



20-20
KEEP ON TRACK!

2013

POLICY RECOMMENDATIONS

REPORT



EREC

EUROPEAN RENEWABLE ENERGY COUNCIL



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WHO IS EREC?

EREC, the European Renewable Energy Council, is the umbrella organisation of the major European renewable energy industry, trade and research associations active in the field of photovoltaics, small hydropower, solar thermal, bioenergy, geothermal, wind energy, and solar thermal electricity. It now has 10 members, which in turn, comprise globally active companies within their membership. EREC represents an industry with an annual economic activity of more than €130 billion employing more than 1 million people. EREC shares its offices with its member associations in the Renewable Energy House in Brussels, a model showcase for integration of energy efficiency and renewable energy technologies in a historic building.

EREC'S MEMBERS:

 AEBIOM (European Biomass Association)	 EGEC (European Geothermal Energy Council)	 EPIA (European Photovoltaic Industry Association)	 EREF (European Renewable Energies Federation)	 ESHA (European Small Hydropower Association)
 ESTELA (European Solar Thermal Electricity Association)	 ESTIF (European Solar Thermal Industry Federation)	 EUBIA (European Biomass Industry Association)	 EUREC Agency (European Association of Renewable Energy Research Centres)	 EWEA (European Wind Energy Association)

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THE KEEP ON TRACK! PROJECT

















The 2009/28/EC Directive on the promotion of the use of energy from renewable sources¹ (referred to in this publication as the “RES Directive”) sets the objective of reaching at least 20% of the EU’s final energy consumption with renewable energy sources by 2020. It sets for each Member State mandatory national targets for the overall share of renewable energy sources (RES) in gross final energy consumption. The annex to the Directive also defines an indicative trajectory for RES developments leading to the 2020 objectives. Progress towards reaching the 2020 targets are carefully monitored to ensure that actual developments are not lagging behind the trajectory outlined in the RES Directive. With this aim and building on the experience of the Intelligent Energy Europe (IEE) project REPAP2020, Keep on Track! offers market, legal and political advice and recommendations for EU Member States to stay on track with the objectives set for 2020.

This is done via a platform for discussion among different market actors such as renewable energy industry associations, national and EU Parliamentarians and the scientific community. Moreover, the project ensures a close-to-market monitoring of the fulfilment of the RES trajectory for each of the 27 EU Member States and for Croatia in 2015.

If a Member State is found to be lagging behind and is failing to overcome identified barriers for RES deployment, Keep on Track! will provide early warnings and suggest solutions on how to compensate any possible delay encountered.

KEEP ON TRACK! PARTNERS:

The European Renewable Energy Council (EREC) is the project coordinator. Partners in the projects are:

 EUROFORES - The European Forum for Renewable Energy Sources	 BEE - Bundesverband Erneuerbare Energie e.V. BEE - Bundesverband Erneuerbare Energie	 EEG - Vienna University of Technology, Energy Economics Group	 Fraunhofer Institute for Systems and Innovation Research	 Eclareon	
 BBH - Becker Büttner Held	 APEE - Association of Producers of Ecological Energy	 Associazione Produttori Energia Rinnovabile	 APPA - Asociación de Productores de Energías Renovables	 APREN - Associação Portuguesa de Energias Renováveis	
 EEÖ - Bundesverband Erneuerbare Energie Österreich	 EDORA - Fédération de l'Énergie d'origine renouvelable et alternative	 GAREP - Greek Association of RES Producers	 PIGEO - Polish Economic Chamber of Renewable Energy	 REA - Renewable Energy Association	 SERO - Sveriges Energiföreningars Riksorganisation

Visit the project website to learn more: WWW.KEEPONTRACK.EU

Co-financed by IEE



EU OVERVIEW

THE EU IS ON TRACK, SO FAR...

The European Union is currently on track in terms of its indicative trajectory for the two-year period 2011 to 2012 defined by the Renewable Energy Directive. Member States Progress Reports show that the EU had already met in 2010 the milestone established for 2012. Thanks to the setting of the binding 20% renewable energy target by 2020 and the legislative framework offered by the RES Directive, EU Member State were able to offer an appropriate framework for investments in the renewable energy sector.

However, in the last few years, some countries have introduced abrupt regulatory changes such as retrospective changes (e.g. in Spain and Bulgaria) and moratoria on new RES developments (e.g. in Spain and Portugal). These abrupt changes destroy investor confidence and replacing them, EU Member States make it more difficult for themselves to meet the 2020 renewable energy targets in the long-run.

Furthermore, the economic and financial crisis induced a change of attitude from certain national governments from a "Pro-RES" to "No More RES" philosophy (e.g. Greece, Spain, Portugal and to a lesser extent Belgium and Germany with the debate on the EEG¹ surcharge).

Renewable energy sources have been sometimes taken as a scapegoat for the increased electricity prices in the media. In the United-Kingdom, for instance, 64% of the 2004-2010 increase in a typical household energy bills is due to increased gas prices². Only 7% is due to low carbon generation support including the Emission Trading Scheme, the Electricity Market Reform and the Renewables Obligation. By far

the largest contributor to increased electricity prices is the wholesale price of gas.

Still, governments tend to consider RES as a cost on a balance sheet without taking into account their positive externalities.

BENEFITS OF RENEWABLES IN THE EU

- The EU renewables sector directly and indirectly employed in 2011 about 1.2 million people, an increase of 30% on the 2009 figure³. By 2020, 2.7 million people in the EU could be employed by the renewables sector.
- The economic activity of all 27 Member States for 2011 stemming from renewable energy is valued at about €137 billion - a 14% increase on 2009.⁴
- In 2011, the EU's combined trade deficit was €150 billion. At the same time the net import bill for fossil fuels to the EU amounted to €388 billion, which is more than 3% of EU GDP, and more than twice the trade deficit. Renewable energy can play a crucial role in reducing the EU's import dependency.⁵

¹ Erneuerbare-Energien-Gesetz (EEG) - the German Renewable Energy Act.

² EREC: EREC Factsheet on Costs. 2013.

³ EurObserv'ER: The State of Renewable Energies in Europe. 2012 & 2010.

⁴ See both Fraunhofer ISI et al.: EmployRES. The impact of renewable energy policy on economic growth and employment in the European Union. (2009) and EREC: 45% by 2030. Towards a truly sustainable energy system in the EU. 2011.

⁵ EurObserv'ER: The State of Renewable Energies in Europe. 2012.

EUROPEAN POLICY RECOMMENDATIONS

The Keep on Track! consortium hence recommends to:

1 CREATE AND IMPLEMENT A PREDICTABLE AND STABLE LEGISLATIVE FRAMEWORK FOR RES AT NATIONAL LEVEL

This call is echoed by all national RES associations of the Keep on Track! consortium. Governments should ensure that their policies are stable and reliable for investors in order to create new jobs in the sector.

2 FULLY IMPLEMENT THE INTERNAL ENERGY MARKET

End regulated energy prices, thereby preventing the issue of tariff deficits coming back on the political agenda.

Phase out fossil fuels subsidies, thereby helping EU Member States to reduce their public debt and cut inefficient spending.

Ensure more competition on the market, thereby ensuring that consumers can choose independent renewable energy producers.

3 RE-ESTABLISH TRUE FOSSIL FUEL AND CO₂ PRICES

Include the externalities of fossil fuels and nuclear energy into their prices. Governments should have a true idea of the price they pay for each energy technology as well as its impact on society across all sectors (health, climate, environment, etc.).

4 PROVIDE A THOROUGH ANALYSIS OF THE ELECTRICITY PRICES AND THE TARIFF DEFICIT

RES are often judged responsible for tariff deficits. Tariff deficits are due to the regulated prices put in place by national governments which do not reflect increasing energy costs. Governments are “shooting the wrong target” when removing support to RES to find a solution to the tariff deficit.

5 REMOVAL OF ADMINISTRATIVE BARRIERS

The removal of administrative barriers is a neutral measure in terms of State budget but does improve the investment climate for RES. Governments should improve their analysis of the administrative barriers in place and implement measures aimed at restricting them. Such measures are very cost-effective and could improve the investment forecasts of producers significantly, thereby decreasing the costs of RES.



