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In-Depth Analysis of the RES H/C Policies Implementation Status in the participating Countries

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Introduction

The EU has the target of covering 20% of its energy consumption from renewable sources by 2020. Member States have different individual targets to allow this overall target to be met.

Member States have notified their national renewable energy action plans (NREAPs) to the EC by 30 June 2010 in accordance with Directive 2009/28/EC and the template predetermined in accordance with European Commission Decision of 30.06.2009 (2009/548/EC). In these plans Member States set out the sectoral targets, the technology mix they expect to use, the trajectory they will follow and the measures and reforms they will undertake to overcome the barriers to developing renewable energy.

This report provides an in-depth analysis of the RES H/C (heating and cooling) policies implementation status in the participating countries (Austria, Bulgaria, Greece, Italy, Latvia and Spain). For the analysis, policies and legislative measures, instruments and activities at national and local level within the framework of the NEEAPs (national energy efficiency action plans) and NREAPs have been screened.

In the participating countries, there are different support schemes and relevant policies in place:

Support schemes include investment grants (mainly in Austria, Bulgaria and Latvia), tax relief (mainly in Greece, Latvia) and price-based schemes like the Conto Termico in Italy. In Spain, there are currently no support schemes for heating and cooling with renewables in place.

In Addition, there are various policies implemented. In Austria, Italy and Spain, different training or certification standards for RES installers exist, although they differ in structure and content.

Additionally, Italy and Austria do specially support RES heating infrastructure. For this purpose, a heating and cooling network expansion act exists in Austria. In Italy, a guarantee fund for district heating and the Fondo Kyoto are in place. In both countries grid issues are managed at a local level.

In every country, RES heating and cooling is a relevant topic in building obligations. RES heating and cooling is also part of different research and development policies.

Austria

Overview

Heat generation is of great importance in Austria. About 40% of Austria's total greenhouse gas emissions as well as 50% of the total final energy consumption are related to heat generation. It is therefore important to increase the share of renewable energy systems in the heat sector to achieve the national climate and energy policy targets (Kalt et al., 2009).

Renewable energy has shown an impressive growth over the last few years. According to the Renewable Energy Directive (2009/28/EC), the share of renewable energy in gross final consumption of energy has to be increased to 34% by 2020 (base year 2005: 24.4%, COM/2013/0175 final). This target is almost reached, with a 32.8% in 2012 (Tesnière et al, 2014).

In Austria, there is a general support for RES, partly driven by the refusal of nuclear power. Moreover, the RES industry is constantly growing. However, there is a strong pressure from the energy-intensive industry to reduce climate and energy ambitions, claiming that energy costs force them to reduce investments.

In recent years, there have been positive developments in the renewable heat sector, both in district heating and in buildings. Austria wants to become more independent from fossil fuel. The positive developments are mainly due to the RES support for heat as well as high oil prices. In fact, the Austrian biomass industry has become a global player (Tesnière et al, 2014).

Current Policy Implementation Status

In Austria, the support market for RES heating and cooling is diverse. Beside federal support schemes, there are also provincial support schemes in place. In fact, RES are mainly promoted in the form of investment grants. The national support policy for RES heating and cooling projects is provided by the Environmental Support Act (German: "Umweltförderungsgesetz"). Commercial entities, non-profit organizations as well as public institutions and utilities are addressed by this national regulation. Since October 2009, an extended support structure is effective. The corresponding support programs are managed by the Kommunalkredit Public Consulting GmbH. The KPC has been working in close partnership with the Federal Ministry of Agriculture and Forestry, Environment and Water Management (BMLFUW) to manage the environmental support schemes since 1993. In most of the cases the support may not exceed €200,000 in three fiscal years (Winkel et al., 2011). According to the BMLFUW, the currently available yearly budget for this national program is €90.238 million.

