding are that can contribute to the further development of electromobility in Austria within the scope of the tender. The projects this year have to go beyond small-regional projects and, if possible, address the whole territory of Austria. **c. Budget: 0,5 million euros.** **i. Shared budget: 150.000 euros are exclusively for "small" projects with cost of up to max. € 30.000 including VAT.** **ii. The remaining budget will be provided for "big" projects with maximum cost of up to € 75.000 including VAT.** **5. <u>THERMAL TREATMENT OF WASTE, SUBSTITUTION OF FOSSIL FUELS AND ANAEROBIC DIGESTION</u>** a. Funding for the energetic use of biogenic feedstocks and residues will be provided to all companies and other entrepreneurial organizations. In addition, clubs,associations and religious buildings can also submit applications for funding. b. The thermal treatment of waste of biogenic origin and the substitution of fossil fuels with secondary fuels with biogenic content are subsidized. This includes: i. Plants fuelled exclusively with biogenic feedstocks and residues. ii. Measures for the substitution of fossil fuels with biogenic raw materials and residues in the proportionate amount of waste of biogenic origin. iii. Anaerobic digestion plants (Biogas plants) that use biogenic raw materials and residues. c. The support amounts **up to 30% of the eligible additional investment costs.** **6. <u>PLUG-IN AND ENERGY-EFFICIENT REFRIGERATORS AND FREEZERS</u>** a. Funding for energy-efficient refrigerators and freezers will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications for funding. b. The purchase of plug-in, energy-efficient and environmentally friendly refrigerators and freezers for commercial use with integrated, hermetic (sealed) refrigeration unit can also be eligible. c. The subsidy is granted as a lump sum, depending on the device type and **is set at 30% of the purchase cost**. The investment cost for a grant application **must amount to at least € 2.000.** **7. <u>ENERGY EFFICIENCY MEASURES: HEAT RECOVERY, LIGHTING OPTIMIZATION AND EFFICIENT USE OF ENERGY</u>** a. Funding for energy saving measures will be provided to all companies and other entrepreneurial organizations. In addition, clubs,

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	associations and religious buildings can also submit applications for funding. b. Measures to be funded: i. Heat recovery of refrigeration systems and ventilation systems. ii. Other types of heat recovery or use of previously unused heat flows and heat pumps for the development of low-temperature waste heat. iii. The optimization of heating systems in existing buildings with at least 10% energy savings. iv. The optimization of fossil fired heat generators. v. The optimization of outdoor lighting. vi. The optimization of lighting in existing buildings by installing ballasts and sensors control with at least 10% energy savings. vii. Increasing the efficiency of industrial processes and plants with a significant technological and environmental upgrade. c. The funding is up to **35% of the eligible investment cost.** **8. NATURAL GAS OR LPG CHP PLANTS** a. Natural gas cogeneration funding will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. Highly efficient combined heat and power natural gas or LPG plants for the combined generation of electricity and heat will be supported. The generated heat should cover the existing heat demand up to a size of 100kW el and the produced electricity should be used predominantly in-house. c. The funding is up to **30% of the eligible investment cost**. **9. PURCHASE OF PASSENGER VEHICLES AND TRANSPORT** a. The promotion of purchase of passenger vehicles with alternative propulsion will be provided to all companies and other entrepreneurial organizations. In addition, public authorities, associations and religious buildings may also submit applications. b. The purchase and conversion of vehicles for passenger transport with ≤ 5 tonnes (except vehicles with electric drive) or for the transport of goods for vehicles with up to 2,5 tonnes and for vehicles> 2,5 to ≤ 3,5 tonnes maximum permissible weight with biogas

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	can be subsidized. Biodiesel, vegetable oil and superethanol drive can also be subsidised. The share of biofuel must be at least 50% of the annual amount of fuel consumed. Full hybrid drive diesel powered vehicles are excluded from this scheme. c. Depending on the vehicle class and the type of drive, the subsidy amounts to **€ 200 to € 2.000** per vehicle, is paid out as a non-repayable grant and is limited to **30% of the cost of purchase.** **10. PLANT COMPONENTS FOR DISTRICT HEATING CONNECTION ≥400 KW_{th}** a. Funding for district heating will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. All plant components for a district heating connection with a capacity ≥400 kW_{th}, which are located within property boundary and ownership of applicants can be funded. **c.** Depending on the type of installation, the subsidy is up **to 30% of the eligible Investment cost.** **11. HAZARDOUS WASTE, PREVENTION, RECYCLING, THERMAL RECOVERY AND OTHER TREATMENT** a. Grants for hazardous waste minimization are provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. Measures eligible for funding: i. Avoidance of hazardous waste generation. ii. The recycling of hazardous waste. iii. Thermal utilization or other treatment of hazardous waste. c. The funding is up to **30% of the eligible cost.** **12. BOILER SYSTEMS AND MICRO NETWORKS FOR CENTRAL HEATING GENERATION** a. In-house support for wood heating systems will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. Measures be funded: i. Boilers of ≥ 400 kW nominal heat output, which are operated with wood pellets, wood chips from solid biomass or

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	firewood. ii. Boilers of ≥ 400 kW nominal heat output for central heating systems and for generating process heat. iii. Micro networks for internal heat supply in connection with a boiler system. The support includes investments in wood heating systems for the central heating of one or more in-house buildings. c. The subsidy is **up to 35% of the eligible cost**. **13. <u>CONDITIONING AND COOLING ADSORPTION, ABSORPTION CHILLERS, FREE COOLING SYSTEMS, PROCESS REFRIGERATION SYSTEMS</u>** a. Funding for air conditioning and cooling will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. Facilities for the air conditioning of operational buildings and facilities for the provision of process refrigeration can be funded: i. Adsorption and absorption chillers driven by renewable energy or from industrial waste heat or district heating. ii. Free cooling systems (e.g. based on ground, river or well water). iii. Process refrigeration systems using alternative refrigerants (such as CO_2, ammonia, propane, ...) as well as refrigerants with a GWP up to 150. iv. Replacement or optimization of process refrigeration systems using refrigerants with a GWP between 150 and 1.500. c. The support amounts to up to **35% of the eligible additional investment cost.** **14. <u>LED SYSTEMS AND LIGHTING CONTROL SYSTEMS</u>** a. In-house funding for LED systems will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. The subsidized LED systems with a minimum connected load of 500 watts should be used to illuminate operational existing buildings. Prerequisite is the replacement of conventional luminaires on LED systems. With the simultaneous installation of a lighting control system, bonus will be provided. c. The subsidy **is € 600 / kW of connected load**. With simultaneous implementation of a lighting control a Bonus of **€ 100 / kW** connection power can be granted. The promotion is considered a non-repayable grant and is limited to **30% of the investment**

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	cost. **15. <u>BIOMASS DISTRICT HEATING SYSTEMS, HEAT DISTRIBUTION NETWORKS, GEOTHERMAL SYSTEMS, ETC.</u>** a. Funding for local heating based on renewable energy will be provided to all companies and other entrepreneurial organizations. In addition, clubs, assosiations and religious buildings can also submit applications. b. Measures to be funded: i. Biomass district heating plants. ii. New construction and expansion of heat distribution networks based on biomass, geothermal or industrial waste heat recovery. iii. Optimization of local heating systems. iv. Replacement of boiler systems in existing biomass district heating plants. v. Biomass combined heat and power. vi. Geothermal local heating systems. c. Depending on the type of installation, **the subsidy can be up to 35% of the eligible costs.** **16. <u>BEYOND ENERGY EFFICIENT BUILDING CONSTRUCTION</u>** a. Funding for new constructions with energy-efficient design will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications for funding. b. The support is for buildings with energy-efficient construction, which are considerably lower than the requirements of the EPBD Examples of eligible measures are: i. Insulation of the thermal envelope. ii. Windows and exterior doors. iii. External shading systems. iv. Heat recovery systems for ventilation systems.

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	v. Associated works. c. The subsidy depends on the EPBD requirements for heating demand and **is up to 30% of the eligible investment cost.** **17. <u>WOOD HEATING, SOLAR THERMAL SYSTEMS, CONNECTION TO THE DISTRICT HEATING</u>** a. Funding for environment and climate friendly heating will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. It promotes the rebuilding, conversion and refurbishment of environmentally and climate friendly heat generators. i. These can be: 1. Wood heaters with less than 400 kW thermal output. 2. Thermal solar systems with less than 100 m² collector's surface. 3. District heating connections with less than 400 kW thermal output. ii. Wood heating systems with less than 400 kW thermal output. 1. Wood heating systems are provided for the central heat supply of a building, with a nominal heat output of less than 400 kW. a. These include: i. Boiler plants operated with wood pellets, wood chips from solid biomass or firewood. ii. Boiler systems for central heating and for generating process heat. c. The subsidy is determined on the basis of the nominal heat output or plant size and is **30% of the total eligible cost**. The support is an investment grant in the form of a de minimis. 18. **<u>PRODUCTION OF HEATING AND / OR HOT WATER</u>** a. Funding for electrically powered heat pumps will be provided to all companies and other entrepreneurial organizations. In addition, clubs, associations and religious buildings can also submit applications. b. Promotion of heat pumps to provide heating and / or hot water. For heat pumps, which are also used for cooling, not the entire investment cost is eligible but only those costs that can be attributed to the heating operation.

