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Swedish views in relation to the 2014 Energy Efficiency Review

Energy efficiency plays a central role in EU's energy and climate policy framework

Sweden believes that energy efficiency plays a central role in the ability to meet short- and long-term goals and priorities for the EU's energy and climate policy, thereby creating a more ecologically sustainable energy system with high supply and high competitiveness.

Recent developments in Ukraine have shown the need to reduce the EU's dependence on imported energy sources. Sweden believes that in a well-integrated and well-functioning internal energy market, energy efficiency and a higher proportion of domestic low-carbon energy sources can reduce long-term EU energy dependence while managing the ambitious climate and energy targets for 2030 and beyond.

Increased energy efficiency should be the first step to reduce the EU's dependence on energy. As the International Energy Agency (IEA) and the Energy Efficiency Financial Institutions Group (EEFIG) has highlighted, energy efficiency should be considered the "first fuel" – the cumulative energy savings from efficiency measures in a single year may exceed the production from any other single source of fuel.

Energy efficiency has also economic importance. The reduction of energy intensity is of crucial importance for European industry in a global competition.

The EU has endorsed the goal of limiting global warming to 2 °C above pre-industrial levels, and therefore decided to reduce greenhouse emissions to the atmosphere by 80-95 percent by 2050. Reports recently unveiled by IPCC reiterate the need to urgently take strong action to prevent climate change with unmanageable consequences.

In relation to the EU's long-term climate target, Sweden wants to emphasize the assessments done by i.a. IEA and the IPCC about the importance of energy efficiency by 2030 for the 2050 target to be achieved in a cost effective manner. If the EU waits to increase its energy efficiency, it will likely be more difficult and above all more expensive to reach the 2050 target.

Only a small portion of the economic potential of energy efficiency is utilized. IEA has reported in World Energy Outlook that four-fifths of the economic potential in the buildings sector and more than half in industry is still untapped.

To provide a long-term approach to planning and clear signals to investors in buildings, industry and infrastructure, it is also important that energy efficiency is given a clear and prominent role in the EU's climate and energy policy framework to 2030.

Sweden believes it is important that the EU's climate and energy policy framework for 2030 promotes long-term cost-effective policies. EU energy policy should be designed based on the goal of reducing greenhouse gas emissions as superior. Concern should also be taken to the potential positive and negative effects on other environmental goals. It is central that EU's energy efficiency policy does not hinder economic growth, but rather strengthens the EU's competitiveness.

If these concerns are taken into account, Sweden would be more sympathetic to an EU-wide (in the same way as proposed for renewable energy) energy intensity target, which relates energy use to economic activity or some other benefit, rather than putting a cap on energy use in absolute terms, as is the case with the current target for 2020. The key is not to limit energy use per se, but to use energy as efficiently as possible and to reduce the negative impacts of energy use. A possible target for energy efficiency should be subordinate to a GHG emission reduction target and, should not be designed in a way that hinder economic growth needed to create wealth and financial capacity of the EU.

Sweden considers that a possible target for energy efficiency should not be broken down by sector, since it could lead to cost inefficiency and at worst technological lock-ins. This applies particularly to buildings and the built environment. The building stock and heating systems differ widely between Member States.

It is also important that any goal for energy efficiency is pedagogical, possible to steer towards and possible to follow up in ways that make clear what is behind the change.

As for progress towards meeting the EU's 2020 target for energy efficiency, Sweden considers it important that existing EU legislation is

fully implemented rather than introducing additional legislation. Sweden generally considers it important that the policy for the next 5 to 15 years is designed so that it clearly facilitates and does not hinder the ability to reach long-term goals in a cost effective manner. It is also important to coordinate and exploit other ongoing processes and activities within the EU and internationally to achieve greater energy efficiency, such as the EU roadmap for resource efficiency and the implementation of the global framework of programs on sustainable consumption and production.

Policies and measures for energy efficiency in different sectors

Sweden believes that a successful policy for energy efficiency is made up of generally acting economic instruments such as energy and carbon taxation and emissions trading in combination with measures to correct other market failures and overcome barriers to implementation. For example, education (green skills) and spatial planning that enables and facilitates energy efficiency measures and choice for businesses and households is important in this context. The overall interaction between different policy instruments should be considered in the formulation of energy efficiency policy at the EU level.

