



COUNTRY POLICY PROFILE

Sweden

August 2015

**LOG FILE OF CHANGES IN SUPPORT
POLICIES AS COMPARED TO LATEST
MEMBER STATE PROGRESS REPORT**

The EurObserv'ER project

The EurObserv'ER Barometers monitor the renewable energy progress in each Member State of the European Union. Every two months a barometer dedicated to one particular renewable energy technology is published. Moreover, once a year a EurObserv'ER Overview Barometer¹ collects the main indicators published during the year and completes these with additional renewable sectors which have not been detailed in the individual Barometers. Finally, the Overview Barometer also reports on socio-economic aspects: employment and turnover in the field of renewables, and the renewable energy investment climate. The country policy reports monitor policy developments by providing an overview of policy changes compared to the Member State Progress Reports.

All Barometers are available for download at <http://www.eurobserv-er.org/>. An overview of direct links to Barometers is available in Annex A.

New Barometer releases are announced on Twitter (https://twitter.com/eurobserv_er).



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¹ Free download at http://www.energies-renouvelables.org/observ-er/stat_baro/barobilan/barobilan14_EN.pdf (edition 2014).

Abstract

The main support mechanism for electricity from RES is a quota system that is based on a certificate trading system. Furthermore, tax incentives are in place and PV installations are subsidised with grants. Promotion of heating from RES is mainly promoted through tax exemptions. Households may deduct investments of renewable energy heating installations replacing heating systems based on fossil fuels from tax. Heating from RES further benefits from an exemption of various taxes, as carbon dioxide taxes on supply, import and production of fossil fuels for heating purposes, which apply for fossil fuels (RES LEGAL Europe, 2014).

Abbreviations

| | |
|-------|---|
| BTL | Biomass-to-Liquids |
| CHP | Combined heat and power plant |
| EEAG | Environmental and energy aid guidelines |
| EU-27 | European Union, 27 Member States (excludes Croatia) |
| EU-28 | European Union, 28 Member States (includes Croatia) |
| FiP | Feed-in premium (scheme) |
| FiT | Feed-in tariff (scheme) |
| GHG | Greenhouse gas(es) |
| GHG | Greenhouse gas |
| ktoe | Kiloton oil equivalent |
| MSW | Municipal solid waste |
| NREAP | National Renewable Energy Action Plan |
| PV | Photovoltaic energy |
| RE | Renewable energy |
| RED | Renewable Energy Directive |
| RES | Renewable energy sources |
| RMSW | Renewable Municipal solid waste (renewable fraction in MSW) |
| RQS | Renewable quota scheme |
| TSO | Transmission system operator |

Renewable energy mix and 2020 target

The 2012 share of renewable energy in Sweden amounted to 52.4%; the target for 2020 has been defined as 49% (source: EurObserv'ER report 'The State of Renewable Energies in Europe'²). The table below shows EurObserv'ER data on renewable energy production in Sweden and the European Union (EU-27). The by far most important source for renewable energy in Sweden is solid biomass with 8,827 ktoe, accounting for 50% of the total renewable energy production in 2012. With 5,898 ktoe, hydropower has the second largest production output. Comparing the Swedish energy production from hydro to all other Member States' production reveals that Sweden adds a remarkable share of 20.1% to the renewable energy production from hydropower in the EU-27. This observation also applies, although to lesser extent, to MSW, geothermal, and solid biomass. Renewable energy production from these sources contributed 14.7%, 12.4%, and 11.8% respectively, to the overall energy production in the EU-27 from the respective source. With respect to total renewable production, Sweden has the 3rd highest production in the EU-27, amounting to 17,646 ktoe in 2012 as shown in the figure below (source: EurObserv'ER, 2014, www.eurobserv-er.org).

Table Renewable energy production in the 27 Member States of the European Union (EU-27) and the corresponding figures for Sweden. Data have been expressed in ktoe and refer to the year 2012

| [ktoe, 2012] | European Union (27 countries) | Sweden | Contribution of Sweden to EU-27 |
|------------------|----------------------------------|--------|------------------------------------|
| Hydro* | 29408 | 5898 | 20.1% |
| Wind* | 17089 | 632 | 3.7% |
| Solar PV | 5732 | 2 | 0.0% |
| Solar thermal** | 2116 | 11 | 0.5% |
| Solid Biomass*** | 74804 | 8827 | 11.8% |
| Biogas | 6212 | 115 | 1.8% |
| MSW**** | 4426 | 652 | 14.7% |
| Geothermal | 7825 | 973 | 12.4% |
| Biofuels | 11711 | 536 | 4.6% |
| Ocean energy | 44 | 0 | 0.0% |

* Normalised electricity generation

** Including electricity generation from Concentrated Solar Power

*** Including liquid biomass

**** Municipal Solid Waste only regards the renewable fraction in the waste

Source: EurObserv'ER, 2014 (www.eurobserv-er.org)

² Free download at http://www.energies-renouvelables.org/observ-er/stat_baro/barobilan/barobilan14_EN.pdf (edition 2014).