Beside the investment grants, the use of RES heating and cooling is incentivized with three different categories of taxes. First the value-added tax for agricultural and forestry products are reduced to 10%, whereas the value added tax on fossil fuels is 20%. Secondly, the costs of fossil heating oil are further increased by the additional mineral oil tax. Thirdly, the Austrian income tax act (1979) defines energy saving measures as special expenses for which tax allowances can be reclaimed. These measures also include expenses for heat pumps, solar thermal and bioenergy systems, which can be deducted from the taxable income. There is no restriction regarding the combination of tax allowance schemes and the investment grants mentioned above. In fact, a combination of these schemes is possible (Winkel et al., 2011).

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At a provincial level, also private households can receive investment grants for RES heating and cooling projects (Winkel et al., 2011). This support is available through investment subsidies for solar thermal, heat pumps and biomass heating systems. Solar and biomass cooling systems are also to be mentioned, although the total power of solar cooling systems in Austria is about 8000 kW (collector area 20000 m²). These systems are primarily used for cooling office buildings, hotels, industrial buildings and laboratories, but also sport centers and wineries. According to Biermayer et al. (2014), an increasing demand for cooling in residential buildings has been observed.

Since the local programs belong to the authority of the governments of the states (Bundesländer), currently nine different schemes exist. The investment grants for solar thermal systems started during the 1980's and were strongly developed during the 1990's. In fact, the level of support can vary depending on the size of installation and the type of the system installed. From a macro perspective, the situation isn't easily observable because chances are based on individual decisions by the nine states. Furthermore, the amounts and sets of conditions for investment incentives vary in every state. In some states, fixed amounts are paid, whereas in other states the investment incentives account for certain proportions of the total investment costs. In addition to that, in some provinces there are further requirements and restrictions.

Moreover, RES heating and cooling policies currently include trainings programmes for installers, the support of RES heating infrastructure and certain building obligations. Despite there is no special certification program for renewable energy installations, they must meet quality standards in order to be able to be entitled to promotion. The support of the RES heating infrastructure is mainly based on a Heating and Cooling Network Expansion Act. There are certain investment incentives for the integration of renewable energy sources in order to reinforce small-scale regional heat supply in rural areas as well as the expansion of district heating in urban centres (www.res-legal.eu).

District heating networks are managed at a local level by heat supply companies. Actually, there is no federal regulation providing a legal framework for the connection of RES heating plants to the heating grid (www.res-legal.eu).

In Austria, important instruments for RES heating are feed-in tariffs for Biomass electricity generation in combined heat and power plants (CHP). For plants run with solid biomass, liquid biomass, biogas, mixed combustions as well as waste with high biogenic fraction, it is only possible to receive a feed-in support for the electricity in the case of combined heat and power production. Otherwise the requested total conversion efficiency standards (>60%) according to the eco-electricity regulation (German: "Ökostromverordnung") cannot be met. Industrial wood residues from the wood processing industry are of great importance for the overall success of RES heating in Austria. Beside wood residues, black liquor from the paper and pulp industry is also fired in combined heat and power plants.

To complement the investment grants and tax regulations, a number of awareness campaigns and different training programs have been carried out by regional energy agencies as well as by the federal government of Austria.

Conclusions

The share of renewable energy in the Austrian heat sector is relatively high. This is due to the successful investment grants at a national and regional level, as well as to the tax regulations and feed-in tariffs for biomass CHP. Biomass, especially wood residues from the wood processing industry, is of great importance for the RES heat sector. In Austria, the enhanced use of renewable heating systems continues to be a core issue in order to fulfil the national energy and climate policy targets.

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Beside the oil price, the different promotion schemes, especially from the provincial governments, had a significant impact both on the diffusion as well as on the technical quality of RES heating and cooling.

