

## Session SBI50 (2019)

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Session ends: 08-06-2019 23:59:59 [GMT+1]



A compilation of questions to –  
and answers by – Sweden  
exported 11 June 2019 by  
the UNFCCC secretariat

Question by Australia at Friday, 12 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: Air travel tax

Sweden proposed a new tax on air travel to be introduced into effect from April 2018. Could you please provide an update on the status of this proposed tax, and whether it has had the expected impact?

Answer by Sweden, Friday, 07 June 2019

A tax on air travel was implemented on 1 April 2018. The tax is regulated in the Swedish act SFS 2017:1200 regarding tax on air travel. It is designed as a tax on commercial flights and is paid for passengers travelling from a Swedish airport. The airline that carries out the flight is liable to the tax. Various levels of tax are levied based on the final destination.

No wholesome assessment of the effect of the tax has been carried out yet, but the number of passengers travelling by flight domestically was reduced by 4 percent in 2018 compared to 2017. The number of passengers travelling by flight internationally from Swedish airports was increased by 2 percent during the same time period. That is a decreased increase of number of passengers, as the increase the previous years was in the range of 4-8 percent.

In January 2019 the Swedish Transport Board (a governmental authority) presented an analysis of the tax where it noted that it is very difficult to evaluate the effects after such a short time. It is written in Swedish but has an English summary:  
<https://transportstyrelsen.se/globalassets/global/publikationer/luffart/forsta-halvaret-med-flygskatt.pdf>

As is stated in the summary, we unfortunately don't know the effect yet. One interesting aspect is that more than 50% of Swedes are in favor for this tax. The reason for this is that most people are aware of climate problems and consider it's strange that air travelling has become so cheap, eg. compared to railway. There is since a few years' great public attention in Sweden to the issue flying and climate. Many people have reduced their flying for climate reasons. We assume that part of the downward trend is due to this.

The tax level is low and the direct effects on greenhouse gas emissions is small. We assume that indirect effects in the long run could be more important than direct effects: Firstly, the tax contributes to the awareness of air travelling climate effects. Many people are now, due to the intense attention in media, aware also of the effects from nitrogen oxides and water vapor emissions at high altitudes, and that emissions from aviation are rapidly increasing. Secondly

a tax in Sweden might also have an effect that countries nearby could follow - the risk that people living close to the border buy their ticket on the other side of the border.

Thirdly: The rationale for the tax is also to take a first step for letting people pay for their climate gas emissions when flying. This is, in the absence of the more effective policy instrument CO<sub>2</sub>-tax on aviation fuels, a first step forward.

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Question by Australia at Friday, 12 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: Effort sharing target

Does Sweden still anticipate meeting and exceeding its EU Effort Sharing Decision 2020 target?

Answer by Sweden, Friday, 07 June 2019

Yes, Sweden is anticipated to meet the EU Effort Sharing Decision (ESD) 2020 target. Sweden's commitment for the emissions covered by the ESD (i.e. emissions not included in the EU Emissions Trading Scheme (ETS) according to EU's Climate and Energy Package) is that emissions have to decrease by 17% between 2005 and 2020. This means that the ESD emissions shall decrease linearly from 41.7 Mt in 2013 to 36.1 Mt in 2020.

For the years 2013-2017 Sweden's ESD emissions were lower than the ESD-targets. The surplus amount of annual emission allocations were over 5 million tonnes per year compared to the Swedish ESD target. The surplus for 2013—2015 were deleted. Sweden has already taken a decision to delete the ESD surplus of 2016 and the Government has proposed to the Parliament that also the surplus for 2017 should be deleted.

Projections indicate an overachievement in relation to the ESD target. The ESD emissions are projected to decrease to around 29.4 million tonnes in 2020. The overachievement between the projected trend and the Swedish target in 2020 is estimated to be over 6 million tonnes, without the use of international credits.

Question by Japan at Friday, 12 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: Mitigation in the LULUCF sector

The removals in forest land is expected to decline due to the increase of harvesting to meet the demand of biomass which is expected increase over time, and other land use categories other than forest land are expected almost stable in its emissions and/or removal (Table 4.15). Consequently the total LULUCF removals are expected decreasing in the future. Taking into the expectation above, how mitigation in the LULUCF sector will be implemented from now?

Answer by Sweden, Friday, 07 June 2019

The LULUCF sector is not included in the EU's climate goals until 2020 or in Sweden's national climate targets until 2020. However, the LULUCF sector is included in the EU's climate goals 2021-2030.