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">c. The support amounts to up to 20% of the eligible additional investment cost.</td></tr>
<tr><td rowspan="2">Belgium</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4">
<u>Financial Support Scheme 1</u>: Brussels-Capital: Aide à l'investissement - Investment support for RES electricity, heating/cooling

a. Grants within budget availability and limits, the Brussels-Capital provides investment support for companies and industries that develop environmental projects, including investments in renewable energy.

b. The amount of the investment support depends on the size of the company:
i. Micro and small enterprises: 40 % of the eligible costs.
ii. Medium enterprises: 30 % of the eligible costs.
iii. Large enterprises: 20 % of the eligible costs.

c. Moreover, the subsidy can be increased by 5 % if the company is certified with EMAS, ISO 14000 or as "eco-dynamic enterprise". The amount of the investment assistance cannot exceed € 80.000 per company and per calendar year.

d. Funding is provided to industrial and commercial companies.

e. Eligible are investments in photovoltaic installations for the production of electricity, as well as, biogas and biomass CHP and trigeneration plants for the production of heating, cooling and electricity. Eligible is also cost associated with assembly, installation and transport of the equipment. Moreover, the eligible investment shall amount to at least € 7.500 and shall concern investments planned within the Brussels-Capital region.

<table>
<tr><th>Type of Energy</th><th>Conditions</th></tr>
<tr><td>Solar energy</td><td>Investments in photovoltaic installations are eligible under the following conditions:
• Crystalline panels shall meet the requirements of the international standards IEC 61215 and have a minimum efficiency of 12 %.
• Thin-film PV panels shall meet the requirements of the international standards IEC 61646 and have a minimum efficiency of 7 %.</td></tr>
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<table>
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<tr><td></td><td>
<table>
<tr><td>Biogas</td><td>Investments in biogas CHP and trigeneration plants are eligible under the following condition:
The CO_2 savings of the plant shall amount to at least 5 % compared with conventional installations producing separately heating/cooling and electricity.</td></tr>
<tr><td>Biomass</td><td>Investments in biomass CHP and trigeneration plants are eligible under the following condition:
The CO_2 savings of the plant shall amount to at least 5 % compared with conventional installations producing separately heating/cooling and electricity.</td></tr>
</table>
<u>Financial Support Scheme 2:</u> Wallonia: Aide à l'investissement pour l’energie durable

Grants within budget availability and limits, the Wallonia Region provides investment assistance for companies that develop projects aiming at developing the sustainable use of energy, including investments in renewable energy.

As far as renewable energy plants are concerned, equipment for biogas and biomass CHP plants, hydropower plants, and wind power plants are eligible for funding.

a. The investment cost should be at least € 25.000.
b. The subsidy is calculated on the basis of the additional costs generated by companies compared with the costs of conventional energy production plants with the same capacity.
c. The amount of subsidy differs according to the company:
• For small and medium companies: maximum 50 % of the investment cost can be supported. Moreover, the total amount of the subsidy cannot exceed € 1,5 million over 4 years.
• For large companies: maximum 20 % of the investment cost.
d. However, if the company is located within a development zone, the amount can be increased by 5 % or 10 % according to the province.
The following table shows the eligible capacities for RES plants for funding.
</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs

Wind energy	Wind energy installations with an electrical power below 1 MW are eligible (Art.9 §2 Arrêté du 2 décembre 2004).
Biogas	The production of heat and electricity through biogas CHP plants is eligible, except for plants with an electrical power less than 10 kW (Art.9 §2 Arrêté du 2 décembre 2004).
Hydro-power	Eligible
Biomass	Heat production through biomass heating plants as well as heat and electricity production through biomass CHP plants are eligible, except for the following investments (Art.9 §2 Arrêté du 2 décembre 2004): ▪ CHP plants with an electrical power over 5 MW using solid biomass ▪ Large company investments in CHP plants with an electrical power over 1 MW using solid biomass ▪ Company investments in CHP plants using liquid biomass
Geothermal energy	According to the Directorate for investment programmes, the allocation of a subsidy for renewable energy installations using deep geothermal energy may be granted on a case-by-case basis.

Financial Support Scheme 3: Flanders: Certificates schemes for renewable electricity and high-efficiency cogeneration in Flanders

a. The region of Flanders uses a quota system and a certificate trading scheme to support renewable energy. In general, all renewable energy generation technologies are eligible for the quota system.
b. The amount of electricity to be produced for one certificate varies across technologies and is based on a technology-specific banding factor. This so-called banding factor accounts for the specific technology costs and depreciation rate. Thus, one certificate does not necessarily equal to 1 MWh. The grid operators are obliged to meet their quota obligations, i.e. present green certificates for the quota defined by law, every year by 31st of March.
c. The quota is calculated according to a formula set by Law (see below).
d. The factor “Gr” is determined by Law. It is equal to: **0,205 in 2018** and post 2018.

C=Gr x Ev x Btot

Where,

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">C: represents the amount of green certificates

Ev: represents the amount of electricity supplied

Btot (“banding coefficient”): represents the ratio between the granted green certificate quota and the total gross green electricity production in the year n-2

According to the Law, the amount of green certificates to be presented, “C” is calculated by multiplying the amount of electricity supplied Ev in MW by the factor “Gr”.</td></tr>
<tr><td rowspan="2">Bulgaria</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☒ Loan guarantees</td></tr>
<tr><td>☒ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Bulgarian Energy Efficiency Fund – BGEEF

The Bulgarian Energy Efficiency Fund (BGEEF) has established by the Energy Efficiency Act and offers financing grants for projects aiming at improving the energy efficiency and supporting the use of renewable energy in public, industrial and residential buildings.

a. Project Eligibility Criteria:
i. The project must apply a well proven energy saving technology.
ii. At least 50 % of a project’s benefits must come from energy savings.
iii. Investment payback period: up to 7 years.
iv. Investment range: BGN 30.000 – 3.000.000 (EUR 15.000 – 1.500.000).
v. Annual interest rate.
vi. Project developer’s equity contribution – at least: 10 % in case of co-financing (BGEEF & commercial bank).
vii. Credit maturity period: up to 7 years.
b. Beneficiaries:
i. Municipalities – 52,85% of BEEF total portfolio volume.
ii. SMEs – 35,23% of BEEF total portfolio volume.
iii. Universities/Hospitals – 11,92% of BEEF total portfolio volume.

<u>Financial support scheme 2:</u> Tax regulation mechanism (Tax Reduction for Biofuels)</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">The following financial incentives are applied to promote the use of biofuels in Bulgaria:

i. A reduced rate of excise duty for unleaded petrol when bioethanol with 4 % to 5 % of volume has been added.
ii. A reduced rate of excise duty for gas oil when biodiesel with 4 % to 5 % of volume has been added.

The reduced rates are valid for 2 years from the date of approval of the Scheme.

For unleaded petrol used in transport, in which the content of bioethanol is 4 % or more by volume, the support is:

i. BGN 646 (€ 323) for 1.000 litres.
ii. Otherwise, BGN 710 (€ 360) for 1.000 litres– tax reduction of BGN 64 (€ 32) for 1.000 litres.
For gas oil used in transport, in which the content of biodiesel is 4 % or more by volume, the support is.

i. BGN 646 (€ 323) for 1.000 litres.
ii. Otherwise, BGN 710 (€ 360) for 1.000 litres – tax reduction of 64 (€ 32) for 1.000 litres.</td></tr>
<tr><td rowspan="2">Croatia</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: Tax regulation mechanism (Tax Reduction for Biofuels)

a. The Excise Duty Act sets the excise duty on biofuels to 0 in order to increase their distribution.

b. Biofuels are exempted from excise duty. It amounts to HRK 3.151 per 1.000 litres for regular unleaded petrol.

c. Beneficiaries: Biofuel traders.</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td rowspan="2">Cyprus</td><td>☒ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tending schemes</td></tr>
<tr><td></td><td colspan="4">
<u>Financial Support Scheme 1</u>: Net-Billing for PV, Biomass and CHP

Net-Billing for PV, Biomass

a. It concerns RES installations that are implemented in premises of commercial or industrial pricing (in commercial, industrial buildings, public buildings, camps, schools, agricultural and animal husbandry units, fishing enterprises etc) for the purpose of generating electricity for own use.
b. The installed capacity of each RES system that can be installed ranges from 10kW to 10MW per installation.
c. Basic requirement: The maximum power of each RES system can not exceed the 80% of the installed capacity except the occasions where a storage system would be installed.
d. Operation: Where the cost of exported electricity does not exceed the cost of imported electricity then the consumer will pay the difference resulting from the offsetting the cost of exported and imported electricity for each time of billing period. Respectively, in case where the cost of the exported electricity exceeds the cost of imported electricity the surplus amount will be credited for the next billing period.

Installation of CHP Units with the methodology of Net-Billing

a. Total Power: 20MW
b. In the category of Net-Billing can also be included CHP units which can be located in commercial and industrial premises (e.g. commercial, industrial units, public buildings, camps, schools, agricultural and livestock units).
c. The installed power of each CHP system cannot exceed 5MW per installation.

<u>Financial Support Scheme 2</u>: Net-Metering

a. Net-metering concerns investments by homeowners or industrial and commercial installations for photovoltaic installation (PV) systems up to 10kW connected to the distribution network, to cover their own needs, with the implementation of the net metering system.
b. The system should be on the roof of legally built premises or on the ground within the same plot of the building.
c. The maximum power for each building is subject to the following restrictions:
i. For premises with Single Phase Electrical Installation the installed system it can be up to 4,16 kWp.
</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">ii. For premises with Three phase Electrical Installation PV the installed system it can be up to 10 kWp.