Austria is on a good way to meet its 2020 targets. Nevertheless there are still some barriers to overcome (Tesnière et al, 2014):

- The annual subsidy budget for house renovation amounts to 100 million Euros. Estimations say that at least 300 million per annum would be needed.
- There is a competition for roof surface between PV and solar thermal collectors. Currently PV is winning and collectors are losing.
- Currently, heat pumps offer cheaper heat than biomass or solar heating systems. Despite the disadvantage of the electricity demand and the origin of the electricity, house owners often choose a heat pump as heating system

In Austria, the future diffusion of air conditioning systems is currently an open question. The final energy demand for cooling is expected to increase (see e.g. Haas et al., 2007). Due to climate change, it is possible that the diffusion of air conditioning systems occurs clearly faster than expected. Therefore, RES cooling will be an important issue in Austria in the coming years.

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Bulgaria

Overview

In the last years, Bulgaria has demonstrated growth in the use of RES technologies. The country not only exceeded its NREAP 2012 RES target, but even the 2020 RES target. In RES heating and cooling, the 2020 target share has also been exceeded. In 2012, the share of RES heating in gross final energy demand for heat accounted for 27.5%, whereas the NREAP target accounted for 17.9%. Despite of that further RES HC growth is necessary due to the significant advantages of RES heating and cooling – cheaper and cleaner than alternative HC solutions, and stimulate the local economy.

Nevertheless, there is still a lack of legislation in the RES heating and cooling sector. Furthermore, better statistical information is needed in some sectors, e.g. in the case of geothermal energy (Tesnière et al, 2014).

Current Policy Implementation Status

Until 2014 RES heating and cooling projects received financial support by means of the first EBRD (European Bank for Reconstruction and Development) credit line for business (Bulgarian Energy Efficiency and Renewable Energy Credit Line BEERECL). In addition to that, Bulgaria also received financial support by means of the first and second EBRD credit line for households (REECL, REECL2), as well as from the Kozloduy International Decommissioning Support Fund (KIDSF) through EBRD.

EBRD offers households and SMEs a credit through a set of local banks, where the applicant could keep up to 35% of the loan amount as incentive. The second credit line REECL2 was launched in 2011. These loans were focused on homeowner associations while still also individual home and apartment owners but also SMEs and shop owners could apply for such a loan. The measures have been supported solar thermal systems with or without associated space heating and hot water storage systems. Furthermore, insulation and double glazing measures as well as cooling and heating pump systems have also been supported (Reiserer, 2014).

In the 4-year period 2011-2014, REECL2 is expected to distribute 40 million euros (compared to 50 million euros in REECL1) and to fund about 30000 home improvements (http://www.reecl.org/bg/about_us.php).

During the last years, the main support from RES heating and cooling is received from the EU Structural and Cohesion Funds. Enterprises were able to receive grants between 30% and 50% of the eligible costs from OP Competitiveness (Area of Intervention 2.3, indicative operation "Introduction of RES satisfying the needs of the enterprise". The public organizations (and in some cases NGOs) were eligible to receive grants up to 100% of the total eligible costs from OP "Regional Development", mainly concerning Priority Axis 1: Sustainable and Integrated Urban Development, where RES heating and cooling investments were made as part of building renovation projects (Donkelaar, 2010).

Since 2004, RES HC is promoted also through soft loans, financial guarantees, and technical assistance from the Bulgarian Energy Efficiency and Renewable Sources Fund (EERSF).

The EERSF supports projects aiming at improving the energy efficiency and supporting the use of renewable energy in public, residential and industrial buildings. The projects must apply well proven technologies. The credit maturity period is up to five years and at

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least 50% of a project's benefits must come from energy savings. Several other project eligibility criteria have to be observed. The initial capitalization of the Fund was done by several donors, mainly the World Bank, the Government of Austria, and the Government of Bulgaria (www.bgeef.com).

In addition the use of RES technologies in buildings is promoted through a system of tax incentives for building owners. If renewable energy systems are used in a building granted with energy performance certificate above a certain class, it can be exempted from property tax for additional 2 years or 3 years.

The promotion of the development, installation and usage of RES technologies in Bulgaria is supported by professional training programs for RES-installers. Certain installations, reparations and reconstructions shall be performed by people registered by the State Agency SAMTS and having received its certificate. Moreover, a public register is being published by this authority.