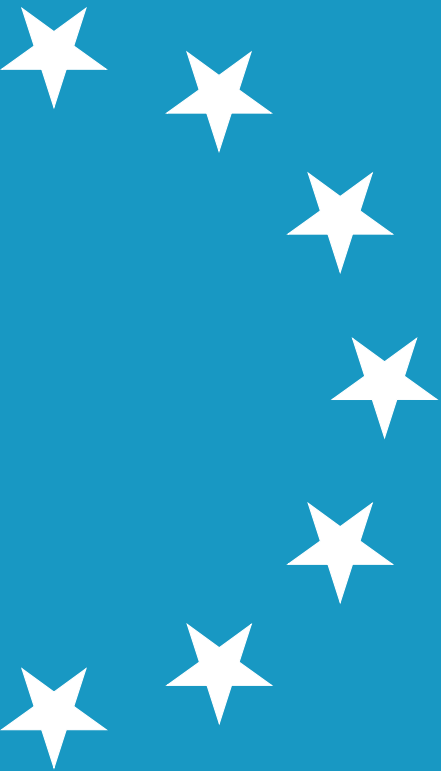
ON EU MEMBER STATES PROGRESS REPORTS:

Reports in many countries are seen as overly positive as they focus on 2010 developments, when the situation was bright for RES. However, progress reports do not assess the difficulties that the renewable energy industry is currently facing and do not propose policy solutions.

Many reports present the legislation adopted but do not report on problems encountered during implementation, or on the lack of implementation, or on changes introduced.

One of the major obstacles to further RES market growth identified at the end of 2012 is the increasing lack of liquidity of the electricity market (this is especially true in the case of Greece).

Regrettably, EU Member States' Progress Reports tend to focus on the electricity sector, thereby neglecting the heating and cooling as well as the transport sectors.



MEMBER STATES'

REPORTS



AUSTRIA



KEY TRENDS IN THE RES SECTOR

Although the share of renewable energy is relatively high in Austria across the heating, electricity and transport sectors, renewable energy growth has been sluggish over the last few years, despite the country's hydropower and biomass potential. The reasons for this are numerous.

The Austrian Government supported green electricity via the adoption of the first Green Electricity Act in 2003. However, several amendments to this act made in the following years reduced the yearly growth rates in the renewable electricity (RES-E) sector.

The implementation of an annual "financial support volume cap" led to reduced investments in RES technologies. Many projects were delayed because of this maximum financial support cap.

The Green Electricity Act was positively amended in 2012, following Fukushima. EEÖ now expects higher annual growth rates for RES-E from 2012 to 2020, in spite of the annual financial support cap.

Regarding the use of RES in the heating sector, Austria is in a favourable starting position with a more than 30% share of RES and with its long-term strategy of constantly reducing the country's heat demand. "What's more, regarding new buildings, positive measures have been adopted. EEÖ expects further positive measures in the heat sector, due to the Climate Protection Act implemented in 2011, further regulations and the new Energy Efficiency Act (publication planned in 2013).

Austria easily fulfilled the EU 2010 biofuels target (5.75 %). However further developments are hindered due to the suspension by the Government of E10 on the market. In September 2012, the Austrian Government postponed its introduction, until the situation is clarified at EU level.

Austria is a forerunner in the use of RES in the rail sector with 97% of the electricity currently used by the Austrian railway company ÖBB being generated by RES, mainly from hydropower. What's more, ÖBB intends to increase the share of electricity from photovoltaics (PV) by feeding it directly into the rail network.

Faster development of RES in Austria is hindered by the fact that the targets formulated in the National Renewable Energy Action Plan (NREAP) are not ambitious enough, though they are in line with Austria's target of 34% RES by 2020. EEÖ published an alternative RES action plan (NAP) in 2010 which suggested more ambitious, yet achievable targets for 2020 but these recommendations were not considered in the NREAP.

EEÖ supports the implementation of much more ambitious renewable energy targets for the next five year legislation period, starting in 2013 after parliamentary elections. Targets should be accompanied by measures resulting from the Green Electricity Act, the Energy Efficiency Act, the Climate Protection law and the Electricity law.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

Avoid “stop and go support policy” which harms investor confidence. A better implementation of the “first come, first served” principle is essential to a successful “feed-in tariff” system.

Cancel grid loss fees for producers, as these fees discriminate large domestic RES producers. Grid loss fees were formerly financed by taxes. Since these costs were not foreseen during the project planning, they can lead to considerable financing issues. This barrier could soon be removed with the adoption of a new regulation in 2013, which could lower grid costs for RES producers.



HEATING AND COOLING SECTOR

Streamline incentives/financial subsidies to raise refurbishment quotas. The low refurbishment quotas and the fact that the installation of renewable energy technologies is not compulsory to receive housing aid explain the slow development of RES in the housing sector.

Impose efficiency criteria to existing heating systems. Minimum efficiency criteria for renewable energy installations in households are needed. Currently, such criteria are being debated in an on-going discussion surrounding amendments to the Climate Protection Act as well as the new Energy Efficiency Act.

Fund agricultural biomass plants. There are no more funds available today to support agricultural biomass heating plants. According to the Austrian Biomass Association (ÖBMV - Österreichischer Biomasseverband), the installation

of such plants can not be promoted at the moment. The allocation of funding is also uncertain in the coming years due to the Austrian federal political system. If the Austrian federal states do not agree to co-finance the incentives, support from federal funds will not be granted.



TRANSPORT SECTOR

Implement a national action plan for electro-mobility: There is currently no binding national action plan for the implementation of electro-mobility in Austria. According to the Federal Environment Agency, a roadmap has been elaborated by three Austrian federal ministries for the promotion of electro-mobility. In addition, the Austrian Energy Strategy foresees up to 250,000 electric vehicles by 2020 (a goal which seems optimistic, bearing in mind that Austria has about 8.4 million inhabitants); the implementation of concrete measures to foster electro-mobility are still pending.

The price difference between vegetable oil and diesel is not sufficient to enable an economically sustainable advantage. Additionally, the high quality requirements for the purification of vegetable oil has allegedly led to rising costs which are further exacerbated by the double fuel storage costs (vegetable oil plus diesel).



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BELGIUM



KEY TRENDS IN THE RES SECTOR

Belgian policy makers generally see renewables as cost-inducing technologies. They have limited confidence in the potential of RES and base their decisions on certain local incidences without taking into account the positive externalities of RES production. In addition, overly cheap fossil and CO₂ prices significantly impact RES developments as RES plants also have to compete with depreciated fossil or nuclear plants. As a consequence, certain policy makers have demonstrated a short-term vision, negatively communicated on RES and affected social acceptance of RES. Moreover, there is often a lack of business and technology understanding at both ministry and administration levels which leads to detrimental or excessive measures being taken. Finally, the lack of coordination between decision making levels often leads to conflicting decisions impairing the good development of the sector.

In general, a clear policy framework based on midterm targets is lacking for different RES technologies, except for onshore wind development in Wallonia. RES development is now dramatically impaired by several factors: uncertainty surrounding support mechanisms, insufficient grid connection capacities or network developments, complicated or uncertain permit procedures, lack of objectivity regarding the environmental constraints, competition with other economic or state activities (e.g. military trainings) and juridical uncertainties leading to delivered permits being systematically challenged at the Council of State level.

The support mechanism for RES-E in Belgium mainly relies on green certificate systems combined with quotas. The current system is under revision with uncertainty surrounding future project support and with possible retrospective effects on

existing production plants looming. Some decisions have already been taken regarding future targets (e.g. future quotas in Wallonia) or the general direction of the future system (e.g. in Flanders). For offshore wind, the producers, investors and big consumers have proposed a compromise agreement to the Government linked to the evolution of the electricity price. Due to the oversupply of green certificates, their price has collapsed in the last months to reach their guaranteed price in Wallonia. This has a significant impact on the profitability of current production and could simply block future developments. The support mechanism is still under discussion among the authorities creating dramatic uncertainty for future development. Some investments are completely blocked, challenging the implementation of projects for which a permit has already been delivered.