Sweden plans to continue the current policies and measures in the sector.

Swedish forest Act has two overarching, equal objectives: production and the environment.

The production objective means that forests and forest lands should be used effectively and responsibly so they produce sustainable yields. The direction of forest production should be giving flexibility in the use of what the forests produce.

The environmental objective means that the natural productive capacity of forest land should be preserved. Biodiversity and genetic variation in forests should be secured. Forests should be managed in a manner that enables naturally occurring plant and animal species to survive in natural conditions and in viable populations. Threatened species and habitats should be protected. Cultural heritage assets of forests and their aesthetic and social values should be safeguarded.

Under the current Forestry Act, production subsidies have been abolished and forest owners have considerable freedom and responsibility to independently conduct long-term sustainable forest management. The regulations concerning timber production cover the notification of felling, the lowest age for felling, requirements for reforestation, guidelines for thinning and measures to limit damage. Special regulations apply to certain types of forests,

such as subalpine forests and deciduous forests. Examples of regulations concerning nature conservation and cultural heritage include leaving important biotopes and buffer zones and arable land, and leaving older trees, high stumps and dead wood. Sustainable forest management influence carbon dioxide removals and emissions in various ways: production of renewable raw materials that can replace fossil fuels and materials that generate emissions of greenhouse gases while maintaining or increasing carbon stocks in biomass, soils and harvested wood products.

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Question by Japan at Friday, 12 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: Tracking progress of PaMs

Can you please tell us the following matters regarding Swedish monitoring and evaluation system of PaMs, described on page 25 of BR3?

(Climate Review)

- Is this review covering the Government's all climate policies?
- Can you please provide the preparation schedule of the climate review?

(Climate Policy Council)

- Who are the members of the Council and how do they conduct the assessments of the policies?
- How is the assessment result utilized?

Answer by Sweden, Friday, 07 June 2019

The Climate Policy Council is an independent scientific council with the task to assess if the overall policy of the Government is compatible with the climate goals. That includes all climate policies and all other policies. The Council publish one report every year. The assessment result is utilized by the Government for input to their Climate Action Plan and to improve their overall policy in order to achieve the targets. It is also utilized for accountability.

The council's yearly reports for 2018 and 2019 can be found at their website:

<https://www.klimatpolitiskaradet.se/summary-in-english/>

The terms of reference of the Swedish Climate Policy Council include:

- Evaluating if the present policy in different policy areas contributes or counteracts the climate goals
- Reviewing the effects of both existing and planned policies from a broad societal perspective
- Identify policy areas where additional measures need to be taken if the climate goals are to be achieved

Besides evaluating government policy, the Council is also tasked with evaluating the analytical methods and models which is the basis for the policy, as well as contributing to the debate regarding climate policy.

### **The Council members:**

Ingrid Bonde, chair

Johan Kuylenstierna, vice chair

Katarina Eckerberg, professor in political science, Umeå University

Karin Bäckstrand, professor in environmental social science, Stockholm University

Tomas Kåberger, professor in industrial energy policy, Chalmers University of Technology

Åsa Löfgren, associate professor in economics, Gothenburg University, School of Business, Economics & Law

Markku Rummukainen, professor in climatology, Lund University

Sverker Sörlin, professor in environmental history, KTH Royal Institute of Technology

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**Question by** Japan at Friday, 12 April 2019

**Category:** Progress towards the achievement of its quantified economy-wide emission reduction target

**Type:** Before 12 April

**Title:** National System for Preparation of NC/BR

In the section of "1.4 The National System for Policies and Measures" of BR3 (page14-15), detailed explanation of legal and institutional arrangements for the reporting in Sweden is provided. Can you please provide the following matters related to the institutional arrangements for the reporting to use them as a reference for the improvement of the BR/NC preparation system in Japan?

- Is there a different system for the preparation of NC and BR other than the system

described in section 1.4? If so, can you provide information on the overview of the preparation system, roles of each institution, preparation process and schedule?

- If the preparation system for NC/BR is the same as described in section 1.4, what are the roles of consultants (SMDEs) in preparation of the NC/BR? What are the differences in their roles to the role of Swedish EPA?