Another important policy is a building obligation for the use of renewable heating and for the exemplary role of public authorities. Certain obligations to the use of RES to produce energy in buildings are defined in the Energy Efficiency Act. New buildings with certain floor coverage must comply with the possibilities of using decentralized systems for the use of renewable energy. This covers district heating using biomass or geothermal energy, solar thermal installations, heat pumps and near surface geothermal systems as well as individual facilities for burning biomass with certain conversion efficiency (85% residential and commercial buildings, 70% for industrial buildings). The obligated entities are building investors.

In Bulgaria, certification programs for RES installations are in place, but none of them is linked to eligibility for support schemes. Furthermore, certain buildings used by a public authority have to provide an energy performance certificate.

Conclusions

Bulgaria has already achieved its NREAP targets regarding RES heating and cooling despite the very limited policy support framework in this sector. The majority of the RES heating and cooling development has been driven by the market forces and can be attributed to the low price of fire-wood. The current use of biomass in inefficient stoves, however, is not sustainable. The existing support for RES heating and cooling should be developed towards the promotion of sustainable technologies.

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Greece

Overview

In Greece, the total RES heat production has been steadily increasing through the years. The Country has achieved both its NREAP 2012 target and the interim target 2011/2012. Partly, this is due to the economic crisis and subsequent lower energy consumption. The 2020 target for RES heating and cooling has already been achieved. The target share according to the 2012 NREAP is 16,2 % while the actual share of RES in sectorial gross final energy demand amounts up to 24,4% (Ref. Ares(2014)622789) (Tesnière et al., 2014).

Greece still suffers from economic difficulties; this is also affecting the energy market. The laws for RES financial support focus mainly on the RES electricity production, while there is little provision for RES heating and cooling. In Greece, biomass is a crucial energy source for RES heating, next to solar thermal energy generation.

Current Policy Implementation Status

In Greece, the heat market is considered to be part of the overall energy sector, where the competent public authority is the Ministry of Development. In fact, the heat market has no institutional setup. The Ministry of Development is responsible for all matters concerning the energy sector and conclusively responsible for Renewable Energy Sources and their penetration in the Greek energy market. In this Ministry, there are two important Divisions (Division of Energy-Policy, Division of RES and Energy Conservation), both under the Directorate of Energy. There is also a Regulatory Authority for Energy (RAE) in place, which is, among other things, entrusted with the monitoring and control of the electricity market (Giakoumi, Iatridis, 2009).

The RES sector in Greece is strongly influenced by the ongoing recession. In 2013, the use of biomass has increased due to the burning of cheap, low quality wood for heating by low as well as middle income families. One of the main barriers for RES heating and cooling is the lack of a feed-in tariff system. Currently specific policy aims concerning RES only exist for electricity production. (Tesnière et al., 2014).

For almost 30 years, Greece has a well-developed solar thermal market. The surface of solar collectors per 1000 residents is one of the highest within Europe (Giakoumi, Iatridis, 2009).

In the residential sector, the use of biomass is very common. Till recently according to a Ministerial Degree of 1993 (MD 103/1993/B-369), biomass boilers were not allowed to be installed in the two bigger cities of Greece (Athens and Thessaloniki). In November 2011, this restriction was overcome with the voting of a new Ministerial Degree (FEK2654/B/9/11/2011/189533). According to this Ministerial Degree it is now allowed to use standardized solid biofuels in central heating systems. Historically, effort has been made in order to promote the RES electricity production through the feed-In tariffs system. Installed RES power capacity in Greece increased from 77 MW_e in 1997 to 629 MW_e in 2005 and on to 3552 MW_e in 2012 (Ministry of Environment, Energy and Climate Change, 2013). This development was due to the Greek RES electricity support scheme (Giakoumi, Iatridis, 2009).

