



Keep-on-Track! Project

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TABLE OF CONTENTS

THE AUSTRIAN RES-E SECTOR.....	3
SUPPORT SCHEME.....	4
BARRIERS TO THE ELECTRICITY SECTOR.....	4
THE AUSTRIAN RES-H&C SECTOR	6
SUPPORT SCHEME.....	6
BARRIERS TO THE HEATING AND COOLING SECTOR	7
THE AUSTRIAN RES-T SECTOR.....	9
SUPPORT SCHEME.....	9
BARRIERS TO THE TRANSPORT SECTOR.....	10
LITERATURE AND OTHER SOURCES	11

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Interviewed Experts

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For this country study, the following experts were interviewed in 2014:

- DI Roger Hackstock, former CEO of Austria Solar
- Dr. Wolfgang Jank, Lebensministerium (Austrian Environment Ministry, Department of Energy and environmental economy)¹
- DI Hubert Fechner MA, MSc., Head of the Renewable Energy Institute at the UAS Technikum Vienna
- Mag. Peter Molnar, CEO Klimabündnis, NGO
- Ulla Rasmussen MSc., VCÖ - Verkehrsclub Österreich, NGO

¹ The statements of Dr. Jank reflect his own opinion and do not necessarily accord with the Ministries position.

The Austrian RES-E Sector

Due to its favourable natural conditions, Austria's electricity generation mix is historically dominated by large hydro power. Therefore, Austria started with a very high share of electricity from renewable energy sources (RES-E), which was 62% in 2005 and reached 69% in 2010, according to the National Renewable Energy Action Plan², of which 58.5 % was generated by hydro power plants. Hence, Austria can be considered as the European leader on RES contribution to gross electricity consumption (RES Integration).

With the adoption of the first Green Electricity Act in 2002, the Austrian Government intended to bring new renewable energy technologies such as wind, solar or biomass closer to the market. The lucrative feed-in tariff attracted many investors and led to a swift development of these technologies in Austria (Lebensministerium 2012).

In 2006 however, the Government reacted on the rapid increase of installed renewable capacities and revised the Green Electricity Act. Additionally, the feed-in tariffs were considerably lowered, which led to a sharp decrease of new installations.

In 2012, an amendment of the Green Electricity Act was passed which introduced a revised feed-in tariff system. A central element of the new legislation was the increase of the annual support cap, i.e. support is being granted on a first come first served basis and only as long as funds are still available. After the new law was adopted, the tailback of renewable energy projects could subsequently be reduced and new projects financially supported.

Regarding the different technologies, there is high potential for wind and PV. Hindered by political trends such as the sectorised regional planning program ("Windeignungsflächen") in lower Austria, the development of wind power was significantly impeded in 2013. The use of biogenic material has a long tradition in Austria but the expansion is currently undermined especially due to competition between energetic and material use of biomass (Jank, Lebensministerium).

Concerning hydro power, the existence of the Water Framework Directive puts pressure on the profitability. The measures to reach the ecological parameters stated in the directive are necessary but also increase the investment costs by approximately 10-20 %. Those additional costs are currently supported by ecological funding ("Förderung Gewässerökologie"), but this system is based on thin ice. If the ecological funding system gets dissolved, the expansion of hydro power in Austria will be questionable.

In addition, also the necessary amount for residual water decreases the production capacity of hydro power plants. Those ecological measures have to be considered within the tariff system to hinder the possibility that hydro power plants are outnumbered in the market due to positive ecological improvements (Kleinwasserkraft Österreich, 2013).

²http://ec.europa.eu/energy/renewables/transparency_platform/doc/dir_2009_0028_action_plan_austria.zip

Support scheme

In Austria, electricity from renewable sources is supported mainly through a feed-in tariff, which is set out in the Green Electricity Act³ and the regulations related thereto. The operators of renewable energy plants are entitled against the government purchasing agency, the Clearing and Settlement Agency⁴, to the conclusion of a contract on the purchase of the electricity they produce as long as funds are available (RES LEGAL Europe Database).

The feed-in tariffs for the different renewable technologies are stipulated annually through a resolution of the Federal Minister of Economy, Family and Youth⁵. The tariffs are granted for 13 or 15 years, depending on technology. After the feed-in tariff has expired, most installations can sell their electricity under a purchase obligation at market prices minus balancing costs for another 12 years (RES Integration - Country Report Austria).