The main support scheme deals with green certificates for CHP (combined heat and power) and investment support. As far as the heating sector is concerned, there is a dramatic lack of specific support mechanisms for heat production from RES and for biogas production and injection into heat networks. This situation leads to insufficient profitability and investment uncertainty. In addition some specific investment aids are based on an overly complex system.

In Belgium, the promotion of renewable energy sources in the transport sector is a matter of federal competence. The main support scheme for renewable energy sources used in transport is a quota system. This scheme obliges companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel. Furthermore, biofuels are supported through tax regulations.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

Finalise as soon as possible a **stable support system** preventing retrospective changes and guaranteeing acceptable profitability for each RES technology.

Make sure **grid reinforcements are in line with the RES spatial planning timing** to guarantee priority access for RES production plants to the grid. Curtailment must be systematically compensated.

Finalise a **clear framework for each RES technology** based on mid-term targets and clear, objective and scientific criteria and evaluation procedures. Such a framework must be legally secured by relevant legislative initiatives in order to prevent legal challenges to the delivered permits. In addition, a transition system must be implemented in the framework of any new regulation to guarantee a continuous development of projects already in the pipeline.

Implement a **one-stop shop for every permit-delivering-procedure** to improve the coordination and coherence between decision bodies.

Remove **installation constraints taking technical solutions into account** (e.g. installing wind turbines in forest zones, in the vicinity of airports, radars, etc.), balancing local environment and aeronautical challenges with RES positive externalities (GHG emission reduction, energy independence, jobs etc.).

The **Government and administration should launch communication campaigns** to guarantee social acceptance of RES projects and to ensure the accuracy of information disseminated by local associations.



HEATING AND COOLING SECTOR

Provide a **clear legal framework to promote RES developments in the heating sector**. Such policies should be based

on clear overall and technological targets in the longer term. Effective binding targets in some sectors (e.g. in the building sector) should be implemented to further support their development. The framework should be based on clear, objective and reasonable criteria with a balanced approach between the different uses (especially for biomass).

Integrate a specific support system for biogas, RES heating production and district heating in a clear and coherent framework.

Develop a spatial planning strategy focused on district heating development. This strategy must be linked to a specific support system for this network development.



TRANSPORT SECTOR⁶

Clarify the sustainability criteria related to biofuels to improve their social acceptance.

Dedicate biofuels to specific applications to improve social acceptance and security of supply for specific sectors.

Decide on incentives to promote technology improvement of electrical vehicles so as to reduce their cost and improve their social acceptance.



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⁶ These recommendations are not from EDORA but from the expert interviews realized by Eclareon for their barrier analyses



BULGARIA



KEY TRENDS IN THE RES SECTOR

The economic and financial crisis has restrained the development of renewables in Bulgaria. Layoffs and downsizing of companies are currently resulting in shrinking consumer purchasing power and less demand in all markets, including the energy sector. Fossil fuels are gaining in popularity with the public over renewables, due to short-term cost advantages.

Additionally, the lack of public acceptance and financing of RES by foreign banks makes future deployment a complicated task not only for the producers but also for governments and branch organisations.

The existing support scheme for electricity is the feed-in tariff also known in Bulgaria as “preferential prices. There is controversy related to the concept of “preferential prices” as RES producers only have a 7% return on investment (ROI), compared to a 12% ROI for transmission companies. Association of Producers of Ecological Energy (APEE) deem the proper term to be “fixed prices”, according to

the Bulgarian legislation. At the point of commissioning of a power plant, the feed-in tariff (FiT) is fixed for 12-20 years (depending on the renewable energy source). This is a problem in itself as the FiT is set at the end of the process which means that investment decisions are made based on a FiT hypothesis rather than a fixed value. In spite of this, fixed prices have led to the fast development of some technologies, leading to grid congestion due to the high number of grid requests. This needs to be corrected by amending the RES legislation, policies and relevant incentives.

The existing support for the RES heating and cooling sector is largely insufficient, consisting of only a couple of grant schemes for covering up to 20% of the project costs support for installation of an efficient firewood boiler.

There is virtually no support for the development of RES in the transport sector as the blending of biofuels is not widespread in Poland.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

A change of legislation is needed. The Government should create and implement predictable, transparent, objective and stable legislative framework. Even more importantly, is the enforcement and control of the existing legislation must be guaranteed.

Change existing legislation and create new legislation. There is an urgent need for a predictable and transparent incentives framework for renewable energy that will alleviate the burden on the end consumer, creating a suitable investment environment to nurture new, efficient and less expensive projects.

Create an energy market:

The National Electricity Company (NEK) should be unbundled. The current RES market incentives should be changed. The fixed FiT should be substituted with a more market and consumer friendly feed-in premium. A green energy fund should be created with the proceeds from the sales of saved CO₂ emissions thanks to RES, which are then directly allocated to the creation of further incentives, thus lowering the electricity costs and prices.

Create an energy strategy for gradual transition towards smart grids. The strategy should be created and incorporated in a 30-year plan for reconstruction and modernisation of the power grids (transmission and distribution grids).

Enforcement of the polluter pays principle.



HEATING AND COOLING SECTOR

Increase excise duties on fossil fuels for heating and cooling (including but not limited to gas oil, oil fuel (black oil/oil residues, natural gas, petroleum) thus respecting the polluter pays principle.

Introduce subsidies for the production of wood pellets/ wood chips etc.

Issue guarantees of origin for the producers of energy for heating and cooling.

Introduce legislative changes requiring public heating utility companies to have a minimum share of RES in their heating.



TRANSPORT SECTOR

Exempt biofuels from excise duties to stimulate the market.

Create legislation and/or incentives to promote electromobility, for example: introduce exemptions of automobile taxes/duties, including vignettes, as well as for VAT for the purchase of green vehicles, introduce free parking places for electric vehicles, and attribute spaces for the creation of charging points for these.

Exemption of automobile taxes/duties, including vignettes

VAT exemptions for the purchasing of green vehicles

Introduction of free parking places for electric vehicles

Attribution of spaces for the creation of charging points

Reconstruct and modernise the rail transport system, including electrification where needed.



STATISTICS COLLECTION

Create transparency. EUROSTAT and the National Statistic Institutes should work towards the creation of transparent methods to gather statistical information. One such method would be a requirement for every national statistical office to publish the national raw data and the formulae for the further conversion and processing.

A control should be established, when calculating the RES shares of hydro and biomass for the calculation of normalised data from hydropower and for the sustainable contribution from biomass power plants.



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GERMANY



KEY TRENDS IN THE RES SECTOR

Shortly after the Fukushima nuclear disaster, the German Government and Parliament decided to phase out nuclear energy and to accelerate the transformation process which has come to be known as the German “Energiewende”. In this context, the development of new renewable energy capacity will play a central role, as will rapid and swift grid reinforcement and expansion. Regarding the latter, a network development plan detailing the need for optimisation, strengthening and expansion of the existing network infrastructure has been established and opened to consultation. As for the development of new renewable capacity, some politicians have started a debate regarding the costs of the “Energiewende”, and market participants and decision makers have made various proposals, varying from future amendments to the law to replacing the feed-in tariff by a quota system. The debate grossly disregarded the increased exemption of the energy-intensive industry from paying the EEG surcharge, which shifts the cost burden from industry to private consumers and thus endangers public support for change. What’s more, the societal costs of not increasing renewable energy deployment and continuing to rely on fossil fuels is not sufficiently in the spotlight. The Renewable Energy Sources Act (EEG) is the crucial driver for renewable energy growth in the electricity sector. After an extensive revision in 2009, the EEG underwent three further amendments in recent years, leading to increased cost-

efficiency, but which set back the photovoltaics (PV) sector. Despite these changes, the ongoing debate on costs creates a climate of uncertainty which negatively impacts investor confidence. The latest proposed amendments, recently announced by the Environment and Economy Ministers, could lead to a standstill in renewable energy expansion. They include withholding the payment of the feed-in tariff for new systems for the first five months after their entering into operation (they will receive only the market price for their generation) and a one-off annual cut of 1.5% for all existing systems, among other measures.