<u>Financial Support Scheme 3</u>: Large RES-e projects

a. Support Scheme for RES-e projects that will be finally enter the competitive electricity market where RES plants can be connected to the grid and receive a “RES price” at EAC avoidance cost until the opening of the competitive electricity market. This is not a clear “Feed-In Tariff”, as its main purpose is to facilitate the introduction of new RES-e to the new competitive electricity market. The Support Scheme was open for application until 16.04.2018.
b. Wind energy, Solar energy, Biomass and Wave energy projects are eligible.
c. Plant operators will receive a RES price (Purchase Price by Electricity Authority of Cyprus (EAC) for energy produced from RES). The level of purchase price is defined by a methodology stipulated in CERA’s Report 08/2016 (ch.3 SSRES 2017 in conjunction with Regulatory Decision 04/2017). According to CERA’s Report, the RES price is based on the following equation:

RES price (€ct/ kWh) = Basic Price + Fuel Adjustment on Basic Purchase Price

where,

Basic Price (€ct/ kWh) = Basic Fuel Price+ Mean Variable Maintenance Cost

Fuel Adjustment on Basic Purchase Price (€ct/ kWh) = (Monthly Weighted Average Fuel Price -Basic Fuel Price x 100)/ 5 €ct x

Fuel Adjustment Coefficient RES price is updated bimonthly.</td></tr>
<tr><td rowspan="2">Czech Republic</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: OP PIK 2014-2020-(Subsidy Programme “Renewable Energy Sources”).

a. This program supports the construction or reconstruction of electricity or heat generating plants, for which the energy produced is primarily intended for distribution rather than own consumption. The quality and usefulness of the project with regards to its environmental benefits and economic effectiveness are subject of the project’s evaluation and selection criteria.
b. The amount of the subsidy depends on the size of the company and the supported renewable energy technology. The amount of the</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">subsidies in the case of measures relating to small hydro power plants, CHP from biomass and biomass heating plants are given below:
<table>
<tr><th>Type of Company</th><th>Amount of subsidy</th></tr>
<tr><td>Small company (up to 49 employees)</td><td>80% of eligible costs</td></tr>
<tr><td>Medium-sized company (50 – 249 employees)</td><td>70% of eligible costs</td></tr>
<tr><td>Large company (250 employees and more)</td><td>60% of eligible costs</td></tr>
</table>
The amount of the subsidy in the case of biomass heating and biogas from the existing biogas plants is given below:
<table>
<tr><th>Type of Company</th><th>Amount of subsidy</th></tr>
<tr><td>Small company (up to 49 employees)</td><td>50% of eligible costs</td></tr>
<tr><td>Medium-sized company (50 – 249 employees)</td><td>40% of eligible costs</td></tr>
<tr><td>Large company (250 employees and more)</td><td>30% of eligible costs</td></tr>
</table>
c. Beneficiaries: The small, medium-sized and large enterprises. Projects must be implemented outside the territory of the City of Prague.

<u>Financial Support Scheme 2</u>: Tax regulation mechanism (Exemption from Real Estate Tax)

Properties used solely for the generation of heat from biogas, biomass, hydrothermal, geothermal energy or heat pumps are exempted from real estate tax.</td></tr>
<tr><td rowspan="2">Denmark</td><td>☒ Feed-in tariffs</td><td>☒ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Tax regulation mechanism</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	a. In Denmark, different taxes are levied on the production, processing, receipt and dispatch of fossil fuels for heating purposes, for example the energy tax on mineral oil products, taxes on coal, lignite and coke or the carbon dioxide tax on certain energy products. Renewable energy sources are exempted from these taxes, as they are not classified as taxable under specific Regulations. b. **Beneficiaries:** Companies producing, processing, receiving or dispatching renewable energy products are exempted from paying tax. Heating from renewable sources is exempted from these taxes. c. The Act on the Carbon Dioxide Tax on Certain Energy Products and the Act on the Energy Tax on Mineral Oil Products oblige companies producing, processing, receiving or dispatching energy products to pay defined amount of tax. This amount is lower if the fuel is blended with biofuels. **<u>Financial Support Scheme 2</u>: The Danish subsidy scheme for the use of Biogas** a. The Danish state promotes the production of biogas through subsidies granted to applicants using biogas for a number of specified purposes. b. The supported uses of biogas are: i. Electricity production ii. Upgrading of biogas and injection to the natural gas grid and district gas grids iii. Industrial processes iv. Fuel for transport v. Production of heat c. The subsidies for the different uses of biogas are generally divided into three different components: i. **General subsidy:** The General subsidy is regulated yearly with 60% of the net price index. **ii. Bonus 2:** is regulated according to the natural gas price. **iii. Bonus 3:** is gradually reduced and will cease by 2020. The 2012 subsidy level, along with the 2016 to 2018 levels for each of the different uses of biogas, can be seen in the tables below: **1. Electricity production** Electricity produced from biogas can receive support in the form of a fixed subsidy or a price bonus. If the electricity is produced on biogas only, owner of the electricity generation plant may, on a yearly basis, choose to receive either the fixed premium or the price bonus. If the electricity is produced on biogas together with other fuels, the owner of the electricity generation plant may receive the price bonus for the amount of electricity produced from biogas. In addition to either the fixed premium or the price bonus, the owner of the electricity generation plant may receive bonus 2 and 3.

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs

Subsidy		Subsidy 2012 øre/kWh	Subsidy 2016 øre/kWh	Subsidy 2017 øre/kWh	Subsidy 2018 øre/kWh
General subsidy	Fixed premium (incl. electricity price)	79,3	81,3	81,5	82,1
	Price supplement (excl. electricity price)	43,1	44,2	44,3	44,6
Bonus 2		26,0	33,6	48,1	41,5
Bonus 3		10,0	8,0	6,0	4,0
Total subsidy		**115,3 / 79,1**	**122,9 / 85,8**	**135,6 / 98,4**	**127,6 / 90,1**

2. Upgraded biogas

delivered to the natural gas grid or cleaned biogas injected to town gas grids

For companies that supply upgraded or cleaned biogas to either the natural gas grid or town gas grids, the following subsidy may be granted per sold GJ lower calorific value.

Subsidy	Subsidy 2012 DKK/GJ_{lower}	Subsidy 2016 DKK/GJ_{lower}	Subsidy 2017 DKK/GJ_{lower}	Subsidy 2018 DKK/GJ_{lower}
General subsidy	79,0	81,0	81,3	81,8
Bonus 2	26,0	33,6	48,1	41,5
Bonus 3	10,0	8,0	6,0	4,0
Total subsidy	**115,0**	**122,6**	**135,4**	**127,3**

3. Industrial processes

When biogas is used for processing purposes in the industry, the following subsidy can be granted per sold GJ lower calorific value:

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs

Subsidy	Subsidy 2012 DKK/GJ$_{lower}$	Subsidy 2016 DKK/GJ$_{lower}$	Subsidy 2017 DKK/GJ$_{lower}$	Subsidy 2018 DKK/GJ$_{lower}$
General subsidy	39,0	39,0	39,0	39,0
Bonus 2	26,0	33,6	48,1	41,5
Bonus 3	10,0	8,0	6,0	4,0
Total subsidy	**75,0**	**80,6**	**93,1**	**84,5**

4. Biogas for transport

When biogas is sold directly to an end-user as transport fuel, the following subsidy may be granted per sold GJ lower calorific value:

Subsidy	Subsidy 2012 DKK/GJ$_{lower}$	Subsidy 2016 DKK/GJ$_{lower}$	Subsidy 2017 DKK/GJ$_{lower}$	Subsidy 2018 DKK/GJ$_{lower}$
General subsidy	39,0	39,0	39,0	39,0
Bonus 2	26,0	33,6	48,1	41,5
Bonus 3	10,0	8,0	6,0	4,0
Total subsidy	**75,0**	**80,6**	**93,1**	**84,5**

The subsidies are granted to the person that sells the biogas to an end-user for transportation purposes. Biogas that is upgraded and injected into the natural gas grid and later used for transportation, is not eligible for the transportation subsidy.

5. Biogas for heating purposes

When biogas is used for heat production, the following subsidy can be granted per sold GJ lower calorific value:

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">
<table>
<tr><th>Subsidy</th><th>Subsidy 2012
DKK/GJ_{lower}</th><th>Subsidy 2016
DKK/GJ_{lower}</th><th>Subsidy 2017
DKK/GJ_{lower}</th><th>Subsidy 2018
DKK/GJ_{lower}</th></tr>
<tr><td>General subsidy</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Bonus 2</td><td>26,0</td><td>33,6</td><td>48,1</td><td>41,5</td></tr>
<tr><td>Bonus 3</td><td>10,0</td><td>8,0</td><td>6,0</td><td>4,0</td></tr>
<tr><td>Total subsidy</td><td>36,0</td><td>41,6</td><td>54,1</td><td>45,5</td></tr>
</table>
</td></tr>
<tr><td rowspan="2">Estonia</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4">
<u>Financial Support Scheme 1: Biomethane Subsidies</u>
a. To further promote the biomethane use in the transport sector, subsidies are given:
i. to create an infrastructure for biomethane petrol stations, and
ii. to promote biomethane use in public transport systems in municipalities.
b. The relevantAct sets out two goals for the year 2020:
i. a yearly consumption of at least 4.000 ktoe of biomethane, and
ii. the construction of 10 biomethane petrol stations.
c. For the development of biomethane petrol stations, the maximum share of costs possible to pay through the subsidy is 35% per project and the maximum amount of grant is € 350.000 per project.
d. For the public transport system, the subsidy is 30% per project and the maximum amount is €4.000.000 per project.
e. A total budget of € 9.000.000 is available through this measure:
1. € 6.000.000 for projects in the public transport system in municipalities, and
2. € 3.000.000 for biomethane petrol stations.
f. The funds are available until the year 2020.
g. Beneficiaries: are biomethane producers, petrol companies, transport companies and municipalities.
</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td rowspan="2">Finland</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Energy Aid
a. The key aim of the Energy Aid is to promote the development of innovative solutions for replacing the energy system with a low-carbon alternatives in the long term.
b. Energy Aid can be granted for investments in projects that promote:
i. The production or use of renewable energy.
ii. Energy savings or improving the efficiency of energy production or use.
iii. Replacing the energy system with a low carbon one.
c. Beneficiaries: Companies, municipalities and communities.
d. The amount of subsidy depends on the aim of the project in question. The support allocated to investments in renewable energy production facilities can make up to 30% of the project’s overall cost, but can increase up to 40% in case the project involves the use of new technology.
e. The support allocated can be up to 40% of the project’s total cost. A company or entity receiving the subsidy has to finance at least 25% of the total project costs from non-state funding.</td></tr>
<tr><td rowspan="2">France</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Biofuel quota (Reduction of the tax on polluting activities (réduction de la taxe générale sur les activités polluantes)
a. In order to reach the targets of 2020 and 2030 respectively in the transport sector, the quota of biofuels to be blended within conventional fuels is defined for each fuel type. In case companies releasing fuel for consumption do not respect the biofuels quota, they are submitted to a higher rate of the tax on polluting activities (TGAP) (Art. 266 quindecies, Code des Douanes).
b. The following rates apply:
i. Premium unleaded gasoline SP95 and SP98 shall contain 8% volume/volume (v/v) of bioethanol</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	ii. Premium unleaded gasoline SP95-E10 shall contain 10% v/v of bioethanol iii. Diesel oil shall contain 8% v/v of biodiesel (Methyl esters of fatty acids) iv. Superethanol E85 shall contain between 65% and 85% v/v of bioethanol, according to the season v. Moreover, the diesel oil B30 has to be blended within a range of 24% and 30% v/v of biodiesel for captive fleet automobiles c. In order to reach these targets, the quota of biofuels to be blended within conventional fuels is defined for each fuel type. In case companies releasing fuel for consumption do not respect the biofuels quota, they are submitted to a higher rate of the tax on polluting activities. d. **Beneficiaries:** Eligible to the reduction of the tax on polluting activities are persons who provide fuel products for consumption provided contain a proportion of biofuels. **Financial Support Scheme 2: Transport Bonus-Malus** a. The **registration tax** is depending on both the horse power and CO_2-emission ("Malus Ecologique"). The annual vehicle tax applies only to vehicles above 190 g CO_2/km. The company car tax is CO_2-dependent as well. **Vehicles below 20 g CO_2/km get a subsidy of € 6.000 with a cap at 27% of the purchase cost. Between 21 and 60 g CO_2/km, the subsidy is € 1.000 (max. 20% of the purchase cost).** b. An additional subsidy applies **if a diesel vehicle (registered before January 2007) is replaced with a new BEV or PHEV**. c. This subsidy amounts **€ 4.000 when purchasing a vehicle below 20 g CO_2/km** and **€ 2.500 for vehicles between 21 and 60 g CO_2/km**. d. The annual **tax is a fixed rate of € 60/year for vehicles > 190 g CO_2/km.** Company car taxation is depending on CO_2 (starting from 50 g CO_2/km) plus **a fixed rate of € 20/year for gasoline and € 40/year for diesel.** **e.** In 2018, a fee must be paid for vehicles with CO_2 emissions equal to or above 120 g/km. At the threshold **the fee is € 50**, but the continuous fee function rises steeply to, for example, **€ 1.050 for 140 g/km and € 4.050 for 160g/km**. For vehicles with CO_2 emissions **equal to or above 185g/km, car buyers must pay € 10.500.** f. Vehicles specially equipped to run on E85 super ethanol can benefit from **a 40% allowance on carbon dioxide emission levels if their CO_2 emission are below 250g/km.** g. From January 2018, the **bonus of up to € 6.000** (27% of the acquisition cost) is only granted for electric vehicles **emitting less than 20g CO_2/km.** h. Vehicles with emissions between 20 and 120 g CO_2/km are not affected by the Bonus -Malus System, i.e. hybrid vehicles with emissions between 20 and 60g CO_2/km are no longer eligible for a € 1.000 bonus payment.The bonus is either directly granted to the buyer through a request form or deducted from the price of the vehicle where agreements with car dealers exist (Ministère de l'Environnement, de l'Énergie et de la Mer, 2011). i. An additional bonus of **€ 1.000 (€ 2.000 for non-taxable households) is granted when an old diesel or gasoline powered vehicle is scrapped and a used electric or a more efficient internal combustion engine vehicle is purchased.** j. For **new electric and plug-in hybrid vehicles the bonus is € 2.500.** Two-and three-wheelers as well as electric quads are eligible for a bonus of **20% or 27% of their purchase cost** (maximum €100 or €900), depending on their power. **Besides, non-taxable households**

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">can receive a subsidy of 20% of the cost when purchasing electrically assisted bicycles. Both fully electric and plug-in hybrid vehicles are eligible for either a 50% discount or are exempt from the license plate tax depending on the region. EVs are also exempted from the company car tax.
k. Hybrid vehicles emitting less than 110g/km are exempt during the first two years after registration. In addition to the existing malus, a ’super malus’ was introduced in January 2018 to target luxury cars. Car buyers need to pay € 500 per fiscal horsepower for powerful vehicles with more than 35 fiscal horsepower and the tax is capped at € 8.000.

<u>Financial Support Scheme 3: Energy Audits</u>

a. The French Energy and Environment Agency (ADEME) provides financial support to businesses undergoing energy audits on a voluntary basis (e.g. SMEs). For small companies, the support covers up to 50% (or even 70% if co-financed by the region) of the total costs. The maximum eligible budget of the action must not exceed € 50.000.
b. Additional funding is also available for implementing the recommended energy efficiency actions. The subsidy covers up to 70% of the cost for small companies, and the maximum eligible budget of the action cannot exceed € 100.000. To benefit from the support, the consultant/auditor must comply with certain specifications, defined by ADEME.</td></tr>
<tr><td rowspan="2">Germany</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tending schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Investment Support

In the framework of the Market Incentive Programme (MAP) BAFA provides investment support for heat produced in existing buildings from solar, biomass and geothermal energy.

Solar thermal:

• Basic support:
  • Solar collectors exclusively for water heating:
  • New installations with a gross collector area between 3 and 40m^2, € 50/m^2 (minimum support € 500).
  • Expansion of already commissioned installations of at least 4 to 40 m^2 gross collector area 50/m^2 (minimum support € 500).
  • All other solar collectors:</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	• New installations with a gross collector area up to **40m^2, € 140/m^2 (minimum support € 2.000).** • Expansion of already commissioned installations of at least **4 to 40 m^2 gross collector area, € 50/m^2.** • Bonus support • Innovation support • Solar collectors exclusively for water heating: • New installations with a gross collector area between **20 and 100m^2 , € 100/m^2 (€ 75 for new buildings)** • All other solar collectors: • New installations with a gross collector area between **20 and 200m^2 € 100/m^2 (€ 150 for new buildings).** • Big collectors can be alternatively financed depending on their output. • Some types of big collectors can be also granted a repayment grant through the KfW Premium Programme **Biomass:** • Basic support: • Pellet installations • **€ 80/kW nominal heat output** for the construction of an installation with automatic feeding, power and combustion control, and automatic ignition for the combustion of biomass pellets (or combination boilers). • However: • **Min. € 2.000 for pellet stoves with water chamber.** • **Min. € 3.000 for pellet boilers.** • **Min. € 3.500 for pellet** boilers with newly installed buffer tank with a volume of at least 30 lt / kW nominal heat output. • Wood chips installation • A lump sum of **€ 3.500 per unit** for the construction of an installation with automatic feeding, power and combustion control, and automatic ignition. • Log wood installation • A lump sum of **€ 2.000 per unit** for the construction of emission-poor log wood installations. • Bonus support • A **combination bonus** of **€ 500** can be granted: • In the case of simultaneously erecting also an eligible solar collector or an efficient heat pump

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	• When connecting the biomass installation to a heating network. • Further single optimization measures are available • Innovation support • Installations with condensing technologies. • In existing buildings • **€ 4.500 for boilers.** • **€ 5.250 for boilers with a new erected buffer tank with a volume of at least 30 lt/kW nominal heat output.** • In new buildings • **€ 3.000 for boilers.** • **€ 3.500 for boilers with a new erected buffer tank with a volume of at least 30 lt/kW nominal heat output.** • Installations with secondary particle separation • In existing buildings • **€ 3.000 for pellet stoves with water chamber.** • **€ 4.500 for pellet boilers.** • **€ 5.250 for pellet boilers with a new erected buffer tank with a volume of at least 30 lt/kW nominal heat output.** • **€ 5.250 for wood chips.** • **€ 3.000 for log wood.** • In new buildings • **€ 2.000 for pellet stoves with water chamber.** • **€ 3.000 for pellet boilers.** • **€ 3.500 for pellet boilers with a new erected buffer tank with a volume of at least 30 l/kW nominal heat output.** • **€ 3.500 for wood chips.** • **€ 2.000 for log wood.** • For retrofitting a biomass installation with secondary particle separation technology, a lump sum of **€ 750** may be granted. • Supply of process heat • The erection of a new biomass installation mainly for the supply of process heat can be granted support **up to 30% of the net investment costs until a maximum of € 40.000.**

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs

	Heat pumps:
	• Basic support
	  • Electrical heat pumps (heat source: air)
	  • **€ 40/ kW of nominal heat output up to**
	  • **At least € 1.500 for performance-controlled installations and/or monovalent heat pumps.**
	  • **At least of € 1.300 for all others installations.**
	  • Electrical heat pumps (heat source: geothermal energy, water), sorption and gas-motoric heat pumps
	  • € 100/ kW of nominal heat output up to
	  • At least **€ 4.500 for the erection of electrical heat pumps based on geothermal energy**, as long as an associated earth probe drilling is also being executed.
	  • At least **€ 4.500 for each sorption and gas-motoric heat pump installation.**
	  • At least **€ 4.000 for all other electrical pumps with geothermal or water heat sources.**
	• Bonus support (Guidelines for the support of RES-H Art. IV:3.2.2.):
	  • Load management capacity:
	  • **€ 500 as long as these further requirements are fulfilled**: concomitant erection of a buffer tank and complying with the "Smart Grid Ready" certificate requirements.
	  • A combination bonus
	  • of **€ 500** can be granted:
	  • in the case of simultaneously erecting also an eligible solar collector or biomass installation.
	  • when connecting the heat pump installation to a heating network.
	  • in the case of simultaneously erecting an eligible solar collector with a gross collector area of at least 7m^2, as long as this is contributing as a heat source for the heat pump.
	• Innovation support
	  • Granted to heat pumps in new and existing buildings with a nominal heat output of at least 100 kW.
	  • For heat pumps with high annual COP or improved system efficiency in existing buildings **can be increased up to 50%.**
	  • Supply of process heat
	  • The installation of a new heat pump mainly for the supply of process heat can be granted support **up to 30% of the net investment costs with a maximum of € 60.000.**