RES Cooling is yet not widely introduced in the Greek market. Nevertheless, solar cooling seems to be a very promising sector due to the favourable climatic conditions. Geothermal heat pumps have started slowly to penetrate the market. Still the vast

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majority of the cooling needs in Greece are covered by air-conditioning units (air-to-air heat pumps) using electricity. (Giakoumi, Iatridis, 2009).

Because of the geological conditions, Greece holds a prominent place in Europe regarding the existence of geo-thermal resources.

In Greece, the support framework that existed till recently in the RES heating and cooling sector was oriented mainly towards providing economic support for RES-H systems through the form of tax deductions in the residential sector and subsidy schemes in the tertiary sector and in industry. These measures either weakened through the years and finally were ceased (as it happened in the case of tax deductions) or were in force for certain periods of time (as it happened in the case of subsidy schemes). RES heating and cooling projects can be provided under the provision of article 6 (general investment plans) of Law No. 3908/2011. Here subsidies are combined with tax exemptions. In Addition to that, a program aiming at improving the energy performance of residential buildings through the provision of interest-free loans is in place. Subsidies also exist for the installation of RES plants. The addressees are eligible as long as certain program requirements are met (www.res-leagl.eu).

Greece has adopted a number of national policies to provide support for RES heating and cooling. Furthermore, a number of national programs to promote energy efficiency through the use of RES in public and private buildings exist. Although there is a database of PV facility installers, no organization has yet been assigned the task to certify installers. In Greece, certain building obligations include RES heating requirements, e.g. mandatory solar panels etc. According to article 9 of law 4122/2013, all buildings should be almost zero energy buildings from 2021 onwards. Public buildings should meet this target from 2019 onwards. Besides the Ministry of Environment, Energy and Climate Change, also regional planning authorities are involved. In the future, voluntary agreements between the industrial and commercial sector as well as contracts of guaranteed performance are planned to be introduced (www.res-leagl.eu).

Conclusions

Although the use of RES heating has steadily been increasing through the years, the lack of an integrated relevant strategy at the national and regional level is a main barrier. According to Tesnière et al. (2014) a relevant legal framework featuring proper incentives is also necessary.

Concerning biomass, there is currently a very restrictive legislative framework for the exploitation of forest residuals in place. Another difficulty is the lack of necessary storage facilities for biomass (Tesnière et al., 2014).

In order to effectively promote RES heating and especially cooling, the formulation of a well-structured policy support scheme is needed.

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Italy

Overview

Italy has achieved both its NREAP 2012 target and the interim target 2011/2012. The target share according to the 2012 NREAP is 7.7 % while the actual share of RES in sectorial gross final energy demand amounts up to 12,8%. Italy is expected to reach its 2020 targets (Tesnière et al 2014).

Current Policy Implementation Status

In Italy there are various different mechanisms in place promoting renewable energy sources for heating and cooling. Currently the main national schemes promoting the thermal use of renewable energy sources are the White Certificates, the energy efficiency credits scheme, tax regulation system as well as the building obligation.

In 2005 Italy started its White Certificate Trading scheme. The legal basis of this scheme was established by Ministerial Decree of 24 April 2001, Ministerial Decree of 20 July 2004, Ministerial Decree of 21 December 2007 and Ministerial Decree of 28 December 2012. With this scheme Italy obligated its electricity and gas distribution companies to achieve end-use energy savings through energy efficiency improvement initiatives and projects. The mandatory quota set for suppliers of electricity and gas can be also reached through projects involving final users. The distributors may also fulfill their obligation by buying white certificates from other parties in the Energy Efficiency Certificates Market that is organized by the Electricity Market Administrator (GME). GME issues the certificates to energy distributors, their companies or any ESCo registered in the AEEG website (Winkel, Rathmann, et al, 2011). Each certificate is worth one tonne of oil equivalent (toe) saved. Since 2013 GSE (Gestore dei Servizi Energetici GSE S.p.A) provides the activities of management, evaluation and certification of the savings associated with energy efficiency projects under the white certificates schemes (www.gse.it).