Furthermore, the support policy for renewable energy in the heating and cooling sector is not delivering the desired results. The evaluation of the German Renewable Energy Heat Act (EEWärmeG), a law requiring the use of renewable energy in new buildings, published one year later than due, in December 2012, showed that about 50% of new buildings are still not using renewable energy heating systems. Nonetheless, it fell short of establishing much needed changes. As for the building stock, the existing funding through the market incentive programme (MAP) hinges on annual budgets and is therefore unreliable.

Another initiative to revitalise the renewable heating sector, the proposed tax break for energy efficient modernisation

of existing buildings - which would have spurred the use of renewable heat in the building stock - has failed, because of the inability of decision makers to reach an agreement on how to share the costs incurred by the measure.

In the transport sector, the introduction of the E10 fuel in 2011 was an immense failure. Due to insufficient information or misinformation to consumers, the uptake of the new fuel ranked well behind the envisioned shares. Furthermore, the goals of the German administration have been significantly watered down over the years, with the end of a biofuel quota in sight. The dedicated yearly blending quota of 6.25% will

be replaced by an annual greenhouse gas (GHG) emission reduction quota of 3% in 2015. The Government assumes an increased use of biofuels, when, de facto, the current policy framework will not lead to any increase. As for pure biofuels, the preferential tax treatment for B100 and vegetable oil fuel ended at the beginning of 2013.

To date, there are no relevant incentives for the creation of a market for RES-based electro-mobility.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

No hasty and ill-conceived amendments should be made to the renewable energy support policy. German Renewable Energy Federation (BEE - Bundersverband Erneuerbare Energie e.V.) believes that an amendment to the Renewable Energy Sources Act (EEG) now would only weaken the law, increase uncertainty among investors and trigger a standstill in RES expansion. The changes necessary for facilitating a system transformation towards renewables should be developed thoroughly and discussed with all major stakeholders for the next regular round of amendments, due to take place after the federal elections of September 2013.

Flexibility options should be rapidly established. BEE encourages the development of a diverse mix of options essential to ensuring future security of supply, such as network reinforcement and expansion, load management and storage.



HEATING AND COOLING SECTOR

A budget-neutral support system should be introduced. BEE notes that the instable funding provided by the current market incentive programme (MAP) has failed to spur a significant uptake of renewable energy in the heating and cooling market. BEE is in favour of introducing a reliable support instrument, unaffected by budgetary fluctuations or political whims, to incentivise private investment.

Existing policy should be overhauled. BEE doubts that the current policy framework (EEWärmeG und EnEV) is ambitious or comprehensive enough to induce the use of renewables in new and existing buildings. A fundamental revision is overdue and paramount to remaining on track.



TRANSPORT SECTOR

Ambitious and dedicated goals are needed. BEE believes that the replacement of dedicated biofuel blending goals by GHG goals, denote a lack of ambition and will lead to the stagnation or even reduction of the share of biofuels in the transport sector. BEE encourages maintaining the goal of at least 10% renewables in the transport sector in 2020.

Create a market for pure biofuels. BEE supports the preservation of the current tax breaks and their further development towards a consistent support policy.

Policies for RES-based electro-mobility should be developed and implemented. The focus of the policies in the transport sector has to be shifted in order to start tapping the large potential which exists in the area of electro-mobility.

RECOMMENDATIONS

addressing the barriers identified



ELECTRICITY SECTOR

Height and distance restrictions to constructing wind turbines remain relevant barriers. This barrier needs to be addressed at state level, by bringing regional and local planning legislation in line with more ambitious targets for wind power development.

The difficult administrative authorisation process for grid reinforcement and extension needs to be addressed at all levels. Greater transparency in the decision making process, the revision of the relevant regulations and the introduction of one-stop shop policies could help remove this barrier.

The restriction on building wind turbines in close proximity to military radar areas is a major problem, and not only in Germany. Whereas technical solutions are being developed, regulatory clarifications at federal level could increase transparency and help assess real necessities vs. general (and often unnecessary) restrictions.

The difficult financing of geothermal energy projects remains an issue, where solutions - such as public pre-financing, risk insurance, public guarantees - need to be discussed between project developers, banks and public authorities.

The complex VAT and income tax regulations concerning the interplay between the agricultural holding and the biogas plant have to be simplified.



HEATING AND COOLING SECTOR

Linking the issuance of building permits to proof of use of renewables could lead to a better enforcement of the Renewable Energy Heat Act (EEWärmeG).

The lack of effective policy instruments for the use of renewables for heating and cooling in the building stock could be addressed by increasing the taxes on CO₂ and by overhauling the existing support policy.

Public perception and policy debates need to refocus on all energy use instead of primarily addressing electricity questions.



TRANSPORT SECTOR

A functioning internal market for biofuels can only be achieved via a harmonised implementation of the Renewable Energy Directive.



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GREECE



KEY TRENDS IN THE RES SECTOR

In Greece, the development of commercial RES projects over the past decade has been associated almost exclusively with power production, primarily from wind farm and photovoltaics (PV) installations. The implementation of other renewable electricity (RES-E) technologies, e.g. small hydroelectric power plants, biomass power stations accounts for only a small fraction of the total RES capacity installed nationally.

The newly installed RES capacity has been rapidly increasing during the course of 2011 and 2012 mainly as a result of overcompensation (extremely high feed-in tariffs) for PV projects. Such growth is not sustainable for a number of reasons outlined below.

Major obstacles to further RES market growth identified at the end of 2012 are:

- a) The burgeoning RES account deficit of the Electricity Market Operator and the increasing lack of liquidity of the electricity market.
- b) The inability/unwillingness of the national and international investors and creditors to finance energy and RES projects to be installed and operated in Greece because of national financial problems.
- c) The crisis-induced change of attitude of the national Government from a Pro-RES to “No More RES” philosophy as documented by a series of recent government decisions, namely:
 - the imposition of an indefinite freeze on new PV projects;
 - the imposition of a retrospective levy on the revenues of all operating RES projects;
 - the planned imposition of new financial and administrative barriers to the further development of RES projects outlined

in a new draft law for RES, and the official intention to revise (reduce) the NREAP RES targets for 2020 and the feed-in tariff (FIT) support scheme

Currently, with the exception of already licensed and financed RES projects, RES project development is either very slow or frozen.

Retrospective changes have recently been made in Greece. On 7 November 2012, the Greek Government decided to impose a levy on the supposedly “guaranteed” gross income of all operating RES projects in Greece.

This particular decision, which was rushed through the Greek Parliament and hastily approved by a slim parliamentary majority on 7 November 2012 as part of a huge package of fiscal austerity and economic reform measures, aims to reduce the continuously growing deficit of the Greek Electricity Market Operator by cutting unilaterally the operator’s payment obligations to the RES producers for three (2+1) years.

The levy ranges from 25% - 30% for operating PV systems >10 kW (average FIT ~ 400 € / MWh). Although wind farms (average FIT ~ 90 €/MWh) and other cheaper and/or higher added value RES technologies (small hydro and biomass) were exempt from the levy in the original proposal by the Ministry of Energy to the Parliament, the Government gave in to last minute political pressure and decided to impose a 10% levy on these as well. The most expensive PV system category (rooftop PVs <10 kW with an average FIT of ~ 500 € / MWh) are not taxed.

The imposition of the levy is a clear retrospective, unilateral intervention, which further undermines the seriously affected credibility of the Greek State and the ailing RES FIT support.

The levy threatens the viability of many European companies based in Greece which are either Greek or which operate in the country through subsidiaries involved in the development, installation and operation of RES projects.

The levy drives away investment and, thus, wipes out any serious prospects for continued RES in a country whose

significant renewable energy potential remains largely unexploited.

The levy affects all RES technologies in an asymmetrical manner, primarily with wind, and, secondarily, with small hydro and biomass taking the “brunt” (According to the NREAP 2020, wind should act as the locomotive for national RES development and account for about 70% of the planned RES capacity mix).

POLICY RECOMMENDATIONS

Immediately suspend the application of the retrospective levy imposed by the Greek Government in November 2012 on the guaranteed gross revenues of all operating RES-E projects in Greece, at least as far as the wind, small hydro and biomass sectors are concerned (these sectors have already low or even unsustainable returns even before the levy).

