

Swedenergy's proposal for a new energy and climate policy beyond 2020

Swedenergy is a non-profit industry organization representing companies involved in the production, distribution and trading of electricity in Sweden – with a total of 171 member groups. Including subsidiaries within these groups, the organization is made up of 355 individual member companies. These include state-owned, municipal and private sector companies as well as associations of different types.

Since the European Commission has announced, e.g. in its work programme for 2013, that a framework for energy- and climate change policy beyond 2020 will be presented, Swedenergy like to share its opinion on the content of such a framework. The focus of Swedenergy is in this position paper the three elements of the 20-20-20-strategy; climate change, renewable energy and energy efficiency.

Sweden is part of the Nordic power system and power market. The Swedish electricity market was deregulated already in 1996 and has since then developed into a well functioning Nordic electricity market. In the Nordic countries there are big potentials for renewable electricity production through hydro, wind power and biomass CHP. The hydro power is especially important in its role of balancing the Nordic power system. All together there is a great potential to export carbon neutral electricity from the Nordic countries to the rest of Europe.

The Nordic/Swedish power system is however confronted with some challenges:

- Reduction of greenhouse gases. Our estimate is that the Nordic electricity production could be carbon neutral by 2030. Swedish electricity production is today carbon neutral to 97 percent.
- Increased share of wheather dependent power which calls for more flexible back-up generation.
- Hydro power production in Sweden can be reduced due to the EU Water Framework Directive and national legislation.
- Expansion of transmission capacity. The expansion of renewable electricity production is increasing dramatically. There is a risk that the



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expansion of the grid does not evolve at the same pace. This will mean that potential economic and environmental benefits cannot be realised. Swedenergy believes there is a great economic potential to export electricity from the Nordic countries, up to 50 TWh per year around 2040-2050.

- Provide for base load capacity. The need for this is accentuated by increased share of renewable electricity and that the lifetime of Swedish nuclear plants are going towards their end.

Key messages

Swedenergy believes that the European Commission's forthcoming proposals on the future energy- and climate policy in the EU should contain at least the following elements:

- *Promote a well functioning internal energy market*

This means e.g:

- a. completion of the internal European energy market
- b. all types of power, including renewables, take full responsibility for balancing costs
- c. investments in electricity transmission within and between EU countries continue
- d. electricity demand flexibility is being developed and promoted
- e. a recommendation that national support schemes in the form of production subsidies to renewable energy, and in relevant cases other energy sources, should be phased out after 2020,
- f. permitting procedures for electricity generation and distribution should be faster

- *A long term climate change policy*

This means e.g.:

- a. EU promoting a global climate change policy
- b. a climate target including targets for the trading and non-trading sectors is set for the years 2030, 2040 and 2050 within EU
- c. an adjustment of the annual reduction factor in the EU ETS to new climate targets for 2030, 2040 and 2050.
- d. it is stated that the price on carbon (taxes in non-trading sector emissions in the trading sector) should be the main driver for reducing emissions of carbon dioxide in the EU.
- e. EU ETS extended to other sectors
- f. EU ETS is linked to other trading schemes outside the EU

- *Coherence between climate change policy and energy policy*

This means e.g.:

- a. policy instruments to promote renewable energy and energy efficiency in the trading sector must work together and not have a negative impact on the functioning of the EU ETS
- b. no binding EU targets for renewable energy and energy efficiency beyond 2020

- c. security of supply and renewable energy is promoted through e.g. market integration, a price on carbon which discourages the use of fossil fuels and promotes low carbon technologies and support for R & D in e.g. renewables in order to make new technologies commercially viable.
 - d. energy efficiency is promoted through the price on energy complemented by knowledge and information based policy measures
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- *A policy that promotes electricity use as electricity has a key role towards the low carbon economy*
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1. *A well functioning energy market – an important basis*

The starting point of a future energy- and climate change policy is certainly the energy policy goals (competitive, sustainable and secure energy) and climate change goals. Swedenergy believes in cost efficient and market based solutions. An important basis for an efficient policy is well functioning markets, including the internal energy market.