The built environment

As for policy instruments and measures for energy efficiency in buildings and the built environment, Sweden considers that the current EU rules on the minimum criteria for the energy performance of buildings and demands for energy performance certificates (EPCs) serve a useful function, but there is reason to revise them in the 2030 framework. The EPC provides information to property owners and buyers of real estate, but it is unclear to what extent they lead to actions. In addition there is, at least for large property owners, an overlap with the Energy Efficiency Directive requirements for regular energy audits. In terms of energy performance criteria for buildings, it is important that this does not hinder the development of energy efficient solutions to higher system levels, e.g. blocks, neighbourhoods and entire cities. This is particularly true in the case of heating/cooling of buildings, where more consideration needs to be given to the heating/cooling system/market. Sweden also sees problems with the overlap between the EPBD and the RES directive.

Alongside this, Sweden wants to highlight its positive experience of promoting energy efficiency in the built environment through networking and technology procurement. Sweden believes that this type of instruments should be promoted at EU level to strengthen the EU energy efficiency policy and thus improve the conditions for energy efficiency.

In Sweden, the Swedish Energy Agency have genuine experience of running networks which includes use of technology procurement to accelerate the development of energy efficiency in the building sector, not least in renovation.

Such networks represent a meeting place for government, industry and academia that enables collaboration and building of trust between the stakeholders. Purchaser groups that know the needs of the market are established for the technology procurement. Permanent purchaser groups, in the form of a network, allow for continuous monitoring of market needs. The networks aim to establish mutual trust and enables members to find common solutions to correct barriers and enabling a long-term systems thinking.

Industry

Industry accounts for a significant share of the energy use in the EU. The EU ETS provides a foundation to promote the reduction of greenhouse gases by example energy efficiency and use of renewable energy sources in the industry. Sweden believes that it is important to develop the EU ETS in such a way that it facilitates such investments. EU ETS may need to be supplemented by other instruments to address market failures not related to energy prices.

The same type of policy instruments to correct market failures mentioned for buildings (network and technology procurements) are applied in Sweden also in manufacturing industry. An important part of networking is about capacity building and encouraging help to self-help so that companies can identify and implement energy-saving measures.

Transport

The EED does not include targeted measures in the transport sector. However, measures in the transport sector could be counted for to achieve the 1.5 % cumulative energy savings target, according to Article 7. There is a potential risk that measures in the transport are given low priority, because the directive focuses on the implementation of measures in other sectors.

In order to accelerate progress regarding efficient energy use and lower greenhouse gas emissions in the transport sector, a combination of measures are needed.

The Swedish public inquiry *Fossil Free Road Transport* (SOU 2013:18) highlights a number of areas that are deemed appropriate to develop at EU level. For example, reference is made to the development of energy efficient road vehicles, including heavy vehicles and construction equipment, and climate requirements in the aviation and shipping sectors. Sweden notes that the current objectives at EU level for carbon

dioxide emissions from cars and light trucks have been effective in increasing the energy efficiency of the light vehicle fleet. The Commission should quickly submit suggestions for continued monitoring of the CO₂ targets for the average emissions of cars and light trucks. It is also of great importance that the Commission finalize the proposal for a method of measurement of CO₂ emissions from all heavy vehicles (trucks/buses) and submit a proposal to the CO₂ targets for heavy vehicles.

The inquiry also mentions the speed limits on the European road network as a way to drive the vehicle development and mandatory support for speed for heavy vehicles.

The inquiry proposes that an energy label is developed for cars, light trucks and light buses, similar to EU labelling of energy-related products. This could be an appropriate initiative at the EU level.

At European level, there are many ongoing initiatives in sustainable urban development. These initiatives aim to develop replicable comprehensive solutions, why increased focus on awareness raising and information dissemination is of value. European level initiatives to support progressive decision making in the energy and climate area could contribute to a different focus in the development of society. For the transport sector, one example could be spatial planning for accessible and efficient transportation, where energy efficient modes of transport for both freight and passenger transports are prioritised. Multimodal transport chains are used, with the most energy efficient mode of transport and logistics solutions are used for each part of the route.

Another focus could allow for ICT to facilitate the use of more energy efficient transportation/communication and even reduce the demand for transport by access to services, work and recreation in other ways.

Energy related goods

Sweden holds that new instruments are not needed to increase the energy efficiency of energy related goods, but calls for continuous development of the existing and powerful instruments of ecodesign and energy labelling. These directives have generated significant energy savings but there is potential not yet captured due to, e.g. too low levels of stringency in ecodesign, too broad classes of energy labelling and, delays in implementation. Ecodesign and energy labelling should continue to be complemented by instruments to promote research, development and demonstration.

Sweden calls upon the EU Commission to present a clear and long term schedule for future product groups to be regulated. It is important for market actors to know with foresight which products will be regulated and when.

Ecodesign regulates the energy performance of specific products, which are often used as components in systems of different types. In order to capture the systemic issues and avoid sub-optimisation, it is important to apply an “extended product approach” and focus on how demands for various products can be integrated when designing new regulations.