Come up with alternative, rational, non-destructive solutions for reducing the RES account deficit and protect the viability of the national RES market.

Cancel the application of planned requirements for the issuance of expensive a special levy in order to retain existing RES grid connection commitments by the Transmission System Operator (TSO) or to obtain new ones. Cancel the application of planned requirements for bank guarantees to retain RES generation licenses and other administrative measures contained in the new draft law for RES which raise even more obstacles to the development of renewable projects.

Invite representatives of independent RES power producers to join the Committee formed by the Energy Ministry to study and propose to the Troika (European Commission, IMF, ECB) the revision of the RES targets for 2020 and the modification of the RES support system.

As many EU countries are facing similar problems, discuss and formulate possible common solutions at the European level (European Commission, European Parliament, etc.).



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ITALY



KEY TRENDS IN THE RES SECTOR

Most of the measures adopted in 2012 were aimed at reducing the costs of energy production from RES. Cuts have affected the incentive schemes, the network regulation, the dispatching rules etc. (for example *Delibera AEEG 196/11,175/2012, 199/2011 and 281/2012* reduced the fees for network losses and applied balancing charges to all RES). All these cuts, set by the Government with the aim of reducing the energy bill and bringing it closer to the rest of Europe, are not balanced with a reduction of inefficiencies which affect the Italian RES system.

In July 2012 the Italian Ministries have signed two different decrees: the *V Conto Energia (DM 5/7/2012)* regarding PV and the *Decreto FER elettriche (DM 6/7/2012)*, regarding all other renewable electricity technologies. The former introduces a FIT for PV plants entering into operation from 27th August 2012. The latter, published after 16 months of delay, introduces procedures to provide incentive depending on the capacity of the plants, greatly reducing the amount of the incentives. From 2013 the annual RES-E (renewable electricity) support costs must not exceed € 12.5 billion per year and the new plants will only obtain incentives through a tendering process (registers and auctions are dependent on the source type and size of the power plant).

A draft National Energy Strategy has been subject to public consultation since October 2012. This document, prepared by the Government, aims to bring positive developments to the Italian RES sector in terms of employment and economic growth and the achievement of European objectives. The priorities identified in this document refer to different sectors which include the sustainable development of

renewable energy. However, the document does not provide the necessary tools to achieve its priorities.

Continuous changes to the RES incentive system (CIP6 old incentive system introduced in 1992, Tradable Green Certificates introduced in 1999; the feed in tariff introduced in 2008; I,II, III, IV, V *Conto Energia* introduced from 2005 to 2012 applying only to PV) have caused, and continues to cause uncertainty among operators.

In particular, the new mechanisms adopted (*DM FER* and *V Conto Energia*) introduced a cap on capacity for incentives and an incentive reduction. In addition from 2013 onwards there will be no guarantee that operators will be entitled to this incentive. The introduction of auctions and records have made it necessary to begin investing and receive permission before participating in a call. However, only those awarded tenders will receive incentives. Furthermore, this uncertainty means that operators do not know which type of tariff will be obtained, making it difficult correctly assess their business plan. This is a very administration heavy process which needlessly creates high overhead costs. Additionally, in 2011, the value of the TGC was cut by 22% which impacted the financing of existing plants.

There are no effective incentives for renewable heating and cooling. Incentives are often related to energy efficiency and attributed for limited periods. The so-called *Conto Energia Termico* was adopted in December 2012 and introduced an incentive for small plants in the heat sector which is similar to the *Conto Energia* for PV.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

Simplify administrative procedures, to apply the rules homogeneously across different regions/provinces and respect the timing and procedures stated by the law. Although some progress was made in simplifying procedures, (especially for small plants), the complexity of the authorisation process and excess bureaucracy does not allow for adequate planning of timing and investment costs. This complexity is caused by the lack of clear procedures and delays in releasing documents. In addition, there are different interpretations of the law in Italy. Moreover, the timing for obtaining the authorisation, established by law, is rarely respected. This is a very critical aspect of the process.

Guarantee clear and stable incentives over time. Above all, new rules should not be applied retrospectively. The continuous introduction and modification of incentives does not allow operators the necessary guarantees about the incentives due. The uncertainty of access to incentives leads to a lack of financial support from credit institutions.

Provide clearer measures regarding taxation to avoid ambiguous interpretation. The lack of clear procedures, the different interpretations of the rules by local agencies and the absence of experts on taxation of renewable energy have caused incoherence with regard to the taxation of energy products, especially on raw materials used in biomass plant.



HEATING AND COOLING SECTOR

Prioritise support for high efficiency co-generative biomass power plants. The existence of electricity incentives (more convenient than heating ones) leads to the creation of numerous biomass electricity plants with lower efficiency at the expense of co-generative plants with higher efficiencies.

Provide a price structure that promotes the use of heat pumps without asking for additional connection points. Heat pumps are an interesting solution for the primary energy saving index and a solution for balancing the demand of electricity in countries with a strong oversupply. In some countries,

heat pump deployment is hindered by the electricity price structure which promotes low electricity consumption or low power contracts. In other cases, the requirement of dedicated connection points to the grid is a barrier.

Structure incentives so that they develop a robust supply chain that ensures a heating service equal to traditional fuels in terms of usability and maintenance. Promoting biomass in the heat sector through an integrated approach is needed to create an adequate local service and to balance demand and supply (one of the main risks is the lack of availability of fuel at a convenient price).



TRANSPORT SECTOR

It is necessary for the Italian Government to coordinate the implementation of a regulatory framework for the development of sustainable transport systems with low environmental impact.

The insufficient knowledge, lack of information and lack of industry experts are major obstacles to the development of RES in the transport sector.



STATISTICS COLLECTION

It is necessary to have complete and updated data at national level. Today there is no updated official data. For example, in the electricity sector up to date data is not available for all RES. Very little data is available for the heating and cooling sector and even less is available for the transport sector.



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POLAND



KEY TRENDS IN THE RES SECTOR

The Polish Government has been trying to transpose the RES Directive into national law for over a year now. Several draft versions of the RES Act have been presented causing uncertainty in the industry. Following the publication of the first draft in December 2011 banks ceased all lending for investment in renewable energy projects.

In recent months the green certificate price has collapsed, partly due to oversupply.

Production volumes increased rapidly over 2010-2012 and exceeded expectations while the obligation remained at 10.4%. The Ministry of Economy underestimated the capacity of the capacity of the RES obligation to shape the demand for green certificates. Indeed, the obligation defined in the ordinance by the Minister of Economy is underestimated

each year by approximately 6% compared to the Polish NREAP (corresponding to about 7.8 TWh green certificates in 2013).

The green certificates surplus is also caused by the fact that a considerable number of certificates is granted to energy from large hydro and biomass co-fired with coal. PIGEON estimates that the surplus accumulated over 2005-2012 reached 5.3 TWh, which represents more than 40% of the green certificates that should be redeemed to fulfil the 2012 obligation.

All the above led to a breakdown in new investments and serious problems for existing installations. If this situation persists huge damage will be done to Poland's image as a place to invest.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

Comprehensive support for the development of the renewable energy sector should be structured on the basis of the RES Act, including the recommendations below.

A minimum purchase price should be introduced for green certificates representing at least 90% of the unit substitute fee and excluding long-term contracts if the purchase values and the valorisation mechanism can be determined in a more flexible manner.

The obligation in the ordinance should be defined for years leading up to 2020 according to the minimum amounts adopted in the Polish NREAP.

Support to energy produced from old, large and amortised hydro plants should be limited to a level based on additional operating costs.

The support to energy produced from large biomass plants or co-firing of biomass plants should be limited.

A compulsory certification of biomass should be introduced (e.g. by introducing a "carbon footprint" for biomass).

The transformation of existing coal based power plants into biomass co-firing plants.

The maximum power of new biomass installations should be limited to 20 MWel and/or 50 MWth.

Guaranteed access to the grid should be introduced. RES should be taken into account in spatial planning, environmental impact assessment procedures should be simplified, as should the obtaining of building permits, and timetables should be shortened for receiving decisions on issues such as grid connection requirements.



HEATING AND COOLING SECTOR

Introduce tax exemptions for the purchase of solar collectors, heat pumps and biomass boilers in buildings.