It is of outermost importance that the integration of European energy markets continues and the third energy market package is implemented. It is an important prerequisite for policy to be efficient and for minimising costs to consumers and society at large. Regulation which hinders efficient markets must be phased out, e.g. price regulation and different kinds of subsidies. In order to reach desirable goals general economic and technology neutral instruments should be used, which result in emission reductions at lowest cost and renewable energy is built at lowest cost and that energy efficiency is taking place at a rate which is economic plausible.

2. *Policy coherence necessary*

Climate change is one of the greatest challenges facing humanity. Swedenergy believes that the climate target must be seen as the overarching objective in relation to the energy policy objectives of increased share of renewable energy and increased energy efficiency.

The 20-20-20-targets are not in balance. The EU Commission's own scenarios in its "low carbon road map" clearly shows that. The consequences of this are that the carbon price in the EU ETS suffers from a downward pressure due to the instruments and measures taken to increase the share of renewable energy and energy efficiency and the effectiveness of the emissions trading undermined.

Climate and energy policy must be coordinated so that after 2020 energy policy does not impact the functioning of the EU ETS in a negative way.

The price on carbon should be the main driver for reducing emissions of carbon dioxide. The price on carbon dioxide stimulates both the increased use of renewable energy and energy efficiency. Fossil fuels

will become more expensive, which delivers increased security of supply if energy supply becomes more diversified. Only in this way can a cost-effective and technology-neutral policy in 2050 be achieved, with minimum negative impact on the electricity market.

3. *All types of power is needed*

Swedenergy believes that all types of power will be needed in the future to meet the climate challenges. There is no doubt that renewable energy will be needed to meet the challenges. But we believe that CCS will be a key technology to cope with the challenges as well. Likewise, nuclear power, with its minimal emissions of greenhouse gases, will be needed.

4. *A policy that promotes the use of electricity allows the climate neutral economy*

Electricity contributes to a climate-neutral economy. Electricity can reduce emissions by known techniques to a large extent. In Sweden electricity production is already down to 97% carbon neutral. The transition from fossil fuels to the use of electricity in transport, heating and industry, can contribute to a large-scale energy efficiency. The conversion from fossil fuels to electricity in transport and heat pumps can reduce energy use by 60-70 percent per vehicle and heat pump. These are strong reasons to promote rather than discourage electricity use.

Climate Change

1. *Promote a global climate change agreement*

Swedenergy fully supports the development of a global agreement on reducing greenhouse gases. EU emissions represent a very small proportion of global emissions and hence the possibility of limiting climate change on its own is non-existent. Furthermore, it is desirable from an efficiency point of view to converge towards a global price on carbon and necessary that companies in different countries face similar requirements in order to safeguard the competitiveness of European industry. The EU should work towards the development of a global climate agreement.

2. *Set up climate change targets*

A long-term and stable policy framework is essential for business and particularly for capital-intensive industries such as the electricity industry where investments have a very long lifetime. The road to the climate-neutral economy in 2050, including climate targets for 2030 and 2040, must be clarified now to give stakeholders a clear signal about the policy direction.

3. *Develop and expand the EU ETS*

Swedenergy believes that the EU ETS should be the main instrument that drives reduction of greenhouse gas emissions in the trading sector

and that it should be designed so that it is in line with the EU's long-term climate change target. Swedenergy believes that this will ensure that emissions are reduced in the most cost-effective way.

For the EU ETS to become the main driver for reducing emissions first and foremost a target for climate policy beyond 2020 is needed. Once the targets for 2030, 2040 and 2050 for the trading sector are set, the annual reduction factor should be adjusted from 2020 and onwards so that this factor is in line with these goals. Further, a shift from production support for renewable energy towards a CO₂ price-driven development is needed. Awareness of how energy efficiency measures and renewable energy support influences the EU ETS and the electricity market is necessary when post-2020 policies are formulated.