The energy efficiency credits scheme: Under Legislative Decree No 28/2001, which transposed Directive 2009/28/EC, starting from 2012 a price-based scheme called Conto Termico is in place in Italy for small RES-H sources. The scheme is applicable to technologies such as solar thermal systems, biomass boilers and heat pumps, including geothermal heat pumps. Those technologies are supported by financial incentives on capital costs which amount up to 40% on the eligible investment payable on yearly basis for a period of up to 5 years. The duration depends on the type of improvement implemented, the technology type implemented as well as its scale. Public administration entities as well as non-industrial private may request support. The Decree allocates EUR 200 million for actions planned or implemented by the public administrations (annual maximum cumulative expenditure) and EUR 700 million for actions implemented by private parties (annual maximum cumulative expenditure) (www.iea.org).

Beside the price based scheme a tax regulation system is in place to promote RES heating and a loan is provided for the years 2012, 2013, 2014 and 2015, for new installations (Winkel et al., 2011). This tax rebate of 65% (but decreased to 50% in 2015) for the renovation of buildings, aiming to improve energy efficiency has been introduced by law. The tax rebate programme provides tax credits to households for retrofit energy efficiency measures, such as thermal insulation, installation of solar panels, replacement of heating and air-conditioning systems or comprehensive refurbishments This tax credit may cover up to 65% of the energy related cost, but is capped by a maximum value that is determined by the type of measure taken. Over a

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period of ten years the tax credits are reimbursed. (Italy's Second Progress Report under Directive 2009/28/EC, December 2013).

Implementing the EU Energy Performance of Buildings Directive (EPBD) Italy has put on an obligation for new buildings to cover a quota of their energy needs for domestic hot water with renewable sources, as well as using renewable energy systems for electricity production. According to the report Renewable Energy Policy Country Profiles (Winkel et al, 2011) the obligation to install renewable energy systems in new buildings has been largely ignored. It points out that all these policies demand additional legislative steps so that they become effective, such as the enactment of corresponding ministerial decrees, regional laws or communal regulations. The authors critically remark that the starting points for energy consumption of new buildings to be covered by renewable energy sources have been postponed several times (Winkel et al, 2011).

At the moment all new buildings and buildings undergoing major refurbishment are obliged to cover 50% of the foreseen consumption of warm sanitary water by renewables. Furthermore the following percentages of the cumulative foreseen consumption of warm sanitary water, heating and cooling are foreseen:

- 20 % if the request of the relevant building permit occurs between 31/05/2012 and 31/12/2012
- 35 % if the request of the relevant building permit occurs between 01/01/2014 and 31/12/2016;
- 50 % if the request of the relevant building permit occurs after 01/01/2017 (Art. 1, Annex 3, DL 28/11)

Certain buildings with historical value as well as buildings connected to district heating networks that cover their entire need for heating and warm sanitary water are exempted from this regulation.

Italy has introduced a Certification Programme for RES installations. According to this certification programme the installer must provide the owner of the building with a declaration certifying compliance with the legislation in force related to the realization. Furthermore Italy introduced training programmes for installers which are regulated at central level but set up and managed at regional level.

District heating and cooling networks are managed at a local level. DL 28/11, Art. 22, c 3 provides an obligation for bigger municipalities (>50000 inhabitants) to establish development plans for district heating and cooling, also promoting RES (www.res-legal.eu)

Conclusions

Italy is comfortably above both its NREAP 2012 target and the interim target 2011/2012. Nevertheless the legal framework seems to be too complex. Several laws regulate the RES-H sector and different provisions are set up at regional level. There is also a lack of implementation of primary measures and an inconsistency between measures of different nature, which causes difficulties in the access to finance. Finally, there is a general lack of know-how of the involved actors.