Answer by Sweden, Friday, 07 June 2019

### *Part I.*

The national system in Sweden cover preparation and submission of both the National Communication and the Biennial Report, as well as the National Inventory Report. The Ministry of the Environment (previously Ministry of the Environment and Energy) is responsible for the national system and for ensuring that Sweden meets international reporting requirements in the area of climate change. The Swedish EPA is responsible for producing the reports for the required reporting. The agency is thus responsible for coordinating Sweden's national system and for maintaining the necessary reporting system. The other government agencies are responsible for providing the data and documentation necessary for reporting. In some cases, the agencies are responsible for peer review of different sectors.

Swedish Energy Agency is responsible for producing projections on energy use in the energy sectors as well as delivering information on policies relevant for the energy sector excluding transport. The responsibility also includes reviewing of information on political strategies.

*The Swedish Transport Administration* is responsible for supplying information on relevant transport related policies and measures, as well as reviewing information on political strategies.

The Swedish Transport Agency delivers, inter alia, calculated projections of non-CO<sub>2</sub> emission. The responsibility also includes reviewing of information on political strategies and delivering information on policies.

Transport Analysis is responsible for reviewing calculated emission projections.

The Swedish Board of Agriculture is responsible for supplying information relevant for scenarios in the agricultural sector, as well as supplying information on policies relevant for the LULUCF sector. The Swedish Board of Agriculture shall also review generated scenarios in agriculture and LULUCF sectors and review information on policies in the LULUCF sector.

Swedish University of Agricultural Sciences (SLU) is responsible for generating emission projections for the LULUCF sector based on, inter alia, information supplied by the Swedish Board of Agriculture.

Swedish Forest Agency is responsible for supplying information relevant for emission projections in the agricultural sector, as well as providing information on policies relevant for agriculture and LULUCF sectors.

## *Part II*

The consortium of consultants, SMED (roughly translated into English as Swedish Environmental Emissions Data), are not directly involved in the preparation of the Swedish National Communication and Biennial Report. SMED have a vital role in the preparation of the Swedish greenhouse gas inventory, National Inventory Report, and CRF tables. Through the Ordinance on Climate Reporting (SFS 2014:1434), the Swedish government has assigned the national Environmental Protection Agency the responsibility of preparing for and fulfilling reporting obligations concerning the Greenhouse Gas Inventory, National Communications and Biennial Reports under UNFCCC. To deliver on these important tasks the EPA now procures expertise on, primarily, inventory preparation from SMED. As the work on the Swedish inventory has developed and grown more tasks, such as producing most parts of the National Inventory Report, has been moved to SMED.

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[Question by Thailand](#) at Friday, 12 April 2019

[Category:](#) All emissions and removals related to its quantified economy-wide emission reduction target

[Type:](#) Before 12 April

[Title:](#) GHG emission and removal

Sweden's third BR reported emission and removals in Land use, Land use change and Forestry sector from 1990-2015 (as shown in figure 1.12) which most of emissions in this sector are due to settlement and cropland, however in 2015, cropland was a small sink. Could Sweden explain a little more regarding the type of crops, areas and climate conditions how these factors really effect the estimation of emissions and removals?

[Answer by Sweden](#), Friday, 07 June 2019

The emissions and removals for mineral soils on cropland is modelled by the ICBM-model (you can read more about this in our National inventory report). In 2015 we grow more ley and cereals (on a bigger part of the cropland area) in Sweden and the climate was favorable not to much sun and enough of precipitation. The crop is also affected by the amount of



applied manure and in 2015 the harvest was good.

You can read more about the ICBM-model in a report which is attached to this response. If needed, the report will also be shared with interested parties via e-mail. Please send an e-mail to [klimatlufttrapportering@naturvardsverket.se](mailto:klimatlufttrapportering@naturvardsverket.se) and ask for the SMED report "New calibration of the ICBM model & analysis of soil

organic carbon concentration from Swedish soil monitoring programs" by Bolinder et.al.

Attachment: Report-ICBM\_Sweden.pdf

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[Question by Thailand](#) at Friday, 12 April 2019

[Category:](#) Progress towards the achievement of its quantified economy-wide emission reduction target

[Type:](#) Before 12 April

[Title:](#) Mitigation policy

Sweden has a very successful on waste policy, as shew in the figure 1.10 of Sweden's third BR. The most mitigation measures are recovery methane from landfills and the reduction of landfill disposal or organic material, the increased levels of recovery of materials, and waste incineration with energy recovery. Could Sweden clarify more on how these policies and plans are very effective and will Sweden plan to be a zero waste in the near future?