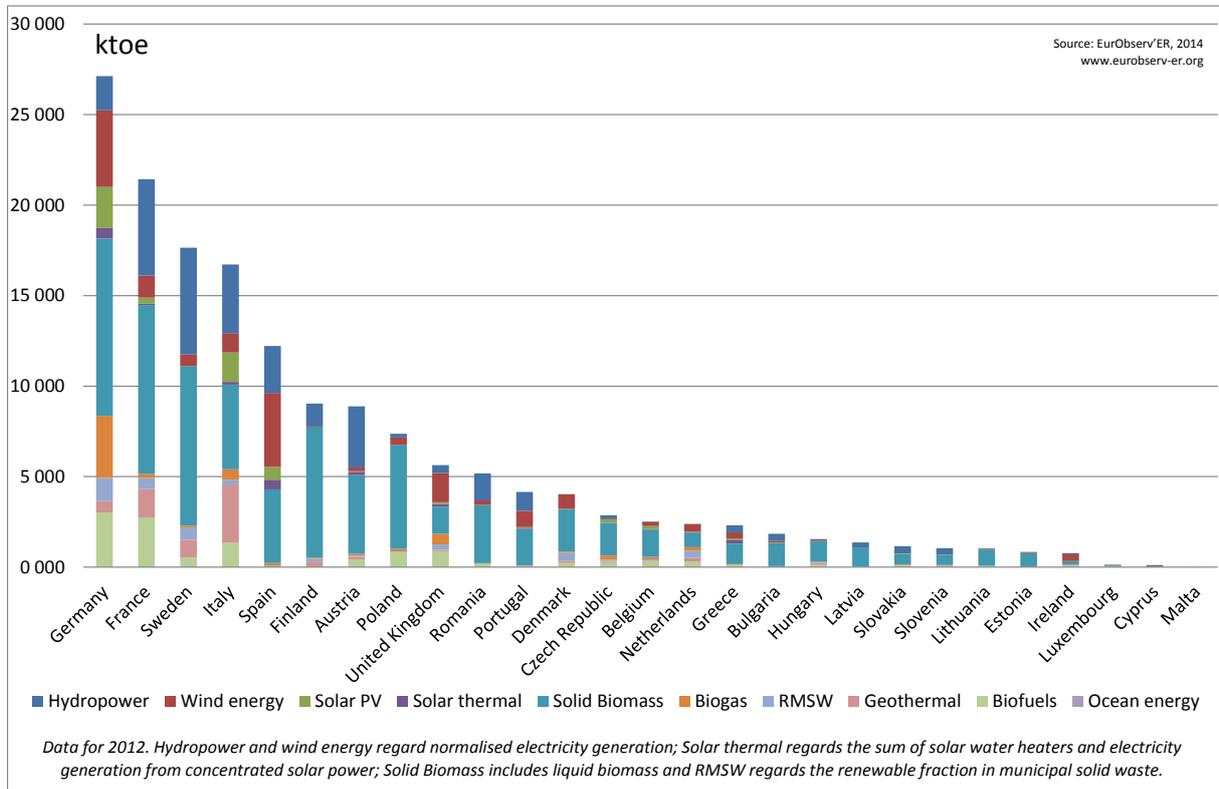


Figure Renewable energy production in the European Union Member States. Data have been expressed in ktOE and refer to the year 2012. Source: EurObserv'ER, 2014 (www.eurobserv-er.org)

Recent RES Policy Developments

The current EurObserv'ER policy profile is listing recent policy changes in the EU Member States. Starting point for this monitoring is the situation as it has been described in the country's Progress Report (which were due end of 2013). All Renewable Energy Progress Reports are available in English language from www.eurobserv-er.org (translated versions).