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	Beneficiaries: Private persons, freelancers, small and medium size companies, municipalities/local authorities, non-profit organisations. The applicants can be owners, tenants, leaseholders or contrapplicants of properties. Financial Support Scheme 2: Subsidy for electric, plug-in and hydrogen vehicles **a.** To achieve the target of 1 million electric vehicles registered in Germany until 2020, the Federal Ministry of Economy and Energy introduced an additional buyer's premium for sales of electric, plug-in and hydrogen vehicles. It aims to support at least 300.000 vehicles during the support period. The costs of so called "Umweltbonus" ("Environmental Bonus") is equally shared between the federal government and the automotive industry. The maximum net price of a basic model is € 60.000. b. The amount of support is € 4.000 for electric and hydrogen vehicles and € 3.000 for externally chargeable hybrid-electric vehicles. **c.** Beneficiaries: The support applies to private individuals, companies, foundations, clubs and associations. Financial Support Scheme 3: Transport a. Subsidies were introduced in June 2016 and run until June 2019 **(€ 4.000 for BEV and € 3.000 for PHEV with less than 50 gCO2/km and not exceeding € 60.000 net list price of the base model).** b. Half of the subsidy is paid by the government and the other half is paid by the automobile manufacturer. As the manufacturer subsidy reduces, the net list price **in addition less value added tax (19%)** has to be paid by the customer **(this sums up to € 380 for BEV and € 285 for PHEV).** c. The company car tax is commonly calculated as 1% of the gross list price times the personal income tax rate. As a calculation basis for company car taxation of BEV and PHEV, the gross list price is reduced by **€ 500 per kWh storage capacity of the battery with a cap at 20 kWh (€10.000) for vehicles bought before 31 December 2013.** After 2013, this amount is reduced by **€50 every year (i.e., €450 /kWh in 2014, € 400 /kWh in 2015, etc.).** This compensation is available only for vehicles bought **before 31 December 2022**. The Bonus-Malus System could build on the existing environmental bonus ('Umweltbonus') for the purchase or lease of EVs in Germany that was launched in July 2016 and is administered by the Federal Office for Economic Affairs and Export Control (BAFA) (Bundesregierung, 2017). Car buyers receive a bonus of **€ 4.000 for fully electric vehicles and a bonus of € 3.000 for plug-in hybrids (with less than 50gCO_2/km)**. There are two conditions for receiving the bonus: **a.** Since the government and automotive industry contribute half of the bonus, only cars of participating car manufacturers are eligible. **b.** The net basic list price (without additional equipment) of the car **must be below € 60.000**. In addition to private individuals, companies, foundations, corporations and associations are also eligible for funding. The bonus will be granted until the federal funds of € 600 million will

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">be exhausted, but no later than July 2019.</td></tr>
<tr><td rowspan="2">Greece</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: Improvement of energy efficiency in SMEs
a. Public expenditure: 32 million
b. Eligible Budget from € 20.000 to € 500.000
c. Energy upgrading of building infrastructure
d. Energy upgrading of generation and distribution systems for thermal energy (for cooling, heating and process purposes (e.g. equipment, hot water / steam generating systems, waste heat recovery equipment))
e. Supporting actions such as qualified experts, Energy Audits, Energy Inspection and Implementation of Certification in Energy Management Systems.

<u>Financial Support Scheme 2</u>: Heating/Cooling from RES
a. Public expenditure: 35 million
b. Eligible Budget from € 20.000 to € 1.000.000
c. Installation of heating and cooling systems from RES, e.g. use of biomass, biogas, geothermal, solar and other systems RES
d. Installation of high-efficiency cogeneration systems efficiency using RES only when operating as installations of self-production
e. Supporting actions such as Energy Advisory Services.
<u>Financial Support Scheme 3</u>: Development Law (Law No.4399/2016)
a. The new Development Law that came into force in July 2016, foresees support for CHP plants, small-scale hydro-power plants, and self-production using other RES (art.9 par.7 and par.8 Law No.4399/2016) in a form of an income tax relief and stabilization of income tax coefficient. They can be substituted with other support mechanisms, i.e. subsidies, under the Development Law (s. “Subsidy” below)</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	b. To be eligible for support, minimum investment should amount to **i. Large enterprises: € 500.000** **ii. Medium enterprises: € 250.000** **iii. Small enterprises: € 150.000** **iv. Very small enterprises: € 100.000** **v. Social cooperatives/ cooperatives: € 50.000** c. The following types of support are alternatively offered by the Development law (art. 10 Law No. 4399/2016): i. Income tax relief and ii. Stabilisation of income tax coefficient RES are supported in the following investment categories: 1. General entrepreneurship: Only income tax relief is eligible 2. New independent SMEs: Only income tax relief is eligible 3. Supporting innovation for SMEs: Only income tax relief is eligible 4. Major investment plans: Tax relief can be provided for 12 years and stabilization of income tax coefficient is provided for 10% of the total investment cost, up to a **maximum amount of € 5 million.** d. RES are eligible for support, subject to the following limitations (art. 11 par.3 subpar.2h and 2z Law No. 4399/2016): For biofuels, there are two options: **Option 1**: If extra investment costs are necessary to promote the production of energy from renewable sources are eligible costs under art. 41 par. 6 cases a and b of the EU Regulation 651/2014: i. 45% of the eligible expenditure for large enterprises. ii. 55% of the eligible expenditure for medium enterprises. iii. 65% of the eligible expenditure for small enterprises.

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4"><u>Par. 6 case a:</u> where the costs of investing in the production of energy from renewable sources can be identified in the total investment cost as a separate investment, for instance as a readily identifiable add-on component to a pre-existing facility, this renewable energy-related cost shall constitute the eligible costs.

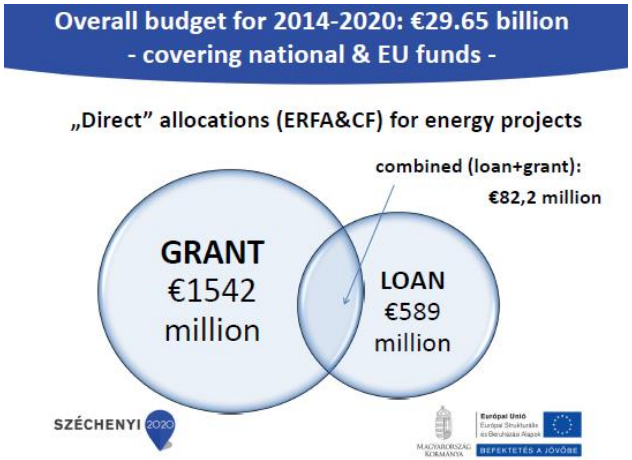
<u>Par. 6 case b</u>: where the costs of investing in the production of energy from renewable sources can be identified by reference to a similar, less environmentally friendly investment that would have been credibly carried out without the aid, this difference between the costs of both investments identifies the renewable energy-related cost and constitutes the eligible costs.

<u>Option 2:</u> If additionalinvestment costs necessary to promote the production of energy from renewable sources are eligible costs under art. 41 par. 6 case c of the EU Regulation 651/2014:

i. 30% of the eligible expenditure for large enterprises.
ii. 40% of the eligible expenditure for medium enterprises.
iii. 50% of the eligible expenditure for small enterprises.

<u>Par. 6 case c:</u> for certain small installations where a less environmentally, friendly investment cannot be established as plants of a limited size do not exist, the total investment costs to achieve a higher level of environmental protection shall constitute the eligible costs. The costs not directly linked to the achievement of a higher level of environmental protection shall not be eligible.</td></tr>
<tr><td rowspan="2">Hungary</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☒ Loan guarantees</td></tr>
<tr><td>☒ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Improvement of energy efficiency and application of renewable energy technologies in buildings (~ 95% of the energy budget)</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs
	a. Overall budget for 2014-2020: **€ 29.65 billion** b. Eligible beneficiaries: i. Public buildings through grant, up to 100% aid intensity. ii. Households (e.g. natural persons, block of flats) through loan programme. iii. SMEs through loan and grant (equally allocated), and combined as well. **c. Grant also available for small projects**, with a budget of **€ 3.000 - € 5.000.** **Financial Support Scheme 2: Loans – EDIOP** Apart from subsidies, the Economic Development and Investment Operational Programme (EDIOP) also provides loans for the deployment of RES within the following financing directions: **a.** EDIOP – 4.1.1/8.4.4.-16 ""Energetic Refurbishment of Buildings with the use of RES combined with a bank loan", **HUF 59.45 billion (approx. € 190.85 million).** b. EDIOP -8.4.1/A-17: "Enhancement of energy efficiency and use of renewable energy sources in residential buildings supported with a bank loan", **HUF 105.2 billion (approx. € 338,8 million).** c. The total budget of the European Structural and Investment Funds for Hungary is **€ 29.63 billion within the financing period of 2014-2020.** d. **Beneficiaries**: All civil organisations, religious buildings, companies and public institutions. **e. Eligible measures/projects for funding:** i. Adaptation to the climate change. ii. Development of municipal water and sanitation infrastructure. iii. Waste management. iv. Environmental measures and development.

