

An integrated climate and energy policy

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INFORMATION SHEET ABOUT THE GOVERNMENT BILLS 2008/09:162 AND 163



Climate and energy policy for a sustainable future

The Swedish Government presents a integrated climate and energy policy. Sweden shall show leadership to meet the climate challenge, both internationally and through the measures we take in Sweden. We have raised the level of ambition and presented a concrete strategy to rapidly decrease Sweden's dependence on fossil fuels and dramatically reduce our negative impact on the climate. Investments in renewable energy and energy efficiency will strengthen Sweden's competitiveness and give Swedish research and business a leading role in the global climate transition.

Climate and energy targets by 2020

The Government's climate and energy policy targets by 2020 are:

- 40 percent reduction in greenhouse gas emissions.
- at least 50 percent renewable energy.
- 20 percent more efficient energy use.
- at least 10 percent renewable energy in the transport sector.

The 40 percent climate target is based on 1990 levels and refers to the non-trading sector, i.e. those sectors not

included in the EU Emissions Trading Scheme. This includes transport, housing, waste disposal, agriculture and forestry, aquaculture and some parts of industry.

For activities covered by the EU Emissions Trading Scheme, the level of ambition for reducing emissions is determined jointly at the EU level within the framework of the trading scheme's rules. EU Member States have agreed to reduce emissions in the trading scheme by 21 percent between 2005 and 2020.

Measures to reduce emissions by 40 percent

For emissions to be 40 percent less in 2020 compared to 1990, greenhouse gas emissions measured in carbon dioxide equivalents will have to decrease by about 20 million tonnes.

One fifth of this emissions reduction has already been achieved; four-fifths remains between now and 2020. To reach the target, the Government's proposals include using economic instruments in the area of taxation. Existing instruments, including the carbon dioxide tax, will continue to be used and will provide further emission reductions.

The Government also intends to implement emission reductions in Sweden, in accordance with adopted measures within the EU, as quickly as possible.

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The use of fossil fuels for heating will be phased out by 2020.

The target is expected to be achieved by the following measures:

Estimated reduction between 1990 and 2020, ca million tonnes carbon dioxide equivalents.

Emission reductions between 1990 and 2007	4
Forecast adopted national measures 2008-2020	5
New Environmental taxes and green investments	2
National implementation of joint EU decisions	2
Reduction - other measures	0,3
Reduction by means of investments in other EU Member States and flexible mechanisms such as CDM	6,7
Target 2020	Summa totalt: 20

In addition, the Government is presenting three action plans for conversion to a low carbon society:

- a fossil-fuel independent transport sector,
- increased energy efficiency and
- promotion of renewable energy.

The vision is for Sweden to have a sustainable and resource-efficient energy supply by 2050 with no net emissions of greenhouse gases into the atmosphere.

Three action plans for climate and energy conversion

The Government has chosen to present the action plan for a fossil-fuel independent vehicle fleet in the climate policy bill, and the action plans for energy efficiency and renewable energy in the energy policy bill.

Action plan for renewable energy

Initiatives to reach the target of at least 50 percent renewable energy by 2020 consist of:

- An improved electricity certificate system, The new target for the production of renewable electricity involves an increase in the level of 25 TWh by 2020 compared to the 2002 level.
- Establishing a national planning framework for a wind power production capacity of 30 TWh. 20 TWh will be on land and 10 TWh offshore.
- Improving the conditions for connecting renewable electricity production to the electricity grid.
- Stimulating the development of biogas for vehicles.

The Government believes that Sweden's Rural Development Programme for 2007-2013 should be utilised to support and improve the production and processing of renewable energy.

A more detailed action plan to reach the renewable energy target will be presented by June 2010 at the latest.

Action plan for energy efficiency

The aim of increased investments in energy efficiency is to reach the target of 20 percent more efficient energy use by 2020. This will simultaneously fulfil the requirements laid down in the European Energy Services Directive. The Government will invest SEK 300 million (ca EUR 27.3 million) per year between 2010 and 2014 - a 100-percent increase on the current level. The Swedish Energy Agency will have the primary responsibility for implementing the energy efficiency programme, and for the measures required to monitor implementation of the Energy Services Directive.

Initiatives include:

- Strengthening regional and local energy and climate initiatives.
- Increasing investment in information and advisory services.
- Using the public sector to set a good example in energy efficiency improvements. Swedish municipalities and county councils will be given the opportunity to enter into voluntary energy efficiency agreements with the Swedish Energy Agency.
- Introducing support for enterprises that use significant amounts of energy. This support will be in the form of an "energy audit cheque" to perform energy audits between 2010 and 2014.
- To enable society to be more energy efficient, there must be energy-efficient products on offer to consumers. The Government will strengthen efforts in technology procurement and in the introduction of energy-efficient technologies to the market.
- Introducing requirements for individual electricity and hot water metering in new buildings and refurbishments. Energy-efficient behaviour is encouraged when the cost of energy use is made clearer.