Extend the use of certificates from co-generation in the Energy Law Act until 2030 and determine the minimum purchase price of certificates from co-generation to ensure profitable investments into CHP using biomass/biogas/bioliquids.

Information about RES should be targeted at home owners and property managers and the construction sector (developers and investors) represented by the Polish Chamber of Civil Engineers (PIIB) and the Polish Association of Civil Engineers and Technicians (PZITB).

This is due to the chemical properties of the bio-components added which can affect the properties of standard fuels, the use of which cannot adversely affect the operation and life cycle of engines used in vehicles. The permitted contents of bio-components in fuels is determined to a large extent by technological advancement in the automotive industry which - as it closely co-operates with the refining sector - is not interested in using biofuels on a larger scale. Moreover, the current blending levels in Poland are not fully compliant with EU legislation as the Fuel Quality Directive (2009/30/EC) has not been fully implemented which has resulted in a 5% share of bioethanol in petrol instead of 10%.

Amend the Minister of the Economy's regulation on qualitative requirements for liquid fuels in order to address the lack of a Polish quality standard for E10 fuel.



TRANSPORT SECTOR

Subsidies to oil-based fuels should be ended and engines used in transport should be improved.

Taxation of energy products should be changed so that charging depends on emissions and on the energy carrier (renewable/non-renewable). According to the current legal regulations, diesel oil may contain up to 7% methyl-esters by volume, while petrol may contain up to 5% bioethanol.



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PORTUGAL



KEY TRENDS IN THE RES SECTOR

The framework of RES developments in Portugal has significantly changed since 2010, due to political and economical cycles. The Memorandum of Understanding for the bailout of the Portuguese economy, signed in May 2011, has imposed strict measures relating to the energy sector, in particular the reduction of renewable electricity (RES-E) production costs.

The new Government, elected in June 2011, started negotiations with producers resulting in an agreement in August 2012 with wind producers on a voluntary compensation scheme. However the corresponding legislation is yet to be published and may not be favourable towards other technologies, such as small hydro power. A moratorium for all new RES-E projects was issued in February 2012, followed by the publication of new framework legislation for the electricity system in October 2012 which supposedly overcomes it. Nonetheless this legislation is yet to be published. A downward revision of the NREAP was also published in April 2013 decreasing by 18% RES installed capacity planned for 2020 in comparison to the earlier version. However, the overall share of RES in 2020 was increased in this newer version, due to the predicted decrease in consumption.

The existing support schemes for RES-E consist of technology specific feed-in tariffs (FITs). They are applied to all renewable technologies except large hydro and there are also different regimes for micro and mini generation (installed power below 250 kW). Producers are entitled to receive FIT for a given period, after which the RES-E production will be remunerated at market price plus the value of the green certificate (TGC) at that time.

Renewable heating and cooling (RES-H&C) is indirectly supported via the micro generation regime, since electricity producers are obliged to install a minimum of 2 m² of solar thermal panels, or a biomass boiler with equivalent thermal energy production to be entitled to the FIT. In November 2012, the EE Fund opened a call, funding up to 50% of the costs of solar thermal panel installations at a household level, with a limit of € 1.500, and a total budget of €1.000.000.

Renewable transport (RES-T) is supported by a mandatory incorporation quota for biofuels, a minimum of 6.75% (v/v) biodiesel in diesel fuel used in land transport, by the end of 2014. In order to maintain domestic production of biofuels at a cost acceptable to the end consumer, the Government defined a maximum price for biodiesel sold by producers to the entities obliged to incorporate it into diesel fuel used in land transport. Electro-mobility lost all its incentives in 2012.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

The following steps are recommended:

Predictable Government aid providing access to funding;

Speed up the implementation of the one-stop shop, including offshore and micro and mini generation technologies;

Remove barriers to the development of RES projects in forests or burnt areas, assuring that these are not incompatible;

Lessen environmental licensing processes, changing the composition of the Environmental Evaluation Committees;

Conduct an independent study, led by public authorities but with the consultation of all stakeholders, to provide intelligible information to the general public on the real costs of all electricity production technologies, accounting for all their direct and indirect subsidies and benefits;

Review all existing FIT, in cooperation with stakeholders, taking into account the maturity curve and resource availability of each technology/resource in Portugal;

Smooth the process for overpowering installations and

prevent these installations from requiring changes to existing financing contracts;

Remove fiscal barriers to wind-farms such as higher amortisation periods and charge and property tax;

Legislate a special expropriation regime, on the basis of public utility, for the construction of aerial lines connecting RES projects to the public grid;

Conduct resource assessment studies and impose land management restrictions in order to identify for RES projects for each technology;

Remove fiscal barriers for micro generators, thus preventing the infringement of their social rights and allowing issuance of an isolated act for the declaration of profits;

Implement a program to increase sustainable biomass production.



HEATING AND COOLING SECTOR

The following steps are recommended:

Recast the communication campaign “Água Quente Solar”, covering all RES-H&C technologies and address the general public through the media. Provide information on costs, benefits and incentives available. Coordinate with the main energy associations;

Call for an increase in RES-H&C targets, guaranteeing that shares are kept. In 2009 RES-H&C share was 37.86%, which has already dropped to 34.45% in 2010 according to the Progress Report. The share predicted in the NREAP for 2020 is only 30.6%;

Recover fiscal benefits for RES-H&C equipment. Reduce VAT for such equipment, going back to the intermediate rate of 13% (instead of 23%);

Make biomass equipment eligible for the EE fund;

Promote studies to assess the viability of implementing RES DH projects in Portugal, adapted to the climate and existing infrastructure, using ClimaEspaço as an example;

Create legislation to make the certification of installers and equipments compulsory;

Organise training programs for non-energy stakeholders on RES-H&C technologies at national level;

Set up a mandatory quality control scheme, for example through certification, for all biomass products in the market for non industrial use, such as pellets;

Set up incentives to promote national market of biomass equipments;

Create public R&D investment to study geothermal resources;



TRANSPORT SECTOR

The following steps are recommended:

Increase the biodiesel production quota provided to the biodiesel producers;

Provide incentives to invest in innovative technologies and raw materials (waste, animal fats, used oils, biomass conversion, lignocellulose etc);

Differentiate between sustainable biofuels based on their carbon footprint by applying different taxes or partial tax exemptions;

Assess the potential of incorporating bio-substitutes for gasoline without dedicated incentives, letting the market decide how to meet targets in the cheapest way. This would prevent copying other countries' strategies without a cost-benefit analysis applied nationally;

Restore financial and fiscal incentives to electric vehicles, as well as the obligation to use electro-mobility in the Government fleet and public transportation;

Restore the Mobi.E network, both in terms of communication and investment;

Promote electric vehicles equipment and system normalisation.



STATISTICS COLLECTION

The following steps are recommended:

Promote coordination between different statistical sources to make sure all values match (statistics and licensing departments of the Energy Directorate and the TSO);

Clarify conversion factors from apparent power in Mega Volts Amperes to active power in MW, or have both values available;

Collect on a yearly basis, biomass consumption statistics for the H&C sector. At present, they are only conducted every 10 years at the same time as the census.



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SPAIN



KEY TRENDS IN THE RES SECTOR

The Spanish economy and the financing sector experienced the most severe crisis since the end of the Franco regime resulting in a steep increase in unemployment (25-26% of the active population and 51.5% of younger people under the age of 25) and a decrease of GDP in 2012 by 1.3%.

Due to the crisis, the final energy demand has dropped to 2001 levels and the electricity demand to 2006 levels, thereby increasing overcapacity on the Spanish electricity market. This led to strong competition between RES electricity producers (with priority dispatch) and the gas fired combined cycle plants (of which 26 GW, meaning a quarter of the overall Spanish power capacity installed, have been put into operation during the last 10 years), owned by the big utilities. This has put strong (media) pressure on the RES sector, primarily due to the cost impact of PV and CSP installations in Spain.

Another direct consequence of the economic and financial crisis in Spain is the re-financing the tariff deficit in the Spanish electricity market which currently amounts to more than €28 billion and which Spain's Government has used several times to justify retrospective cuts of renewable electricity (RES-E) support or to completely stop support to new RES installations. This freeze of investment clearly puts the fulfillment of Spain's 2020 RES targets into danger.