Energy labelling needs to be revised so that it drives innovation through challenging higher energy classes (not A + n as today), while retaining the consumer recognition of the label.

Sweden also believes that more information is needed about the existing regulations in ecodesign and energy labelling. Despite that the instruments have been around for a long time, they not enough known by all actors. For instance, an EU level initiative could highlight the potential role of energy labelling and ecodesign in improving energy efficiency in renovation of buildings (e.g. linked to the long-term national strategies for energy efficiency renovations required by EED).

Sweden considers that there is a need for more cooperation between Member States when it comes to supervision and market surveillance, and calls upon the Commission to facilitate cooperation.

Energy conversion and distribution

Smart grids and infrastructure for transmission and distribution will play a central role in achieving the goals for 2020 and beyond, especially in light of the increasing share of intermittent renewable energy. Increased efficiency in the transmission and distribution of electricity is important for improving the energy efficiency of the energy system as a whole.

When it comes to smart grids, there is a need for better incentives for i) active customers, ii) the interaction between different energy carriers, iii) an integrated market at European level, and iv) to contribute to increased efficiency, improved power quality and reliability of the power grid. Network regulation needs to provide incentives for economically viable investments.

Sweden considers that the EU needs to focus more on demand side management such as “demand-side bidding”, “time-of-use” tariffs and custom products and systems.

Sweden considers that the heat sector can play a crucial role in improving energy efficiency and reducing dependency of gas in the EU. By utilizing local waste products that would otherwise be lost, e.g. waste heat and solid waste, in district heating systems, the heating of buildings can be made with a significantly reduced primary energy use.

As the energy performance of buildings increases, the challenge increases for district heating operators to implement new systems that minimize heat loss. The level of CHP should be considered as high-efficiency may need to be tightened.

When district heating is delivered with conventional heating technique to areas with low energy use, heat losses remain while the amount of energy delivered is reduced. Future use of CHP, which has great potential to reduce energy use and emissions by replacement of e.g. coal condensing, may need a district heating system that heats efficiently at low temperatures. Without this CHP might become unprofitable and not implemented.

Low temperatures in the network also lead to increased opportunities to use waste heat from sources with lower temperatures. Although heat pumps more efficient and helps reduce primary energy consumption.

Financing

Sweden does not consider the need for more or new financial instruments. Rather, there is a need for better information and dissemination of knowledge about mechanisms and instruments/facilities already existing and how to take advantage of and use them. This is valid for e.g. project results from the IEE and Horizon 2020, but also for the support available in the program, particularly so called “Project Development Assistance”.

Sweden thinks it is important to continue funding opportunities for near-market projects, formerly funded under the Intelligent Energy Europe 2 (IEE2). For most of these non-technical issues there are opportunities for support in the energy challenge of Horizon 2020. Nevertheless, we want to emphasize that under Horizon 2020, you cannot find the areas covering energy efficiency in the transport sector that were present in the IEE2 programme. These were said to be covered in the transportation challenge of Horizon 2020, but is unfortunately not to be found in the same spirit.

Sweden welcomes the EU’s structural funds are used strategically to meet the energy and climate challenges, according to existing regulations and scope, and that the structural funds can be used to support technological development and innovation.

For new initiatives that the Commission implements with the support of other actors, such as the EIB (type ELENA), it is important that the size of the project also fits smaller member countries. This holds also for Horizon 2020, where e.g. the area of “smart cities and communities” may be difficult to apply to Swedish cities, with only a few Swedish cities being large enough to fit the call.

We need clear guidelines for Member States how EIB instruments could be used and coordinated with national and regional initiatives, e.g. by clarifying which national recipients (government agencies, ministries or financial institutions) that are suitable for each respective EIB instruments, and by clarifying the division of responsibilities between the EIB, Member States and national banks. The connection between Horizon 2020 instruments and other EIB instruments should also be clarified.

Other measures

Some examples of technologies with great potential for energy savings are hot water fixtures, electric motors, pumps, fans, control systems, and solutions related to demand side management and smart grids, electric vehicles, waste heat recovery and new solutions for energy storage.

The development and dissemination at EU level of this type of solutions can be facilitated by technology procurements and network, in addition to supporting R&D. There may be a need to support companies in early stages of commercialization, such as conditional loans.

To realize the economic potential of energy efficiency provided by technological solutions, organisational and management factors for businesses and behaviour issues for end users/households must also be in focus. A comprehensive approach to R&D in these areas is key to achieving cost-effectiveness in the implementation of various policy instruments.