<table>
<tr><th>Country</th><th colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</th></tr>
<tr><td></td><td colspan="4">v. Enhancement of energy efficiency and the application of renewable energy sources.
 

Financial Support Scheme 3: Tax regulation mechanism
• There is a reimbursement of excise duty in place for E85, bioethanol and biodiesel in case of engine development projects and vehicles used in the mining industry and water management.
• For vehicles used in the mining industry and water management not driving in public traffic a reimbursement of approx. € 0,25 per litre is granted. In comparison, the rate of excise duty on biodiesel amounts to approx. € 0,35. In general, the tax amount is flexible and adjusted to the world market prices for oil since 1 Jan 2017: If the costs per barrel rise above 50 USD, the tax for biodiesel is set at approx. € 0,35/litre. If the costs stay below 50 USD, the tax for biodiesel amounts up to € 0,38/litre.
• In case of engine development projects excise tax can be reimbursed for 25% of the total expenses on biofuels.</td></tr>
<tr><td rowspan="2">Ireland</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Climate Action Fund - First Call 2018
a. The first call for applications aimed to provide grant funding to larger scale projects – seeking total support in excess of € 1 million – that are scheduled to commence development in 2019 or 2020. The focus of the Climate Fund will be to support a broad range of projects that, in the absence of support from the Climate Action Fund, would not otherwise be developed. This will include projects that demonstrate innovation and capacity building.
b. Some examples of the types of projects that may be supported include:
i. Renewable energy projects;
ii. Energy efficiency projects;
iii. District heating projects;
iv. Local infrastructure projects (including electric vehicle charging networks); and
v. Projects that enhance the standards of environmental protection.

An overall limit of 50% of total investment costs will apply to projects with specific ceiling thresholds applicable to different types of projects.

<u>Financial Support Scheme 2:</u> Biofuels Obligation Scheme
a. For each calendar year, a fuel supplier must hold sufficient biofuel obligation certificates to demonstrate compliance. The number of certificates required is determined by the biofuels obligation rate.
b. The suppliers of fuels have to ensure that biofuels make up at least 8,695% by volume of the company's total annual sale of fuel (section 44D(1) BOS).
c. NORA issues certificates for each litre of biofuel placed on the market. Generally, one certificate is issued for each litre of biofuel. However, two certificates will be awarded instead of one for biofuels produced from biodegradable waste, residue, non-food cellulosic material, ligno-cellulosic material or algae (section 44G (1) BOS).
d. The Minister (DCENR) may review the percentage rate on an occasional basis (section 44D(2) BOS).According to the information provided by the government to the questions from DG ENER on the Irish NREAP (Ref. ENER C1/TH/pd D(2011) 102445), the biofuel obligation quota will be increased as follows:
i. From start 2018: 10% by volume (8% by energy).
ii. From 2019: 10,5% by volume (8,4% by energy).

e. The Biofuel Obligation applies to companies that supply fuels to the market.</td></tr>
<tr><td>Italy</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable</td><td>☐ Loan guarantees</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td rowspan="2"></td><td></td><td></td><td>green certificates</td><td></td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Tax regulation mechanism (Tax detraction)

a. This scheme allows for a 65% tax deduction (“detrazione”) for expenses related to energy efficiency measures including installation of RES Heating technologies. In the case of private individuals, this availability is valid for works undertaken up to 31 December 2017 and in the case of common buildings the disposition is valid up to 31 December 2021.
b. For energy refurbishment works aimed at improving the winter and summer energy performance of common buildings, the tax deduction will amount to 75% and works can be undertaken between 1st January 2017 and 31 December 2021.
c. Beneficiaries: Any party installing eligible plants.

<u>Financial Support Scheme 2:</u> Support schemes for transport biofuels - Biofuel blending obligation quota

a. The obligation can be met by acquiring, in whole or in part, the equivalent quota or corresponding rights from others, buying the socalled Biofuel Certificates (CICs).
b. It is relevant to say that a mandatory quota for “advanced biofuels” has been introduced. Advanced biofuels are produced from materials listed in Annex 3 of the Decree and include agricultural and industrial wastes (apart from UCOs- Used Crankcase Oils and animal fats), residues, ligno-cellulosic materials, cellulosic materials and algae.
c. The measure specifies that the mandatory quota for advanced biofuels must be fulfilled for 75% by biomethane and for 25% by other advanced biofuels.
d. The respective shares will be reviewed every two years.

<u>Table:</u> Mandatory quota for biofuels and ‘advanced biofuels’</td></tr>
</table>

Country	Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs

Year	Q%	Q% Advanced biomethane	% Other advanced biofuels
2015	5%		
2016	5.5%		
2017	6.5%		
2018	7.0%	0.45%	0.15%
2019	8%	0.60%	0.20%
2020	9%	0.68%	0.23%
2021	9%	1.13%	0.38%
From 2022	9%	1.39%	0.46%

e. Furthermore, all the biofuels released for consumption in Italy must comply with the sustainability criteria stated by Renewable Energy Directive (2009/28/EC) and Fuel Quality Directive (2009/29/EC) and they must be certified by specific certification bodies according to the National Certification Scheme (MD 23 January 2012) or according to voluntary schemes approved by the European Commission or according to bilateral or multilateral agreements with third countries.

f. The scheme provides extra incentives for advanced biofuels and UCO and animal fats (double counting mechanism – 5 Gcal3 of biofuels released gives rights to a certificate instead of 10 Gcal for conventional biofuels).

g. Not complying with the obligation leads to a fee of € 750 for every missing Biofuel Certificate in a certain year without prejudice of the maximum quota of Biofuel Certificates that can be postponed to the next year (20% in 2018, 5% from 2019 onwards).

Biomethane and advanced biofuels

The Decree of 3rd March 2018 provides incentives for biomethane injected into the natural gas grid and for advanced biofuels to be used in the transport sector. The Decree provides measures for:

- biomethane injected into the natural gas grid without a specific intended use - Guarantees of Origin (art. 4).
- Biomethane injected into the natural gas grid to be used in the transport sector (art. 5)

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">

Advanced biomethane injected into the natural gas grid with the obligation to connect third parties to be used in the transport sector (art. 6)
Advanced biofuels, different from biomethane (art.7).

Biomethane injected into the natural gas grid to be used in the transport sector is supported by the above described biofuels' blending obligation. Double counting is recognised.

Producers of advanced biomethane injected into the natural gas grid to be used in the transport sector (art. 6) can decide to sell the biomethane produced to the GSE (Gestore dei Servizi Energetici), the company in charge of the management of the scheme, obtaining the gas market price (equal to the monthly weighted average price for natural gas on the market), minus 5%.The producer will also obtain a premium corresponding to the value of the CICs, reflecting the calorific value of the biomethane purchased. Under this mechanism, the value of one CIC is set at € 375. One CIC will be issued for 5 GCal of advanced biomethane. The advanced biomethane producers can alternatively decide to trade directly their biomethane without the intervention of the GSE, obtaining only the premium of € 375 /CIC.

The producers of advanced biofuels, different from advanced biomethane, can obtain from the GSE a premium of EUR 375/CIC for every 5 GCal of biofuels sold to obliged fuel retailers who participate in the scheme and upon proof submitted by those retailers that the said quantity has been placed in the market for use in transport. Obliged fuel retailers purchase the biofuel at a maximum price linked to fuel prices (based on the average Platt's published levels, minus 5%).

The Decree applies to production plants starting operations between 2018 and 2022. The scheme is also open to existing plants for the production of biogas which are converted partially or totally in plants for the production of advanced biomethane between 2018 and 2022.

The total amount of biomethane that can access to the provisions of the Decree is 1,1 billion Standard Cubic Metre/year.

The incentives are funded by transport fuel suppliers.
</td></tr>
<tr><td rowspan="2">Latvia</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4">
a. Financial Supporting Scheme 1: Law on the Value Added Tax
b. The value added tax shall be imposed on the following economic activities: supply of goods and services, including home consumption on the national level. For the supply of biomass and biogas for household needs, the tax rate is reduced.
c. The tax rate for the supply of biomass and biogas is reduced from 21% to 12%.
</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">d. Beneficiaries: The Law on the Value Added Tax obliges all companies and persons that perform economic activities and are registered for VAT with the State Revenue Service.</td></tr>
<tr><td rowspan="2">Lithuania</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Relief from Excise Duty
a. In Lithuania, the obligation to pay excise tax on electricity arises where:
i. it is sold or otherwise transmitted to a person who has no business licence
ii. it is received by an unlicensed person from another EU member state
iii. it is imported by an unlicensed person or
iv. it is consumed by the holder of a licence or an electricity producer for own use Electricity consumption for own use is defined as the consumption of electricity for purposes other than electricity production processes and production process maintenance
b. Electricity from renewable sources is exempt from excise duty (Chapter IV Art. 48 Par. 1 Item 2 Law on Excise Taxes)
c. The amount of subsidy is equal to the amount of tax a person is exempt from. The tax on generated electricity is €1,01/ MWh. Generated electricity used for business purposes is subject to a tax of € 0,52/MWh.
d. Also, excise tax relief applies to transport biofuels produced from biomass. The excise tax rate is reduced in proportion to the percentage of biomass per tonne of biofuel. The relief applies to bioethanol, biodiesel, bio-ETBE and vegetable oil. To be eligible under this support scheme, biofuels must comply with the mandatory statutory quality and other requirements, established standards and European norms.
e. For organic biofuel blends (only organic additives) of at least 30%, the tax relief is proportional to the percentage of organic additives. Biofuels produced entirely from materials of organic origin are fully exempt from excise duty. For other biofuel blends, the tax rate is</td></tr>
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<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">reduced in proportion to the percentage of biofuels exceeding the mandatory percentage.</td></tr>
<tr><td rowspan="2">Luxembourg</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: Régime d'aide en faveur des classes moyennes
a. In order to support companies regarding environmental protection and the rational use of natural resources, the state of Luxembourg grants subsidies for companies investing in renewable energies for the production of electricity. The subsidies can be allocated in form of capital grants or of interest-rate subsidies.
b. Grants may cover up to 40% of the eligible investment costs. The grant may increase by 10 % points for small and medium-sized enterprises. Moreover, the grant may increase by 10 percentage points if the installed renewable energy plant allows the self-sufficient supply to a community of beneficiaries.
c. According to this law, medium-sized companies shall employ less than 250 persons and have an annual turnover not exceeding €40 million. Small companies shall employ less than 50 persons and have an annual turnover of maximum €7 million.
d. This scheme applies to natural and legal persons running a company.</td></tr>
<tr><td rowspan="2">Malta</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1</u>: Energy audit scheme for SMEs
a. The Energy and Water Agency has launched a new scheme through which, SMEs such as restaurants, hotels and factories can benefit from up to € 5.000 in refunds when they undergo an energy audit for their company.</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">b. Companies whose consumption exceeds 75.000kWh can apply for this scheme