ASSESSMENT OF THE EXISTING SUPPORT FOR ELECTRICITY

The overview of RES-E support schemes in Spain is strongly negative due to several facts (in order of severity), explained below:

Since end of January 2012, a moratorium has been in place on all kinds of new RES-E installations. The suspension of RES-E support discourages investment and will make it hard to achieve Spain's national target under the RES Directive. According to the latest (sectoral) estimations, the moratorium could destroy up to 36,800 jobs and could lead to a loss of up to €18 billion of investments.

In January 2013 a new law governing fiscal measures in the electricity sector came into force. Amongst others measures, this law established a tax, with a flat rate of 7%, on the sale of electricity for all technologies, both conventional and RES. The tax applies to new and existing installations and is therefore another retrospective measure. This measure is in clear violation of several obligations under EU law (endangering the achievement of the binding 2020 RES target of Spain; violating the legitimate expectations of RES-E producers in Spain; and ignoring the principle that RES should not be discriminated when compared to conventional energy sources). The new law includes a

provision which foresees the partial financing of RES-E remuneration through the state budget. This implies state aid which should require that the European Commission be notified (leading to lengthy notification procedures and increased legal insecurity until a decision is made by the European Commission).

On 1st February 2013, the Spanish Government, without any prior notice, approved a new Royal Decree-Law which retrospectively abolished one of the two remuneration options within the Spanish RES-E support scheme. This was established by Royal Decree 661/2007 and gave the option of receiving the hourly wholesale electricity market price together with a green premium. Furthermore, this latest Decree changed the indexation of the RES-E remuneration to the consumer price index (inflation), decoupling it from the real evolution of the energy costs with the result that the feed-in tariff for existing RES-E installations becomes a digressive one. It also abolished an additional premium of up to 0.7 €/kWh for repowered wind farms which originally became operative before end of 2001 and was to be paid until the end of 2017.

In late 2010, through 3 legislative pieces, several retrospective measures were introduced to the Spanish RES-E promotion regime, mainly regarding PV installations. This led to revenue losses of up to 30% and numerous law suits against the Spanish state and strongly questioned the level of legal and investment security in the Spanish RES sector. This ultimately led to the bankruptcy of thousands of small RES-E projects.

ASSESSMENT OF THE EXISTING SUPPORT FOR HEATING AND COOLING

The support for renewable heating and cooling (RES-H&C) is in general characterised by low promotion levels/volumes and even a complete lack of finance, training, qualification and specialisation measures (mainly regarding the installation of RES-H&C installations and the control of its correct functioning).

As regards geothermal applications, the few existing subsidies for low enthalpy geothermal facilities are in fact subsidies that had originally been established for other

RES technologies and as a consequence are not specific to geothermal energy.

Regarding solar thermal energy, besides the fact that there are few support programs in Spain, those that do exist are affected by the following shortcomings:

- most applications for grants must be submitted in a short period of time (often only 4 weeks) once a year and the submission dates differ in each region;
- reference costs and level of assistance are different in each region;
- volume of aid relies on available annual budgets;
- different criteria exist to allocate funds;
- there is little or no diffusion of the information from the Autonomous Communities;
- there are limitations regarding the aid available in some regions, which prevents Energy Service Companies (ESCOs) carrying out more than 2 solar thermal installations.

ASSESSMENT OF THE SUPPORT FOR TRANSPORT

The Spanish biodiesel industry has faced unfair commercial practices from Argentina and Indonesia since 2008, who provide their domestic industries with an unfair advantage. As a consequence, massive biodiesel imports from these countries flood the Spanish market (80% of the biodiesel consumption), affecting the Spanish biodiesel industry.

The Spanish bioethanol industry is confronted with blending restrictions: all petrol stations are required to offer "protection grade petrol" with max. bioethanol 5% (V/V) and max. oxygen 2.7% (m/m) which must be the lower octane index petrol (95 OI). In practice, this obligation undermines the development and consumption of E10 -petrol with max. bioethanol 10% (V/V) and max. oxygen 3.7% (m/m).

Furthermore, the tax incentive for biofuels established in Spain to compensate the higher production costs of biofuels ended in 2012. Following this, the level of the hydrocarbon tax on biofuels is set at the same level as the tax on fossil fuels. As a consequence, the price of the fuels containing biofuels are expected to increase, especially those with higher biofuel blends - which are considered better from an environmental and energy strategic perspective, and therefore its consumption will decrease.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

The following steps are recommended:

[Remove the RES-E moratorium](#) as soon as possible;

[Apply the planned 7% tax on electricity sales on the earnings achieved through the market price exclusively, but not above this level](#) (ie it should not be applied to premiums or fixed feed-in-tariffs above the level of the market price for electricity). This tax should apply also to other payments for conventional power sources, like adjustment services, capacity payments or interruptibility services. Additionally, a higher tax for nuclear waste and storage should be introduced;

[Abolish the 2010 retrospective legal package](#) as soon as possible;

[Re-establish](#), at least for the existing RES-E installations, the market price and premium option for the sale of RES-E as well as the indexation of the RES-E support to the consumer price index.



HEATING AND COOLING SECTOR

The following steps are recommended:

[Adopt a RES Heat Incentive \(ICAREN\)](#) as soon as possible or a similar operation-based RES-H support;

[Amend the existing Spanish Technical Building Code \(CTE\)](#), by applying more ambitious and binding installations targets, but also by extending its area of application to existing buildings. Furthermore, the amended CTE should include stricter and more efficient control mechanisms regarding the compliance with the standards/criteria it establishes.



TRANSPORT SECTOR

The following steps are recommended:

[Undertake actions at national and EU level to protect the biodiesel industry](#) against unfair practices from Argentina and Indonesia;

[Eliminate the “protection grade petrol” restriction](#) so as to allow the introduction of E10 to the Spanish market;

[Maintain the tax incentive](#) for at least the biofuel contained in higher blends.



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SWEDEN



KEY TRENDS IN THE RES SECTOR

Sweden reached its 2020 RES target of 49% in the year 2012. This success is the most severe barrier for further development of renewable energy sources in all energy sectors in Sweden. This target has been set too low from the beginning.

The industry in Sweden has a high RES potential, a high willingness to develop RES and also an understanding of the vital importance of RES. However, there are many barriers that prevent deployment. As long as the Swedish Government does not set higher targets, the current barriers to RES deployment will most likely not be addressed.

ASSESSMENT OF THE EXISTING SUPPORT FOR ELECTRICITY

In Sweden renewable electricity is supported through an inefficient system of green certificates. The system has produced rapid expansion for some years, but the risk is now high that the technological development in the industry is hampered by, among other things, the low price of energy for producers.

Investment insecurity in the RES sector is high because of the low price of electricity on the energy market. The surplus of electricity caused by a high share of nuclear power contributes to a decrease in the price of electricity power in Sweden. The low price of electricity in the market, combined with the unstable certificate price, continues to hinder investment in the renewable electricity sector.

The Swedish Armed Forces believe that wind turbines interfere with the JAS aircraft. This threatens the achievement of the established target of 30 TWh of wind power by 2020.

Small-scale electricity producers can only use the electricity they generate without additional costs (e.g. tax on electricity) if the electricity is used directly. As a net-metering scheme is not in place in Sweden, if an electricity producer does not use the whole produced electricity directly, he cannot feed it into the grid without paying additional costs such as sales tax, energy tax and a certificate fee. Additionally if the small-scale electricity producer generates more electricity in a year than he consumes they also have to pay an additional measurement cost.

ASSESSMENT OF THE EXISTING SUPPORT FOR HEATING AND COOLING

RES used for heating purposes are supported through numerous tax exemptions. First of all renewable energy sources are exempt from energy, carbon dioxide and nitrous oxide taxes. Furthermore the installation of renewable energy devices and the replacement of conventional heating sources with renewable sources may be deducted from a households tax bill.

The Government does not specify building requirements for nearly-zero energy buildings. Construction companies are unsure of Sweden's ambition. The targets for energy efficiency for buildings will not be achieved if the Government does not clarify the requirements for nearly-zero energy buildings.

