



COUNTRY POLICY PROFILE

Sweden

December 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 an [Overview Barometer](#) 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 (updated until December 2015).

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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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

According to the [EurObserv'ER Bridging Report \(2015\)](#) the amount of renewable energy in Sweden for the year 2013 was 16808.5 ktoe, -1507.4 ktoe (-8.2%) compared to 2012. The 2012 share of renewable energy in Sweden amounted to 51.1%, and for 2013 this share amounted to 52.1%.

In this total amount, the 2013 contribution from renewable electricity amounted to 6975.2 ktoe (81121 GWh), -1345.9 ktoe (-16.2%) compared to 2012, for renewable heat the amount was 8986.0 ktoe, -275.9 ktoe (-3.0%) compared to 2012 and for renewable energy in transport the 2013 realisation was 847.4 ktoe, +114.4 ktoe (+15.6%) compared to 2012.

The most important technology in Sweden (2013) is heat from biomass (7749.8 ktoe). Second technology is hydropower (5287.7 ktoe). Third comes ambient heat (1225.0 ktoe). The growth rates range from -22.2% (for hydropower) to 84.2% (for solar power (photovoltaics and concentration solar power)).

Table Renewable energy production in Sweden. Data have been expressed in ktoe and refer to the years 2012 and 2013

Sweden		2012	2013	Difference	
		ktoe	ktoe	ktoe	Growth
Renewable Electricity	Hydropower	6797.8	5287.7	-1510.1	-22.2%
	Geothermal	0.0	0.0	0.0	0.0%
	Solar	1.6	3.0	+1.4	+84.2%
	Tidal & wave	0.0	0.0	0.0	0.0%
	Wind	616.1	846.3	+230.2	+37.4%
	Biomass	905.6	838.2	-67.4	-7.4%
	Total	8321.1	6975.2	-1345.9	-16.2%
Renewable Heat	Geothermal	0.0	0.0	0.0	0.0%
	Solar	11.1	11.2	+0.1	+0.9%
	Biomass	8033.2	7749.8	-283.4	-3.5%
	Ambient heat	1217.6	1225.0	+7.4	+0.6%
	Total	9261.9	8986.0	-275.9	-3.0%
Renewable Transport	Bioethanol/bio-ETBE	205.5	179.9	-25.6	-12.5%
	Biodiesel	328.7	450.9	+122.2	+37.2%
	Renewable hydrogen	0.0	0.0	0.0	0.0%
	Renewable electricity	129.3	141.6	+12.3	+9.5%
	Other biofuels	69.5	75.0	+5.5	+7.8%
	Total	733.0	847.4	+114.4	+15.6%
Total Renewable (calculated)		18316.0	16808.5	-1507.4	-8.2%

Source: EurObserv'ER 2015

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 sort 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 50% share as they

		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 his 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 – March 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 – October 2015		<no change to be reported>
November 2015	All renewable electricity	On 25 November 2015, the parliament decided on a change of contract of the joint certificate market with Norway. The contract amendment is the final piece of the parliamentary resolution from 21 October on the level of ambition in the electricity certificate system and the new quotas as of

		1 January 2016. This policy foresees that Sweden will finance 30 TWh of renewable electricity generation by 2020 compared to 2002.
December 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

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)
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 any way, 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 depression 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'

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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>