The underdevelopment of the supply chain implies higher risks and a tendency to use imported biomass. Moreover, many urban, industrial and agricultural biomass residues and prunings are treated as waste, with the practical impossibility to use them as fuels at a competitive price. There is a need to set up a modern logistics infrastructure: forest management, system automation, transport.

The lack/delay in the completion of the legislative framework is discouraging the development of new projects. Incentives for the realization of new DH networks are

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foreseen by law (D.Lgs. 28/2011) but still not implemented. The possibility to inject biogas into the natural gas network is now operational but only for what concerns the injection of biomethane produced by anaerobic digestion of bio-products. The injection of biomethane produced by urban wastes or sludge is still not allowed.

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www.res-legal.eu

Latvia

Overview

In the last years, Latvia has demonstrated growth in the use of RES technologies. The country has achieved both its interim targets 2011/2012 and its NREAP 2012 targets. Especially in the field of heating, the NREAP targets for 2020 can easily be achieved. The growth rate in the share of RES heating and cooling is sufficient in order to meet the targets of 2020. The share of RES in the sector of gross final energy demand for heat accounted for 47.3% in 2012 (NREAP target 47.6%) (Tesnière et al., 2014)

In Latvia, the use of Biomass (non-grid) is the most important RES technology. There are great potentials, especially in the field of biofuels, solid and liquid biomass as well as wind (on-shore) (Winkel et al., 2011)

Current Policy Implementation Status

In Latvia, there are currently two important policies promoting the development of RES installations. Firstly, the use of renewable heating and cooling systems is an obligation to investigate potential to use RES in new and renovated buildings. In the construction phase of a building, the possible use of renewable energy installations should be evaluated. This primarily concerns CHP installations, local heating and cooling installations or heat pumps as well as decentralized energy supply installations. The obligated entities of this policy are the owners of buildings, the relevant authority is the Latvian Ministry of Economy.

In Latvia, there is currently no regulation by law for the training programs, but installers must be able to show a construction management certificate to offer certain services.

In addition, there are different tax benefits to ensure to promotion of heating and cooling from renewable energy sources in Latvia as for example the „Law on the Value Added Tax“ a relevant tax regulation mechanism. Generally, the supply of goods and services is taxed. Here, the tax rate for the supply of biomass and biogas for household needs is reduced from 21% to 12%. Everybody who performs economic activities and is registered is addressed by this Law.

According to the „Energy Law“ a independent heat producer is allowed to supply thermal energy into an existing heating network, if the thermal energy offered complies with the technical requirements. The producers and suppliers of thermal energy shall comply with economic and social law, as well as the protection of the environment and the preservation of cultural heritage. But there are also certain rules on a regional level for high energy performance and competition in the heat supply market. Regional heat supply is a matter for the municipalities, as far as their administrative territory is concerned. In Latvia, municipalities are therefore obligated to promote high energy performance and competition in the heat supply. Binding regulations (e.g. for the use of local energy resources, CHP solutions etc.) can be issued at a regional level (www.res-legal.eu)

According to Tesnière et al. (2014) the overarching barrier affecting heating with renewable energy sources in Latvia is the high share of fossil energy. The Latvian two biggest CHP plants were modernized in the last years and still use oil and gas for the electricity and heat production.

Conclusions

In Latvia, there are existing state support mechanisms for heating and cooling from renewable energy sources, namely tax benefits. Devices for heat production from renewables are not given priority connection. There have been several direct and indirect support schemes and grants provided to support for RES using in DH. The main support schemas used:

- Green investment scheme from Ministry of Environment and Regional Development for transfer from fossil to RES;
- State and European Union aid for rural and fisheries development. Fuel production from agricultural and forestry products;
- Cohesion Fund. Development of cogeneration power plants utilizing RES. Cohesion Fund managed by Latvian Investment and Development Agency;
- Indirect State aid Transmission system operators cover that part of the cost of connecting renewable energy generators' systems incorporating the reconstruction costs of connecting the existing transmission and distribution system to generating plants at connection points chosen by renewable energy generators, as well as the costs of supplied and received electricity recording/measurement;
- Tax relief (the Law on Electricity Tax). Law on Electricity Tax prescribes that electricity obtained as below is exempt from tax: from RES and from cogeneration power plants complying with the efficiency criteria for electricity generation by cogeneration processes prescribed in legislation. (D2.1. report)

On the regional level, there are regulations that establish rules for high energy performance as well as competition in the heat supply market.