<table>
<tr><td>Scheme A</td><td>Grant Capping</td></tr>
<tr><td>Medium Sized Enterprises in NACE Code C and I</td><td>€5,000</td></tr>
<tr><td>Medium Sized Enterprises in all other NACE Codes</td><td>€3,000</td></tr>
<tr><td>Small Sized Enterprises in all NACE Codes that have an annual electricity consumption exceeding 75,000 kWh</td><td>€1,000</td></tr>
</table>
<table>
<tr><td>Scheme B</td><td>Before Capping</td></tr>
<tr><td>Medium Sized Company</td><td>60% of eligible cost</td></tr>
<tr><td>Small Sized Company</td><td>70% of eligible cost</td></tr>
</table></td></tr>
<tr><td rowspan="2">Netherlands</td><td>☒ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> SDE+

a. SDE+ is an operating (feed-in-tariff) subsidy. Producers receive a guaranteed payment (subsidy) for the energy they generate from RES. The subsidy budget includes all the categories together.
b. The amount of subsidy in each case varies. More specific, the maximum base amount depends on the technology that is used.
i. There were two rounds of SDE+ applications in 2018. Each round was divided into three phases, each of which is subject to a maximum phase amount. There is one budget (for all categories together) per round of applications. The “less expensive” forms of technology may apply for a subsidy in the first phase. You can also apply for a lower subsidy than the maximum base amount for the technology in question. Such applications fall within the so-called “free category”. In such cases, your application can be tailored to your particular business case, for amounts equal to multiples of a tenth of a eurocent per kilowatt-hour. The amount of</td></tr>
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<table>
<tr><th>Country</th><th colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</th></tr>
<tr><td></td><td colspan="4">subsidy applied for, must be lower than or equal to the maximum phase amount and higher than the base energy price.
ii. The target groups are companies, institutes and (non-profit) organizations that intend to produce renewable energy.
iii. In 2018, SDE+ subsidies are available for the production of:
1. Renewable electricity.
2. Renewable gas.
3. Renewable heat or combined heat and power (CHP).
iv. One subsidy budget has been set for all the categories together. For the autumn 2018 round of applications, € 6 billion has been made available to support projects.
v. A maximum base amount per production installation. The maximum base amount for SDE+ subsidies in 2018 is 13 €ct/kWh (9,2 €ct/kWh for renewable gas). Technologies that are able to produce renewable energy for this amount or lower may apply for subsidy
vi. The target groups are companies, institutes and (non-profit) organizations that intend to produce renewable energy. The national government is not allowed to apply for SDE+ subsidies.

<u>Financial Support Scheme 2:</u> Energy Investment Allowance (EIA)

a. Companies can use the Energy Investment Allowance (EIA) to invest in energy-efficient technology and durable energy under favourable fiscal conditions. As a result, you pay less income tax or company tax. On average the EIA, commissioned by the Ministry of Economic Affairs and Climate Policy, gives you a 13,5% tax advantage. In addition to this tax advantage, energy-efficient investments also ensure a lower energy bill.
b. Tax deductions: It is possible to deduct clearly defined investments (specific) from your income taxes, but also tailored investments (generic), resulting in major energy savings. You can deduct 54,5% of the investment costs from the fiscal profits, on top of the usual depreciation.
c. The budget for 2018 is € 147 million.</td></tr>
<tr><td rowspan="2">Poland</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Tax regulation mechanism

a. In Poland, an excise tax is levied on the sale of electricity to end-users and their consumption (Art. 9 Excise Tax Act). Electricity from renewable sources is exempt from consumption tax.
b. The amount of subsidy is equal to the amount of taxes entitled persons are exempt from. At the moment, the consumption tax on electricity</td></tr>
</table>

<table>
<tr><th>Country</th><th colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</th></tr>
<tr><td></td><td colspan="4">amounts to PLN 20 (approx. € 4,55) per MWh.

<u>Financial Support Scheme 2:</u> Renewable portfolio standards

a. Plant operators producing electricity using renewable energy sources receive 1 Green Certificate (certificate of origin) per 1 MWh of generated electricity.
b. The Energy Law obliges some industrial customers, electricity generators, electricity suppliers, end-users who are members of the commodity exchange, commodity brokerage houses or brokerage houses to meet a certain quota of green certificates (certificates of origin) As an alternative, the companies may pay a fee (Art. 9a.1 No. 2 Energy Law). Satisfying neither of these obligations carries a penalty
c. Electricity producers may also sell their electricity on the market or offer it to an electricity supplier at last quarter's market price.
d. The quota system applies to installations launched before 1 July 2016. Their operators can choose between quota system and tender system. Furthermore, there will be a feed-in tariff for installations with the capacity between 3 kW and 10 kW.
e. The quota is a percentage of the total annual amount of electricity sold (§ 3-5 Order of 18/10/2012). The quota has been fixed until 2021 and amounts to 17% for 2018.

<u>Financial Support Scheme 3:</u> Biofuel quota (National Indicative Target)

a. The Act on Biocomponents and Liquid Biofuels obliges producers, importers and suppliers of fuels to meet a defined quota of biofuels. The act introduces the national indicative targets (NCW), i.e. annual minimum percentages of biofuels and other renewable fuels in the total amount of liquid fuels. The NCW levels are determined every three years for a period of 6 years by the Council of Ministers.
b. The obliged companies have to ensure that biofuels make up a certain percentage of the company’s total annual sale or consumption of fuel. The following quotas have been set for the period from 2013 to 2018:
i. 2017 - 7,10%
ii. 2018 - 7,50%
iii. 2019 - 8,00%
iv. 2020 - 8,50%</td></tr>
<tr><td rowspan="2">Portugal</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☐ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Tax regulation mechanism (Isenção de Imposto sobre Produtos Petrolíferos e Energéticos - ISP)

a. Dedicated small biofuel producers (PPD) benefit from an exemption of the Petrol Product Tax (ISP) (art. 19(2) DL 117/2010).
b. According to art. 2 n. 9 of Ordinance 320-E/2011, the PPDs benefit from total exemption of the Petrol Product Tax (ISP) up to the global</td></tr>
</table>

<table>
<tr><td>Country</td><td colspan="4">Governmental Support Schemes for measures and projects that aim GHG reduction, energy efficiency, Renewables in SMEs</td></tr>
<tr><td></td><td colspan="4">limit fixed at art. 90 n. 1 of the IEC Code (Código dos Impostos Especiais de Consumo), which is 40.000 t/year (art. 90 of the IEC Code (DL 73/2010) amended by Law 55-A/2010)).
c. For petrol and coloured and marked petrol, the following ISP rates apply (articles 3 and 4 of Ordinance 320-D/2011):
d. Petrol (NC 27101921 and NC 27101925): € 0,337 /litre.
e. Coloured and marked Petrol (NC 27101925): € 0,113 /litre.</td></tr>
<tr><td rowspan="2">Romania</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☐ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Measure 4: Investments in physical assets - Electricity, Heating & Cooling
a. The subsidy measure 4, encompassing the sub-measures 4.1. and 4.2., is part of the National Rural Development Programme and financed by the European Agricultural Fund for Rural Development (EAFRD). The National Rural Development Programme's new financing period operates from 2014 to 2020. The programme targets are to promote the use of renewable energy sources for the farm own consumption.
b. The subsidy is to a certain percent (30 to 50%) irreversible. The percentage depends on the size of the project. The maximum eligible sum is € 2 million (Call for proposals – Measure 4).
c. Measure 4 is part of the National Rural Development Programme and it is financed by the European Agricultural Fund for Rural Development (EAFRD). The National Rural Development Programme's new financing period operates from 2014 to 2020. The programme targets are to promote the use of renewable energy sources for the farm's own consumption.
d. Under the current call for proposals, the subsidy programme's total budget is € 150.000.000. The subsidy is to a certain percent (30 to 50%) irreversible. The percentage depends on the size of the farm or the project. The maximum eligible sum is € 2 million.