| Date | Technology | Policy change |
|--------------|---|--|
| January 2014 | All RES | The Swedish Renewable Energy Progress Report 2013 was released by the European Commission in January 2014. An overview of policies and measures for Renewable Energy up to the end of 2013 can be found in Section 2 to 4 (pp. 9 – 32) in the Progress Report. |
| March 2014 | Renewable electricity (micro installations) | On 6 March 2014 the Government decided on the Government Bill "Tax reduction for micro production of renewable electricity" (2013/14:151). The Bill proposes the introduction of a tax reduction for micro production of renewable electricity. The tax reduction applies to producers of renewable electricity and is given to private individuals and companies. The basis for the tax reduction consists of the kilowatt hours of renewable electricity fed into the access point during the calendar year, with a maximum of as many kilowatt hours of electricity withdrawn in the access point during the year. The basis for the tax reduction may not exceed 30 000 kilowatt hours and amounts to the basis multiplied by 60 öre. It is suggested that the proposed legislation come into effect on 1 July 2014. |
| March 2014 | All renewable electricity | On 6 March 2014 the Government decided on the Government Bill "Threshold effects and Renewable Energy" (2013/14:156). The threshold effect describes the costs for grid reinforcement, if such is needed to connect a new electricity generating plant to the grid (e.g. wind park). Currently, the full costs of such grid reinforcement are born by the investor of the first generation plant to be connected. The Government Bill states that the Swedish TSO (Svenska kraftnät) pays for the initial grid reinforcement costs for of renewable energy sources and companies will subsequently pay their share as they |

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| | | are connected to the reinforced grid. The government expects that the fair allocation of costs for grid reinforcement will lead to a more rational and effective deployment of renewable electricity and ultimately lower costs for electricity consumers. The interim solution is expected to come into force on 1 August 2014. The Government's ambition is to replace the transitional solution with a long-term market solution in 2016 where the state, who is the owner of the TSO, does not need to take any financial risk for this type of reinforcements. The Swedish Energy Market Inspectorate (Energimarknadsinspektionen) was asked to investigate how such a long-term market solution might be designed. |
| May 2014 – February 2015 | | <no change to be reported> |
| April 2015 | All renewable electricity | On April 9, 2015 the government presented the Government Bill 2014/15: 110 on "Higher level of ambition for renewable electricity and inspection of the certificate system in 2015" to the parliament. The bill proposes an adjustment of the ratio curve of the Act (2011: 1200) on energy certificates. The adjustment is made on the inspection of the certificate system carried out in 2014 and the higher level of ambition for renewable electricity generation by 2020, as announced in the Statement of Government and in the 2015 Budget. It is also proposed that Parliament approves an agreement reached between the Swedish Government and the Government of Norway amending the Agreement on a common market for electricity certificates. According to the government, the amendment of the agreement is necessary to enable the announced goal uplift. The amendments to the Law on certificates shall enter into force on 1 January 2016. |
| May 2015 | | <no change to be reported> |
| July 2015 | | <no change to be reported> |

Note to the reader: the above overview had been compiled with care. However, in case you miss recent developments please be invited to inform EurObserv'ER on policy changes in a Member State. For communication use e-mail (policy@eurobserv-er.org) or Twitter (https://twitter.com/eurobserv_er).

Glossary

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| Auctions for granting renewable energy support | An auction is a process, organised by a governmental renewable energy implementation agency, of granting production or investment support to a specified volume of eligible renewable energy (or renewable energy generation capacity) based on the lowest bids per unit of renewable energy (or renewable energy generation capacity) by eligible renewable project developers. |
| Degression rate | See under 'Sliding feed-in tariff' |
| Feed-in tariff (FiT) | A technology-specific support scheme which provides for a technology-specific remuneration per unit of renewable energy payable to eligible renewable energy producers, typically for a period of 10-20 years. The FiT level is set <i>ex ante</i> by the National Regulatory Agency (NRA). It is to cover all future production costs including a <i>normal</i> rate of return to capital invested. In many schemes priority network access is offered to eligible renewable electricity generators, whilst a designated third party - e.g. the transmission or distribution network operator concerned - is being mandated to pay the FiT remuneration due. A proper, periodic review of FiT rates is often undertaken with the aim to prevent both too high FiTs so as to minimise regulatory rents, i.e. supra-normal returns and too low FiTs to preclude below-target market uptake because of FiT levels that are perceived by market participants to be less attractive. |
| Feed-in premium (FiP) | A technology-specific support scheme which provides for a technology-specific subsidy level per unit of renewable energy to eligible renewable energy producers, typically for a period of 10-20 years, at a pre-set fixed or floating (see under 'Floating FiP') rate, projected by the National Regulatory Agency (NRA) to enable renewable energy generation investments deemed commercially attractive by project developers without yielding supra-normal profits. |
| Floating FiP | A feed-in premium, which is periodically adjusted to exactly offset the change in the average energy wholesale market price, based on a pre-specified benchmark market price. A floating FiP may move freely or may only be allowed to move within a pre-set interval. |
| Grants | Grants are non-repayable funds disbursed by one party (grant makers), often a government department, corporation, foundation or trust, to a recipient, often (but not always) a non-profit entity, educational institution, business or an individual. (Source: Wikipedia.org) |
| Green public procurement | In Green public procurement contracting authorities take environmental issues into account when tendering for goods or services. The goal is to reduce the impact of the procurement on human health and the environment. (Source: Wikipedia.org) |