Action plan for a fossil-fuel independent vehicle fleet

The target is for Sweden to have a vehicle fleet that is independent of fossil fuels in 2030.

Currently, the transport system is virtually totally dependent on fossil fuels and is dominated by road transport. Emissions from domestic transport made up nearly one third of the total emissions in Sweden in 2007.

The basis of efforts to reduce the transport sector's impact on the climate will be tools that put a price on greenhouse gas emissions. The Government's action plan covers both tax proposals and investments in renewable fuels and in the development of alternative technologies. Proposals to promote vehicles with a low environmental impact include:

- New "green cars" brought into service from 1 July 2009 will be exempt from vehicle tax for five years. The definition of a "green car" will gradually be made more stringent.
- Cooperating with and commissioning government agencies to develop an integrated knowledge base on the market for electric cars and plug-in hybrids. Such work will identify how to further stimulate the market.

- Extending subsidies to filling stations for renewable fuels.
- The production of biofuel and other liquid biomass propellants must fulfil certain sustainability criteria. Biofuels that generate a reduction in emissions of less than 35 percent, compared to the oil-based alternative, may not be counted towards the target.
- To accomplish a rapid and cost-effective increase in the use of biofuels, the Government is keen to implement the new European Fuel Quality Directive as soon as possible. The Directive allows a mixture of up to ten percent ethanol and seven percent of biodiesel (FAME) in petrol.
- The Government has given the Swedish Energy Agency the task of analysing the conditions for and consequences of a quota requirement system to speed up the introduction of renewable fuels in the transport sector.

Climate tax package

Taxes on energy and emissions are effective instruments to help achieve targets in the climate and energy area. By putting a price on emissions that impact the climate, the Government is showing that emissions involve a cost that must be paid. At the same time they stimulate energy efficiency improvements and the phase-out of old-fashioned technology. The aim is also to ensure that polluters pay more for their environmental impact. The bill presents amendments to various taxes and other economic instruments to reduce greenhouse gas emissions by a further two million tonnes by 2020. The aim should be to balance future increases in energy and environmental taxes for businesses and households against equivalent tax concessions.

Tax concessions for new "green cars" for five years

New "green cars" will be exempt from vehicle tax for the first five years. The current "green car premium" thereby is replaced by a long-term tax concession. The amendment is proposed for cars taken into service as from 1 July 2009. The current definition of a "green car" also applies to new petrol- and diesel-powered passenger cars that emit less than an average of 120 grams of carbon dioxide per kilometre. These cars will also be exempt from vehicle tax. One difference compared to the current "green car premium" is that the tax exemption applies not only to cars bought by private individuals but also to those bought by businesses, e.g. company cars.

Increased carbon dioxide factor in vehicle tax

The more carbon dioxide a vehicle emits, the higher the vehicle tax will be. The carbon dioxide factor in the vehicle tax will be raised from SEK 15 to 20 (ca EUR 1.36 to 1.81) per gram in excess of 120 grams. New light commercial vehicles (small trucks and vans), small buses and mobile-homes will be incorporated in the carbon dioxide-based vehicle tax. The fuel factor for diesel vehicles will be lowered and the environmental factor will be SEK 500 (ca EUR 45.32) for cars from 2007 or earlier, whilst it will be SEK 250 (ca EUR 22.66) for newer vehicles. All in all,

this will lead to a decrease in the tax on diesel vehicles. These amendments will take effect on 1 January 2011

Increased energy tax on diesel

The energy tax on diesel will be raised in two steps by a total of SEK 0.40 (EUR 0.036) per litre. The first increase of SEK 0.20 should be implemented on 1 January 2011 with the second increase of SEK 0.20 on 1 January 2013.

To compensate heavy goods traffic, the vehicle tax on heavy goods vehicles and large buses will be reduced.

Higher carbon tax for heating for sectors outside the EU emissions trading scheme

The reduction in carbon tax for heating in agriculture, forestry, aquaculture and some parts of industry will be decreased. The tax rate will be raised from 21 percent to 30 percent in 2011 and to 60 percent in 2015.

Higher carbon tax

It is proposed that the rate of carbon tax should be adapted to bring about a further reduction in greenhouse gas emissions of two million tonnes by 2020. In addition to the annual adjustment in accordance with the consumer price index, this will be accomplished in tandem with other amendments to economic instruments.