An extension of the scheme to additional sectors and gases after 2020 is beneficial for an economic point of view in order for additional emission sources facing the same price on emissions. This makes way for an efficient allocation of resources in the economy.

Price caps and price floors or other mechanisms to control the price of allowances reduces the efficiency of the system and is therefore not desirable.

In addition to a longer-term reform of the EU ETS Swedenergy believes that more short-term measures may be necessary. Swedenergy believes that the so-called backloading can have a positive effect on the EU ETS, provided it is combined with a more permanent measure like a permanent "set-aside".

4. *In the absence of global action - compensate industry*
The energy intensive industries may need continued compensation, depending on what happens at the global level. Such compensation should preferably take place outside the trading system.
5. *Include LULUCF in the EU's targets after 2020*
To increase the effectiveness of EU climate policy, it is desirable that the uptake of carbon in forests and land is included in the EU's target after 2020. Inclusion of LULUCF in the EU ETS needs thorough analysis.

Renewable Energy

1. *Integration of renewables in the electricity market / power system - a sustainable policy*
The key factors for the successful growth of renewable electricity is an efficient and integrated European energy market and to integrate renewable power types in the electricity market. Swedenergy believes that there are three main measures in order to improve the functioning of the market; expose all market actors to market prices in the energy

markets and balancing markets, improve demand flexibility and strengthen the European transmission grid. Important elements are also functioning cross-border markets in all time horizons, "day-ahead", "intraday" and cross-border balancing markets.

The renewable power types taking responsibility for balancing costs just like other types of power in the market is an important factor for the market to work in a satisfactory way. This is not the case in all Member States today, but needs to be addressed in all countries.

The expansion of electricity transmission capacity between the different EU markets and within each country is essential as the physical conditions for investments in renewable power generation varies. This work must be accelerated. Permitting procedures need to be shortened. Planning and implementation of grid expansion should be done from a regional / European perspective and not national. Absence of grid expansion prevents market integration and the growth of renewable electricity in a cost effective manner. In this context it is also important to point out the importance of distinguishing between physical and financial trading of electricity.

Demand for flexible power generation increases. Hydropower is the type of power that best can cope with sudden fluctuations in supply / demand of electricity. Hydropower should for this reason be safeguarded. Fossil-fired power plants which are regulated up and down have a lower efficiency than if they run as base load, meaning higher emissions. Lack of incentives for flexible and back-up capacity in the electricity market has been highlighted as a problem as more intermittent generation flows into the system. Swedenergy believes that only if measures to improve the existing energy market proves to fail, capacity mechanisms should be considered. Swedenergy believes that the problems the capacity mechanisms are set to solve primarily should be resolved by all power types paying their balancing costs, by abandoning regulated prices, by expanding transmission capacity within and between countries and by phasing out subsidies to power production. Swedenergy believes that a strategic capacity reserve, as a last resort, is the least harmful capacity mechanism. The design of capacity markets may vary, and thus its impact on trade and investment, both nationally and internationally. From an efficiency perspective, it is important to have some form of harmonization within the EU, through for instance compatibility criteria for the use of capacity mechanisms.

Handling of costs for grid connection needs to be harmonized otherwise this factor will influence the geographical location of production units.

Permitting processes need to be faster. Slow processes for new grid capacity in particular complicates the expansion of renewable energy.

Further, the demand side of the electricity market needs to be

developed to better integrate intermittent power generation in the market. The possibility of inviting demand reductions in both spot and regulation/balancing markets needs to be further developed.

Promotion demand flexibility is desirable, as it can facilitate the integration of renewable electricity. Both market and technical conditions need to be improved. New forms of contracts need to be developed in the electricity market. Smart grids can be a contributing technological solution. Incentives for grid operators may need to be developed.