Some municipalities in Sweden force property owners to connect their houses to the district heating network and thus prevent the property owner from installing heat pumps. Most single family houses still use electric heating, as a direct consequence of Sweden's commitment to nuclear power

plants in the 80 and 90's. Most of the market for bigger buildings, such as apartments and offices, and roughly 10% of households are connected to the district heating network. 50% of Sweden's total heat source is bioenergy.

ASSESSMENT OF THE EXISTING SUPPORT FOR TRANSPORT

Biofuels are an important renewable energy source used in the transport sector in Sweden. Biofuels for the transport sector are currently supported through tax exemptions. This regulation may not be continued due to concerns within

the European Commission. The Commission wants to stop this tax exemption because of state aid rules. As for now, there is no clear information on biofuels policy instruments after 2013. This hampers investments in new facilities. If this support scheme ceases to exist, investments will not be economically feasible any more. At present, all investments in new facilities are withheld because of this uncertainty.

POLICY RECOMMENDATIONS

The Government should urgently raise the target for renewable energy corresponding to what Sweden can actually deliver i.e. 70% or higher.

The Government should establish clear and ambitious targets and interim targets, and further adapt the legislative and regulatory framework to achieve the targets of all sectors.



ELECTRICITY SECTOR

The Government should introduce feed-in tariffs like most other European countries. It should provide energy intensive industries with a certain green certificates quota to reduce the surplus of certificates. The Government should introduce a guaranteed minimum price to make investments profitable and secure.

Small-scale electricity producers should be able to "save" their electricity - i.e. the electricity they produced but do not consume directly- into the grid for a month. During this month, electricity - equal to what has been produced, can be used for personal consumption without extra charges.



HEATING AND COOLING SECTOR

The Government and Parliament must set clear energy requirements for nearly-zero energy buildings.

The municipalities, who are forcing property owners to access district heating networks, and thus preventing the property owner from installing heat pumps, should be prohibited from using this type of contract.



TRANSPORT SECTOR

The present goal for renewable fuels in the transport sector in Sweden is 10 % by 2020. This goal has already been reached. The Government should establish a new and ambitious target for the transport sector of 25 % renewable fuel in fuel consumption (including 20 % biofuel) by 2020.

Sweden lacks clear support schemes. This hampers investment in new facilities, thereby affecting the development of renewable fuels. The Government should present clear and stable information on policy instruments, legislative and regulatory framework concerning support schemes for biofuels.



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UNITED KINGDOM



KEY TRENDS IN THE RES SECTOR

Although the renewable energy (RE) sector has generally seen increased deployment in line with the UK's national action plan, wider economic issues have severely impacted on RES and continue to have an impact on the industry. Developers of RE projects in the UK are facing increasing difficulties obtaining both equity and debt financing due to the current depressed economic environment. The Government has been sending very mixed signals to the market place concerning its commitment to RES to the detriment of industry confidence. Investment has recently been falling, caused by uncertainties across most of the key policy areas. Whilst renewables retain strong public support, a vocal minority objecting on the grounds of cost and environmental impact has created significant challenges for the industry.

ASSESSMENT OF THE EXISTING SUPPORT SCHEMES

Feed-in Tariffs - for the deployment of small-scale (<5MW) renewable electricity generation.

Through the feed-in tariff (FIT) scheme the consumer receives a premium tariff, depending on the technology, for each kWh generated. A further export tariff is then paid for each unit exported to the grid. At the end of December 2012, 1.7GW of installed capacity was confirmed on the FIT scheme, covering 358,331 installations.

In the later months of 2011 declining photovoltaics (PV) costs resulted in an unexpectedly high uptake of the scheme. In response, the Government abruptly reduced PV tariff rates, increasing investor uncertainty. The scheme has now been reformed by applying a new capacity based degression mechanism. This is also the case for non-PV technology where the mechanism will become effective from 1 April 2014.

The Renewables Obligation (RO) - for large-scale renewable electricity generation.

The RO places a mandatory requirement on licensed UK electricity suppliers to source an increasing proportion of the electricity they supply to customers from renewable sources. Renewable electricity generators receive Renewables Obligation Certificates (ROCs) for each MWh they produce. These can then be purchased by suppliers in order to meet their obligations or they can make a payment into a 'buy-out' fund. Between 2007 and 2011 electricity generated from RES increased by approximately 45% as a result of the RO and a combined total capacity of 8.5GW was reached by April 2011.

In 2009 banding levels were introduced to offer different support levels for different technologies. The Government has been reviewing these levels for over a year, creating considerable uncertainty for investors. The RO will be closed to new projects in 2017 having been gradually replaced by the package of measures contained in the Electricity Market Reform (EMR) between 2014 and 2017. Whilst grandfathering offers some certainty and support for existing projects, the fact that this scheme is soon to be replaced does little to instil confidence.

The Renewable Heat Incentive (RHI) - for deploying renewable heat.

The RHI is a new tariff scheme similar in principle to FITs. The first phase, which came into force in November 2011, is targeted at the non-domestic sector. The second phase is due in summer 2013, expanding the RHI to include more technologies in the non-domestic sector, as well as introducing the scheme in the domestic sector. Since its launch in late 2011 the scheme has got off to a slow start but uptake is gradually increasing with an installed capacity of 171 MW from 409 installations by 31 December 2012.

The Renewable Transport Fuels Obligation (RTFO) - for the share of biofuels used in road transport.

This scheme obligates UK fuel suppliers that supply at least 450,000 litres per year, to source a percentage of fuels from

renewable and sustainable sources. Mandatory carbon and sustainability criteria must be met in order to achieve RTF-Certificates, otherwise the fuel is considered as a fossil fuel. The RTFO has been amended twice since its introduction in 2008 yet it lacks a trajectory to reach the target of 10% by

energy by 2020. The RTFO does not go beyond 5% by volume to be reached by April 2014. Furthermore, the Government has signalled its intention to reduce the 5% figure to 4.7% by volume from April 2013 to accommodate non-road mobile machinery.

POLICY RECOMMENDATIONS



ELECTRICITY SECTOR

Some elements of the RO still remain under review. The Government needs to decide what it wants, for example in terms of biomass and sustainability regulation and set clear policies as soon as possible to allow developers to invest.

It is not yet clear how the forthcoming EMR and its Contract for Difference (CfD) will work in practice. Again the policy needs to be clear so as to instil confidence and stimulate investment.



HEATING AND COOLING SECTOR

Many changes to the RHI are due in 2013. Whilst most of these are seen as positive, they still need to be delivered. Such changes therefore need to be clear to instil confidence.

There needs to be a clear and ambitious budget set for the RHI past 2015 to ensure visible commitment to the scheme.



TRANSPORT SECTOR

Clear long term targets for first generation biofuels should be kept in line with the original targets and should continue beyond 2020, through setting a straight line trajectory from 5% in 2013 to 10% in 2020, for example.

Rather than introducing a 5% cap on first generation biofuels, the 10% 2020 target could be differentiated for first and second generation biofuels.

Review and improve International Food Policy Research Institute (IFPRI) modelling for indirect land use change (ILUC) factors in order to incorporate co-products of biofuel production and correct assumptions of agricultural practices.

RECOMMENDATIONS

addressing the barriers identified

In addition to the recommendations stated above, other key recommendations include:

Government and industry must work to facilitate planning approval for RE installations;

Electricity and gas networks must rapidly evolve to accommodate increasing penetration of RE;

Improved education and training is needed to increase awareness and understanding of RE.



ELECTRICITY SECTOR

The Microgeneration Certification Scheme (MCS) scheme needs to be simplified and the requirements clearly laid-out for other schemes that wish to compete with MCS;

Measures need to be taken to stimulate UK domestic production of biomass;

DECC should not introduce sustainability requirements for heat until this is seen to be effective.



TRANSPORT SECTOR

The Department for Transport (DfT) needs to lead the introduction of E10 biofuel blends;

Setting the fuel duty for transport fuels according to their energy content and carbon emissions rather than per unit of volume will improve the competitiveness of biofuels in the market.



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