Barriers to the electricity sector

Political and economic framework

The majority of barriers reported within this category are due to **the revenue risk under given support scheme**. While the applied feed-in tariffs and other incentives for renewable energy projects can be generally considered as favourable for the development of PV, wind and other renewable energy technologies, the unclear funding situation due to the annual support cap leads to considerable latencies. This stop & go support policy could therefore scare off possible investors (Fechner, Technikum Vienna).

Another barrier was reported in the field of the **existence and reliability of the general RES-E strategy and support scheme** as the European Commission claims a support framework closer to the market. Critics of feed-in tariff recommend switching to different support schemes like tenders, quota system and certificates. This kind of approach needs to be questioned as the theoretical advantages of these models cannot be proven empirically. It's rather that the development of renewable energies has been more efficient and cost-effective through the use of feed-in tariffs (Jank, Lebensministerium).

Administrative processes

Substantial barriers hindering the further development of renewable energies in Austria can be identified regarding the **integration of RES-E in spatial planning and environmental planning**. With the rapid expansion of wind energy in Austria (at the end of 2013, approximately 1,700 MW have

³ Ökostromgesetz (ÖSG)

⁴ OeMAG- Abwicklungsstelle für Ökostrom AG (www.oem-ag.at)

⁵ Bundesminister für Wirtschaft, Familie und Jugend (www.bmwfj.gv.at)

been installed) an increase of conflicts regarding interests and the use of space can be observed. In the federal states of Lower Austria and Burgenland, where 93% of the Austrian wind power plants are installed, so called eligibility spaces for wind power plants (“Windeignungsflächen”) have been declared in order to avoid conflicting uses for the future (Jank, Lebensministerium). However, only 2% of the land area of Lower Austria are from now on eligible for the installation of wind power plants. Although it is not yet conceivable, this barrier might lead to a deceleration of the development of wind energy (Molnar, Klimabündnis).

Already included in last year’s report but still an issue, the implementation of the EU-water framework directive is causing difficulties for the development of hydropower in Austria and especially for the revitalisation of existing power plants and hydro-power potentials. These difficulties are caused by the conflict between renewable energy and environmental protection which lead to high investment costs for the technical expertise in the approval process as well as highly bureaucratic requirements to fulfil the demanded environmental standards. Consequently, this results in a reduced trust of the investors in the approval processes and to project delays due to the changing framework conditions (re-frame.eu Database).

Another barrier was identified regarding the **costs of administrative procedures**. Because of the above mentioned annual support cap and the awarding procedure on a first-come-first-served basis, there is a high demand for the promotion of PV. In the past there has been a long tailback of applications, which was successfully reduced by providing extra budget. However, problems with the awarding of funding have occurred at the Austrian Clearing and Settlement Agency for Green Electricity (OeMAG). The server of OeMAG website collapsed both because of the high number of clients as well as because of hacking attacks, so that in consequence the start of the application period needed to be postponed several times. These circumstances result in an extended application procedure combined with higher costs for the applicants (Hackstock).

Other

A barrier concerning the **public perception of RES-E** occurs from the conflict between the material and energetic use of biomass. Actors from the paper and cellulose industry make demands on an amendment to the Green Electricity Act in order to reduce the energetic use of biomass. The consequence of this partly unobjectively conducted conflict is a negative public perception of biomass as an energetic source. There is still huge potential in highly efficient working CHP plants on the basis of biomass, especially for wood-processing companies. The current debate on biomass is clearly shaped by the self-interest of the industry (Jank, Lebensministerium).

The Austrian RES-H&C Sector

Regarding the use of renewable energy in the heating and cooling sector (RES-H&C), Austria has a favourable starting position. The Austrian heat supply is composed of four comparable fractions which each have shares of about 20-25%; namely these are oil, gas (mostly used in urban regions), biomass (rural regions) and district heating (a mix of industrial waste heat, CHP, waste incineration and agricultural biomass plants).

In Austria, district heating networks are managed at local level by the individual heat supply companies. In contrast to other countries with a considerable share of district heating, there is no federal regulation providing a legal framework for the connection of RES-H plants to the heating grid (RES LEGAL Europe database).