Green investments in developing countries

The effects of greenhouse gas emissions are global and independent of where in the world they occur. It is therefore necessary for Sweden and other industrialised nations to help reduce emissions in developing countries, contributing to sustainable development and the transfer of new environmental technology, and inspiring cooperation between countries. An ambitious climate policy requires international cooperation and the Swedish responsibility must incorporate measures taken both nationally and internationally.

Measures to help to bring about a global market for greenhouse gas emissions are expected to have a central role in any new international climate agreement. Through international cooperation, global efforts on climate change can be more cost-effective and include more far-reaching undertakings. It is a question of obtaining the greatest possible climate benefit for every Swedish krona that is invested. A third of the emissions reductions needed for Sweden to reach its 2020 emissions target will be accomplished using flexible mechanisms.

Flexible mechanisms

Under the Kyoto Protocol, over 30 industrialised countries have pledged to limit their emissions by means of quantitative undertakings prior to the 2008-2012 period. The Protocol allows countries to achieve their emission reductions both in their own countries and in other countries. The opportunity to implement emission reductions abroad is provided by the three instruments which the Kyoto Protocol calls "flexible mechanisms". These three instruments are: emissions trading, Joint Implementation (JI) and the Clean Development Mechanism (CDM). The latter two are also called 'project-based mechanisms'. All three instruments mean that a country can benefit from emission reductions achieved abroad.

Climate and development cooperation

Climate change is directly linked to development in developing countries, especially in the least developed countries and for the most vulnerable population groups. Many developing countries are particularly exposed and vulnerable to the effects of climate change. Between 2009 and 2011, the Swedish Government is investing over SEK 4 billion (ca EUR 363 million) of its development assistance in climate and development. Investments to support adaptation to climate change can involve measures aimed at reducing human vulnerability, e.g. investments in health, sanitation and access to clean water.

Efficient energy markets

Well-functioning energy markets create better conditions for energy supply, the environment and growth. The aim is to achieve an efficient electricity market with healthy competition that provides secure access to electricity at internationally competitive prices. A Nordic electricity market is necessary for the efficient exploitation of common production resources in the Nordic region. Bottlenecks in the Nordic electricity grid and between the Nordic region and the European continent shall be eliminated.

District heating and combined heat and power make it possible to utilise energy that will otherwise be lost, and to exploit society's energy resources as efficiently as possible. Natural gas, a finite fossil fuel resource, can play a significant role during a transitional period, mostly in industrial facilities and highly efficient combined heat and power plants. The gas market and infrastructure should be developed so that it supports a gradual introduction of biogas.

Nuclear power

Nuclear power will be an important part of Swedish electricity production for the foreseeable future. With an increased focus on climate change, nuclear power fulfils one of the most important requirements placed on today's energy sources, i.e. that it leads to low greenhouse gas emissions.

The Government intends to return to the Riksdag soon with a proposal to abolish the Nuclear Phase-Out Act. A commission will be tasked with developing proposals for new legislation which will govern the public scrutiny of new reactors. The legislation shall facilitate controlled generational change in Sweden's nuclear industry. This

will effectively revoke the ban on new construction in the Nuclear Activities Act. A condition governing the design of the new regulatory framework is that permission to build new reactors will only be given if they replace one of the existing ten reactors and if they are built on existing sites. Government support for nuclear power in the form of direct or indirect subsidies will not be forthcoming, however. Important conditions governing continued nuclear power generation are that safety standards continue to be improved and that the liability for accidents is further tightened in accordance with the scope provided by existing international treaties.

Greater focus on climate change adaptation

Climate change increases the risk of flooding and landslides as a result of an increase in intensive precipitation and rising water levels. A climate change adaptation policy is being developed. The Government has earmarked SEK 300 million (ca EUR 27.3 million) for the 2009-2011 period. The measures include:

- The Swedish Geotechnical Institute (SGI) being tasked to improve the knowledge base as regards landslide risks along the Göta Älv river in the event of increased water levels, and improve national altitude data in order to better be able to assess the consequences of flooding. SEK 35 million (ca EUR 2.28 million) a year will be earmarked during the 2009-2011 period.
- The county administrative boards will be given the overarching regional responsibility to coordinate climate adaptation. SEK 25 million (ca EUR 2.28 million) a year will be earmarked for this during the 2009-2011 period.
- Lantmäteriet (National Land Survey) will receive SEK 40 million (EUR 3.64 million) per year in 2009-2011 to develop a new altitude database to improve the knowledge base for risk assessment and action planning to minimise the risk of landslides.
- The need to adapt spatial planning to the greater risks of landslides will be dealt with as part of the ongoing review of the Swedish Planning and Building Act.



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