2. *Increased share of renewable energy is stimulated by climate policy instruments*

Renewable energy has many positive environmental characteristics. Above all, it does not contribute to the greenhouse gas problem in the same way as fossil fuel-based energy. Renewable energy and also renewable electricity will constitute a significant proportion of the energy supply in the future which is very positive as Swedenergy sees it. Regarding electricity generation, Sweden has unique conditions for renewable electricity production. Already today the renewable electricity generation constitutes 56 percent of the total Swedish electricity generation. Most of it is hydro power.

However, Swedenergy believes that renewable energy targets for post 2020 should not be binding. Desirable effects achieved by renewable energy policy can be achieved with a price on carbon. Specific target and measures to increase the share of renewable energy is motivated by responsible politicians as it is considered to help increase security of supply, competitiveness (green growth / green jobs) and is sustainable, i.e. it addresses all the overall energy policy goals.

Analyses done by the World Bank, UNEP etc. show that investments in green jobs are not expected to create new jobs in the long term. In a well-functioning labour market, the green jobs replace jobs in other sectors and the net employment effect is absent. It is only when inefficiencies in the labour market, such as matching problems, is solved a net employment effect occurs.

Renewable energy is seen as an opportunity to break the EU's dependency on fossil fuels and thus imports from third countries. A policy to encourage the use of renewable energy for security of supply reasons is preferably based on the increased cost of using fossil energy through emissions trading and carbon taxes instead of subsidies for renewable energy, Swedenergy believes. This prevents the risk of various instruments to overlap.

Renewable energy contributes to the reduction of greenhouse gas emissions and improved air quality. However, there are specific targets and specific instruments which address these environmental problems and therefore these environmental effects can hardly be an argument

in itself for specific targets and incentives for renewable energy. The EU climate policy, including the EU ETS, and the EU's air policy, currently under review, contains relevant targets and measures. It is very important that climate policy and the EU ETS will continue to be the main driving force for reducing emissions and that a specific policy on air pollution continues in order to address other emissions to air than greenhouse gases.

3. *Support for research, development, innovation and demonstration of renewable energy makes climate policy cheaper*

Swedenergy believes that operating support for renewable electricity should be phased out beyond 2020. It is important that renewable electricity is exposed to market price signals so that the power system does not get stuck in an expensive and inefficient scheme where all types of power, renewable or not, is dependent on support.

Support schemes available today and any support that remains after 2020 must be designed so that market actors are exposed to market prices, including balancing costs, as well as market risk.

Beyond 2020, there will be a continued need for support for research, development, demonstration, innovation, etc. for immature technology, for example wave power. The costs of the climate change policy may be lowered if economic and market based instruments are combined with support for R & D.

4. *Further development of guarantees of origin and electricity disclosure*

The trade in guarantees of origin increases in the EU. Trade can further be facilitated by the European standard for GOs. Interest among households and businesses increases for the origin of the electricity consumed. So far, a market place for trade of guarantees of origin is lacking. But Swedenergy hopes such a market place could evolve in the future.

Swedenergy believes that the basis for the electricity disclosure is the guarantees of origin. Therefore, other energy sources (fossil, nuclear) should be handled within the legal framework of guarantees of origin. The Swedish government has already introduced the possibility of issuing guarantees of origin for other energy sources than renewables. The rest of EU should follow this good example.

Energy Efficiency

Swedenergy believes that a binding target for energy efficiency is not necessary to set up after 2020. As energy supply becomes more carbon neutral, efficiency policies will become less important for combating climate change. The Swedish National Institute for Economic Research has shown that climate change policy will be more expensive with

presence of targets for energy efficiency, and also targets for renewable energy.

Swedenergy believes that the market price on electricity/energy adjusted for negative external effects through emissions trading or carbon taxes, gives a clear signal of which rate of energy efficiency is motivated from an economic point of view. However, knowledge and information-based instruments will still be needed after 2020 to make it easier for stakeholders to increase the efficiency of their energy use.