With regard to the different technologies, there is still a huge potential for the use of solar thermal installations for hot water supply. As the need for hot water supply is high even during the summer season, solar thermal installations could be used to a much larger extent. In Austria, only one per cent of the heat requirement for domestic hot water and space heating is covered by solar heating systems. For the achievement of the 2020 goal (10% share of solar thermal energy) the Solar Heat Roadmap has been set up in 2008 (Hackstock).

Support scheme

The most substantial form of promoting small-scale RES heating and cooling is applied on the level of the individual federal states (“Länder”). There are special investment incentives for solar thermal installations, heat pumps, geothermics and biomass heating plants. The funding guidelines are published separately for each federal state. Those state level funding systems make the support schemes unnecessarily intransparent and increase the bureaucratic efforts. Additionally, also the eligibility criteria for funding and the amounts vary within the different federal states.

In principle, the investment grants for measures supporting the use of energy from renewable sources in the heating and cooling sector differ according to technology. Usually, a flat rate of de minimis support is calculated. “De minimis” allows for aid up to € 200,000 to be provided from public funds over a period of three years⁶. Another option for support is the ‘standard reimbursement rate’ which mostly amounts to 25% of the environment-related investment costs and can be increased through awards (sustainability and gas-cleaning awards, etc.) to a maximum of 30%⁷. In some cases, the application must be made before the beginning of the project and the environment-related investment costs must amount to a certain minimum sum (RES LEGAL Europe Database).

⁶ For further details visit: <http://www.mustersanierung.at/foerderungen/investitionsfoerderungen-in-oesterreich/de-minimis-foerderung/>

⁷ For further details visit: <http://www.mustersanierung.at/foerderungen/investitionsfoerderungen-in-oesterreich/foerderungen-finden/>

Barriers to the heating and cooling sector

Political and economic framework

Most of the barriers reported in this category are due to the **existence and reliability of a general RES-H&C strategy and support scheme**. In Austria, there is a big stock of outdated heating systems which would require a reconstruction including the switch to renewable energy sources. However, at the time being there are no efficiency criteria for the reconstruction of existing heating systems. Therefore, the introduction of minimum efficiency criteria for all energy installations in households is needed. Secondly, Austria inherits 9 different building laws. As the building laws in Austria apply on federal level, the legal framework and support scheme for renewable heating in the building sector varies throughout the whole country. To promote the use of renewable energies and overcome barriers in the building sector, a unification of the legal framework would be beneficial (Molnar, Klimabündnis).

Market structure

Regarding the market structure, the **dominance of conventional retailers** hinders the development of renewable energies in the heating and cooling sector. On the one hand this dominance is further stressed by the low exchange prices for electricity, which lead to the construction of large power plants exclusively used for district heating in bigger urban agglomerations. The consequence is a keen competition between conventional energy and renewable energy (Fechner, Technikum Vienna). On the other hand further incentives for the use of conventional energy sources for heating are created by the existence of a nongovernmental support scheme for oil-heating (“Förderaktion Ölheizungen”) financed by the petrol industry. The implementation of such support mechanisms has an inherent potential to thwart the efforts to further develop renewable energies in the heating & cooling sector (Jank, Lebensministerium).

Administrative processes

For solar thermal energy, barriers concerning the **duration of administrative procedures** were stated as considerable time is needed for the decision and planning process. In order to receive a positive administration decision too many public authorities have to be contacted, whereas projects cannot be started until the disbursement of subsidies is granted. Therefore, the implementation of solar thermal projects could be delayed (Hackstock).

Other

The **technological deficits and uncertainties** of the heating and cooling technologies can be listed as a barrier. The cost-effectiveness of the different technologies differs as the investment costs are relatively high (e.g. for biomass boilers), which leads to reluctance of the customers although the operating costs are low compared to fossil energy sources (Jank, Lebensministerium). Because of the different habits of the consumers it is impossible to predict the extent of the possible savings of a certain renewable energy technology. Furthermore the purchasing of a solar thermal heating system does not result in supply guarantee, which is often an important criteria regarding the new acquisition of a heating system (Hackstock).