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| NRA | National Regulatory Agency |
| Renewable quota scheme (RQS) | A renewable quota scheme mandates certain market actors (typically retail suppliers or large energy end-users) to respect a pre-set minimum share or amount of their total energy procurements from renewable sources of energy. Typically a tradable green certificate (TGC) scheme is operated to enable the obligated parties to prove their compliance with the prevailing renewable quota target by means of TGCs. Typically the renewable quota target is increased gradually over time. Renewable quota systems are also known under terms such as quota (obligation) schemes or renewable portfolio standards. |
| Request for tenders (RFT) | A request for tenders (RFT) is a formal, structured invitation to suppliers, to bid, to supply products or services. In the public sector an official fee is needed to fortify and secure the tender bid engagement/win documents, such a process may be required and determined in detail by law to ensure that such competition for the use of public is open, fair and free from bribery and nepotism. For example, a government may put a certain level of MW of offshore wind energy at a pre-defined location 'out to tender'; that is, publish an invitation for other parties to make a proposal for the construction of offshore wind farms, on the understanding that any competition for the relevant government contract must be conducted in response to the tender, no parties having the unfair advantage of separate, prior, closed-door negotiations for the contract. An evaluation team will go through the tenders and decide who will get the contract. (source: adapted from Wikipedia.org) |
| RD&D funding | The funding of research, development and demonstration activities and programmes. For technologies far remote from commercial maturity, government grants or subsidies might be considered. For technologies close to commercial maturity which are not taken up for commercial research anyway, instruments such as fiscal instruments (tax credits, accelerated depreciation, etc.) and public-private partnerships may be considered, based on shared public and private RD&D funding. |
| Sliding feed-in-tariff | A FIT scheme which pre-sets technology-specific declining feed-in tariffs for certain prospective vintages in line with the technology-specific learning curve, as projected by the National Regulatory Agency (NRA). Often a degression rate is used indicating the %/annum decrease in the rate level. |
| Soft loans | Loans at concessional (below market-based) terms, for example at sub-market-conform interest rates, made available in several Member States to stimulate certain renewable energy technologies. |
| Tax credits | These are amounts a tax paying entity is allowed to deduct when declaring payable taxes, for example company tax or income tax, to the tax authorities, for example the producer tax credits (PTCs) used in the United States to stimulate among others wind energy deployment. |
| Tenders | See 'Request for tenders' |

References

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Government Bill 2013/14: 156, 2014, www.riksdagen.se/sv/Dokument-Lagar/Forslag/Propositioner-och-skrivelser/Troskeffekter-och-fornybar-e_H103156/

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'The State of Renewable Energies in Europe', <http://www.eurobserv-er.org/pdf/bilan13-gb.asp>, (edition 2013) and http://www.energies-renouvelables.org/observ-er/stat_baro/barobilan/barobilan14_EN.pdf (edition 2014)

Annex

The EurObserv'ER Barometers are all available for download.

Links to all EurObserv'ER publications:

'The State of Renewable Energies in Europe' (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-annual-overview-barometers>

Wind Energy Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-wind-energy-barometers>

Photovoltaic Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-photovoltaic-barometers>

Solar Thermal Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-solar-thermal-and-concentrated-solar-power-barometers>

Biofuels Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-biofuels-barometers>

Biogas Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-biogas-barometers>

Renewable Municipal Waste Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-renewable-municipal-waste-barometers>

Solid Biomass Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-solid-biomass-barometers>

Heat Pump Barometer (PDF, multiple languages)

<http://www.eurobserv-er.org/category/all-heat-pumps-barometers>