Literature

Tesnière, Lucie; Steinhilber, Simone; Resch, Gustav et al (2014), EU tracking Roadmap 2020, Keeping Track of Renewable Energy Targets towards 2020

Winkel, Thomas; Rathmann, Max et al (2011), RENEWABLE ENERGY POLICY COUNTRY PROFILES, Intelligent Energy Europe project

www.res-legal.eu

Spain

Overview

In Spain, there are currently no support subsidy schemes for heating and cooling with renewable energy sources in place. In general, Spain is a country with very little tradition in district heating / cooling systems. Nevertheless, there are some local success stories e.g. regarding RES heating technologies like a biomass district heating system in Cuéllar (Segovia).

In Spain, the growth in the share of RES heating and cooling needs to accelerate in order to achieve the 2020 targets. Nevertheless, there are great potentials for RES heating and cooling in Spain, and a certain increment in case of RES-H can be highlighted.

Current Policy Implementation Status

Although there are no support subsidy schemes for RES heating and cooling in place, several policies of interest for RES heating and cooling are available (www.res-legal.eu):

In the Spanish building obligations, new buildings with demand for sanitary water / air condition of a covered swimming pool must satisfy a certain demand through solar thermal installations. This obligation can be lowered or bypassed under certain conditions, such as the use of other RES (e.g. biomass, geothermal etc.). The contribution can vary between 30-70% of the total warm sanitary water demand of the building, depending on the demand level, the main heating source or the geographical position. This also applies to buildings undergoing major renovation. The obligations are stated in the Technical Building Codes (TBC), the relevant authority is the Directorate for Architecture and Housing of the Ministry for Housing.

Furthermore, there are several research and development policies in Spain that include some RES heating and cooling aspects. The national plan of scientific research, development and technical innovation 2013-2016 establishes mid-term goals and priorities of the national research policy. The competent authority in this case is the Ministry of Economics and Competitiveness. Different strategic actions are stated, whereas „Reliable, safe and clean energy“ is important in the RES heating and cooling context. Within ten priority areas of intervention, e.g. solar energy (thermal, PV, thermoelectric), wind energy, bio energy waste treatment with energy goals, geothermal energy as well as sea and tidal energy are considered.

In Spain, there are certification programmes in place for the installation of solar thermal panels. This scheme applies to producers of solar collectors and is designed to ensure thermal panels comply with international standards. The relevant authority is the Ministry of Industry, Energy and Tourism. In addition to that, a national training programme for installers was in place.

The share of RES in the heating sector accounted for 14% in 2012 (Tesnière et al., 2014)

Conclusions

The policies in Spain focus mainly on solar thermal heating and biomass. The training programme for solar thermal installers also applies to PV installations and wind power plants. The national plan of scientific research, development and technical innovation 2013-2016 does include other technologies (www.res-legal.eu).

RES H/C SPREAD, [D2.3]

In fact, there is an urgent need to develop the current legislation status in Spain regarding district heating and cooling.

A further barrier for RES heating and cooling is that neither the Renewable Energy Directive nor the Energy Performance in Buildings Directive has been accurately transposed in the Spanish legal frameworks so far. Planning is difficult due to the fact that there is a lack of official data regarding RES heating and cooling. An official record of facilities has not yet been created. In fact, there is no broad implementation of renewables for heating and cooling in Spain (Tesnière et al., 2014).

Literature

Tesnière, Lucie; Steinhilber, Simone; Resch, Gustav et al (2014), EU tracking Roadmap 2020, Keeping Track of Renewable Energy Targets towards 2020

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