The Austrian RES-T Sector

The European Biofuels Directive 2003/30/EC has been implemented into Austrian law within the scope of the 2004 Fuel Order Amendment. As the share of renewable energy sources in the Austrian transport sector is relatively high, Austria has fulfilled the EU target for biofuels for 2010 (5.75%) with ease.

In September 2012, the Austrian Government suspended the introduction of E10 biofuel and declared to postpone its introduction until the situation will be clarified on a European level. Previously, the European Commission announced to limit the production of fuels made from food crops to 5% until 2020 (EUbusiness).

Austria can also be considered as a European leader with regard to the use of renewable energy in the rail sector. 92% of the electricity used in 16,7_{Hz} traction current net of the Austrian railway company ÖBB is generated by renewable energy sources, predominantly from ÖBB-owned large hydro power plants (ÖBB Infrastruktur AG 2012).

Regarding E-mobility, an “Implementation Plan on Electromobility in and from Austria” has been elaborated by three different ministries⁸ in 2012. The plan includes specific measures to integrate electro mobility in the transport system, to establish intelligent incentive systems and to create the necessary infrastructure (BMLFUW, BMVIT, BMWFJ).

Support scheme

In Austria, petrol and diesel from a minimum content of 4.6% resp. 6.6% of biogenic material are subject to a lower mineral oil tax. Mineral oil solely from biogenic material and E85 are exempt from this tax (RES LEGAL Europe Database).

To ensure that biofuels make up a defined percentage of the annual fuel sales, there is a substitution obligation in force since 2005. From 2009, the substitution target amounts to 5.75%, measured by the total fossil petrol or diesel introduced or used in the federal territory (RES LEGAL Europe Database).

⁸ The plan was issued by the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), Federal Ministry for Transport, Innovation and Technology (BMVIT) and Federal Ministry for Economy, Family and Youth (BMWFJ).

Barriers to the transport sector

Political and economic framework

As already mentioned in last year's Keep on Track national report for Austria, the **European institutions' position on RES-T** causes severe barriers. Currently, it is still being discussed on the level of the European Commission to introduce a so-called ILUC coefficient representing a surcharge for biofuel crops. ILUC relates to the unintended consequence of releasing more carbon emissions due to land-use changes induced by the expansion of croplands for ethanol or biodiesel. The Commission intends to quantify these ancillary carbon emissions and introduce a surcharge for biofuel crops. Different stakeholders argue that in consequence of this ILUC coefficients-induced surcharge, biodiesel and vegetable oil would not meet the target values for the reduction of carbon emissions. Provided that this draft proposal will actually be introduced, these fuels could not be counted anymore as biofuel and therefore would not be able to contribute to the biofuel quota (re-frame.eu Database).

Depending on the exact coefficient for the different types of biofuels, this could mean a boost for biofuels made of waste with low ILUC factors. The introduction of E10 was among others prevented due to public resistance and without introducing ILUC factors there is no way to ensure that biofuels are not actually damaging the climate and thus the opposite will remain strong (Rasmussen, VCÖ).

Grid regulation & infrastructure

In the case of e-mobility, a **lack of infrastructure and infrastructure development** has to be attested. Stakeholders claimed that there is a lack of collaboration between the federal states of Austria regarding technical issues, e.g. charging plugs, accounting software and charging stations (Molnar, Klimabündnis). In addition, the Austrian Energy Strategy foresees up to 250,000 electric vehicles and plug in hybrid vehicles until 2020. This goal seems quite exaggerated bearing in mind that the number of electric vehicles at the end of 2013 was approximately 2,000 and that Austria has about 8.4 million inhabitants. The implementation of concrete measures to foster e-mobility is pending.

Another deficit regarding e-mobility concerns **technological issues**. There is a general potential for electric vehicles, for example in the taxi business or in vehicle fleets of companies. Therefore it is required that this technology is capable to substitute petrol-driven vehicles. However the technology needs further improvement for example regarding the lifetime of batteries (Fechner, Technikum Vienna).

Since more than 50% of new passenger cars in Austria are company cars, it would be interesting to make better incentives for this segment. Currently, the taxation rules regarding company cars have no incentives or "push" mechanisms to promote electric cars (Rasmussen, VCÖ).

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