<u>Financial Support Scheme 2:</u> Support scheme for less exploited energy sources
a. The state aid scheme has been approved by Government Decision no. 216/2017 in April 2017 to promote energy production from less exploited energy sources, namely biomass, biogas and geothermal energy. The new support scheme is supported by the Ministry of Regional Development, Public Administration and European Funds, and aims to increase the electricity and thermal energy production from these sources by 60 MW until the end of 2023.
b. The budget for the subsidy programme is € 100.630.533. Each project can receive a maximum amount of €15 million of non-refundable</td></tr>
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<tr><td></td><td colspan="4">costs which can not exceed 45% of the total amount of eligible expenses.
c. Small enterprises, including the microenterprises, can benefit from an additional 20 % of non-refundable funding, whereas the medium sized enterprises from an additional 10 % points. Additionally, the aid intensity may be increased by 15 % points for investments located in assisted areas fulfilling the conditions of Article 107(3)(a) of the Treaty on the Functioning of the European Union. For the same beneficiary and the same eligible costs, the aid received through this support scheme can not be combined with other state aids.
d. Beneficiaries: Large, medium, small and micro enterprises, including newly established ones, or public municipalities (or their subdivisions or inter-community development associations) that carry out production of electricity and/or thermal energy.</td></tr>
<tr><td rowspan="2">Slovakia</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4"><u>Finacial Support Scheme 1:</u> Tax regulation mechanisms (exemption from excise tax)
a. In Slovakia, the consumption of electricity is subject to an excise tax (§ 1 Act No. 609/2007). The use of renewable energy is encouraged by exempting it from this tax.
b. The amount of tax allowance is equal to the amount of tax entitled persons are exempt from. The amount of tax is calculated on the basis of the amount of electricity in MWh and the corresponding tax tariff (§ 5 Act No. 609/2007). Since 1 January 2010, the tax on electricity has been € 1,32 per MWh.</td></tr>
<tr><td rowspan="2">Slovenia</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
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<tr><td></td><td colspan="4">Financial Support Scheme 1: Tax regulation mechanism
Excise duty is levied on all fuels, however the producers/users of biofuels may be fully exempt from the payment of excise duty.
The excise duty rate for bio fuels is 0 %.</td></tr>
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<tr><td rowspan="2">Spain</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
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<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> Biofuel quota (support mechanism for the use of biofuels and other renewable fuels for transport means)
a. Wholesale and retail operators of fuels, as well as consumers of fuels not supplied by wholesale or retail operators, are obliged to sell / consume a minimal quota of biofuels. The minimal amount is set at a general level (all biofuels) and at a specific level (minimal amount of biofuels in diesel and in gasoline).
b. Each obligated subject will have to present a number of certificates to the National Energy Commission (CNE) to prove compliance. Certificates have a value of 1 toe. In case of non-compliance with the goals, a penalty fee applies. In case of over-compliance (some parties selling or consuming more than they are obliged to), the amounts collected from the penalty fees are redistributed by the CNE proportionally to the subjects that sold / consumed biofuels exceeding their set quota obligation.
c. Beneficiaries must deliver to the CNE an amount of certificates sufficient to satisfy the following minimal amounts of sale or consumption of biofuels (Art. 41 L 11/2013).
<table>
<tr><th></th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th></tr>
<tr><td>Total minimal amount of sold / consumed biofuels (Real Decreto 1085/2015)</td><td>4,3%</td><td>5,0%</td><td>6,0%</td><td>7,0%</td><td>8,5%</td></tr>
</table>
d. The following subjects are required to satisfy the quota:
i. Wholesale operators for fuel for their sales in the national market, excluding their sales to other wholesale operators;
ii. Retail operators for fuel in the national market, for their sales in the national market not covered by wholesale operators;
iii. Consumers of fuels products, for their yearly consumption of fuels not supplied by wholesale or retail operators.</td></tr>
<tr><td rowspan="2">Sweden</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☒ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
<tr><td>☐ Soft loans</td><td>☒ Investment grants</td><td>☒ Tax incentives</td><td>☐ Tendering schemes</td></tr>
<tr><td></td><td colspan="4">Financial Support Scheme 1: Quota system</td></tr>
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	Act No. 2011:1200 obliges electricity suppliers, certain electricity consumers and energy-intensive companies to annually acquire renewable energy certificates in due proportion to their electricity sales and their consumption by a set date (Chapter 4 §§ 1 and 4) Act No. 2011:1200 Furthermore, the Act stipulates the conditions in which owners of renewable energy generation plants may acquire electricity certificates (Chapter 2 §§ 1-13 Act No. 2011:1200). The quota shall be calculated by multiplying the number of megawatt hours of electricity sold or used during the calculation year with the quota obligation for the calculation year. The quota obligation applies to: i. Companies supplying electricity to the consumers. ii. Electricity consumers who use electricity they have produced. The electricity consumed must exceed 60 MWh per year and have been produced in a plant with an installed capacity of more than 50 Kw. iii. Electricity consumers, for electricity they imported from or purchased on the Nordic electricity market, and iv. Registered energy-intensive companies. The quotas for the period from 2016 to 2035 have been set as follow: **Financial Support Scheme 2: Grants for the installation of photovoltaic installations** a. Regulation No. 2009:689 authorises grants for the installation of on-grid photovoltaic installations. The installation works must have commenced on 1. July 2009 or later and be completed by 31 December 2019. b. **Grants amount to 30 %** of the eligible costs for companies. Eligible costs include labour costs, costs of materials and planning costs. Costs of the connection to an external electricity grid are excluded from the eligible costs. c. The maximum grant per installation is **SEK 1,2 million.** d. The total eligible costs must not exceed **SEK 37.000 (plus VAT) per kW of installed maximum capacity.** e. The eligible costs for hybrid installations must not exceed SEK 90.000 per kW of installed maximum capacity. If the solar system was funded by insurance payments, aid shall be reduced by an amount corresponding to the remuneration. f. The budget for the scheme from 2017 to 2019 is SEK 390 million (€ 41 million) annually.

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Financial Support Scheme 3: Reduced real estate tax

a. Owners of power stations or, under certain conditions, owners of land on which a power plant is located shall pay an annual real estate tax depending on the value of the power plant (§§ 1, 3 par. 1 d) Act No. 1984:1052). This real estate tax does not differ for renewable and fossil energy sources, except for wind energy, which is subject to a reduced tax payment, and hydro-electricity, which is subject to a higher tax rate (§ 3 par. 1 d), e) and f) Act No. 1984:1052).

b. Plots on which a power plant is located are subject to a real estate tax of

i. 0,5 % of the value of the plant if the electricity is generated from renewable or fossil energy sources
ii. 0,2 % of the value of the plant if the electricity is generated from wind energy
iii. 2.8 % of the value of a hydro-electric power station</td></tr>
<tr><td rowspan="2">United Kingdom</td><td>☐ Feed-in tariffs</td><td>☐ Feed-in premiums</td><td>☐ Quota obligations with tradable green certificates</td><td>☐ Loan guarantees</td></tr>
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<tr><td></td><td colspan="4"><u>Financial Support Scheme 1:</u> D2 Energy Efficiency - Derby and Derbyshire

a. Energy audits and grants of up to 65% for small and medium-sized enterprises (SMEs) in the East Midlands to increase energy efficiency measures.

b. Subsidy amount: £1.000 to £15.000

c. The business must be based in Derby City, Amber Valley, Bolsover, Chesterfield, Derbyshire Dales, Erewash, High Peak, North East Derbyshire or South Derbyshire.

d. Grants can be used for various energy efficiency measures including:

i. improved lighting
ii. insulation
iii. more efficient process equipment</td></tr>
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	iv. renewable energy. **<u>Financial Support Scheme 2:</u> The Heat Networks Delivery Unit (HNDU)** a. The Heat Networks Delivery Unit (HNDU) is part of, and directly funded by, the bv Department for Business, Energy and Industrial Strategy (BEIS). HNDU was set up to provide support (grant funding and guidance) to local authorities in England and Wales to progress the development stages of heat networks projects. b. HNDU grant funding can provide up to 67% of the estimated eligible external costs of these early stage development studies (meaning the money paid by the local authority to third parties to deliver the heat network development stages). The local authority will have to secure at least 33% in match funding. c. HNDU will bring technical and commercial knowledge to bear on the project, providing a sounding board at project development milestones. HNDU is available to review documents, help identify potential issues and raise pertinent questions as the project progresses. Whilst the local authority will develop all project material and manage all activity, HNDU will help steer the local authority on the most effective project development path. • HNDU guidance includes: • Project scoping and management • Engineering and technical standards • Consumer protection • Governance models and contractual structures • Financial – sources and structuring • Policy – compliance and opportunities • Public sector procurement • Stakeholder engagement • Risk management **<u>Financial Support Scheme 3:</u> Low Carbon Growth Support Project** a. The project aims to help businesses identify and realise energy efficiency savings that will lead to reduced energy costs and lower carbon emissions. b. We have grants available of up to £25.000 to cover approximately 40% of the cost of items such as Boilers / Heating, LED Lighting, Cooling, Insulation, Plant and Equipment

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	c. Small or Medium sized enterprises can obtain free energy audits and 40% grant funding towards energy efficiency measures in Greater Birmingham, Solihull and the Black Country from the Low Carbon Growth Support Project. **<u>Financial Support Scheme 4:</u> Energy Efficiency Grants for East Sussex Businesses** An SME may apply for a grant of up to £1.000 to cover a maximum 40% of the total value of their energy efficiency project through the Sustainable Business Partnership CIC. • The grant is available to any business, social enterprise or charity that: • Has fewer than 250 full time equivalent employees • Has a turnover less than £44 million Is not owned by a group or company that does not meet the above two criteria To apply for a grant the SME must also have: • A premises in East Sussex (excluding Brighton & Hove) where the energy efficiency project will be installed • Received an Energy Audit to identify energy saving measures; provided through the LoCASE project, or through a similar scheme or a private supplier. • Financial Support Scheme 5: Green BELLE Launch Event • SMEs can apply for a grant to install low carbon and energy efficient measures in their premises, such as: • Heating • Lighting • Heating and Lighting controls • Insulation • Renewable energy • Efficient equipment Grants of £1,000 to £10,000 are available, with Green BELLE providing up to 50% of the total cost of the project. Please note that only SMEs trading business-to-business based in Leicester or Leicestershire are eligible.