[Answer by Sweden](#), Friday, 07 June 2019

The most important policy instrument for GHG emission reduction is the banning of landfilling combustible and organic materials and methane collection from landfills. However, the policy instrument could have had negative implications had not other policies been in place, to ensure the waste could be recycled, treated and used for energy. In addition to the policy instruments listed in the Biennial Report under the waste sector, the Environmental Code plays an important role to ensure other environmental considerations besides the GHG emissions. Sweden does not have a specific target for the level of waste but is analyzing aspects of a circular economy and specifically analyzes the issue of how to reduce fossil plastics.

The long-term goal is a circular economy in which waste will not, in principle, arise, and society will retain its resources in circulation or return them into nature's own cycles in a sustainable way.

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Question by China at Wednesday, 10 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: overall progress

How is the overall progress towards achieving the renewable energy targets (both in total energy consumption and in transport sector) under Sweden's national targets for non-ETS sectors?

Answer by Sweden, Friday, 07 June 2019

Goals set up by Sweden state that by 2020 the total share of renewable energy in Sweden should be 50 % and that the transport sector should use 10 % renewable energy. The total share of renewable energy in Sweden was 41% in 2005 and 54% in 2016. The share of renewable energy in the transport sector was 6% in 2008 and 22% in 2017.

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Question by China at Wednesday, 10 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: transport sector

Comparing with other developed countries, Sweden has effectively controlled GHG emission from transport sector. What are the major drivers for the decrease in transport emission? And what kind of policy and measures would Sweden recommend the most for other countries?

Answer by Sweden, Friday, 07 June 2019

Emissions from domestic transport, where road transport dominates, increased after 1990, reaching a peak in 2006–2007, thereafter declining but this declining has slowed down since 2013. The decrease in emissions since 2006 can be attributed to policy instruments introduced both nationally and at the EU level. The most significant ones include emission performance standards for new vehicles, vehicle taxes and vehicle fuel taxes. These have resulted in more energy-efficient vehicles and a greater use of renewable fuels.

The Swedish policy is addressing three important shifts: more energy-efficient vehicles (including electrification); renewable fuels; and transformation to a more transport efficient society with less transport demand. All these are essential for achieving the Swedish CO2 emission target in the transport sector (70% reduction from 2010 to 2030, and then to zero by 2045).

Several instruments are in use, some of them are general (as the CO2 tax that has impact on all three shifts) while others are more narrow instruments. More instruments address passenger cars emissions than heavy transport. More climate instruments for heavy transports are needed and will be introduced in the future.

--Instruments until 2018--

Some of the instruments presented below has been in use until 2018 and has since been replaced by others, as shown by the text.

#### *Carbon dioxide tax and energy tax in the transport sector*

Petrol and diesel are covered by both an energy tax and a carbon dioxide tax. The carbon tax rate has been raised a couple of times since its introduction in 1991. As of 2017, tax rates on petrol and diesel are also each year adjusted to take into account the development of the gross domestic product (GDP). Energy tax on petrol is 4.08 SEK/liter (SEK = Swedish krona 0.10 Euro) and CO2 tax is 2.62 SEK/liter. Diesel energy tax is 2.48 SEK/liter and CO2 tax is 2.236 SEK/liter. Normal VAT, 25% is added upon that, thus also on the taxes.

Sweden applies tax reductions for sustainable biofuels. The tax reduction varied until 2018 between different kinds of biofuels and was between 36 and 100 % compared to fossil counterparts (2017). After July 1st, 2018 low blended biofuels in diesel and petrol (see below about Emission reduction obligation) is not tax exempted, while high blended biofuels are.

#### *Emission performance standards for new vehicles*

Manufacturers selling vehicles in the EU are subject to EU regulations that set emission performance standards for new passenger cars and vans as part of the Community's integrated approach to reducing CO2 emissions from light-duty vehicles. Under these regulations, new passenger cars should not emit an average of more than 95 g CO2/km by 2021. The standard for 2025 is recently set in the EU to be 35 % lower than 2021 emissions.

#### *Differentiated vehicle tax*

Since 2006, Sweden has differentiated the annual vehicle tax with respect to the vehicle's carbon dioxide emissions per kilometre. The CO2-related vehicle tax was SEK 22 per g

CO2/km beyond 111 g CO2/km in mixed driving. This CO2 component was multiplied by a factor of 2.37 for diesel cars, since diesel fuel has a lower energy tax than petrol. Cars adapted for alternative fuels such as ethanol and gas, except LPG, are taxed at a lower rate of SEK 11 per g CO2/km beyond the first 111 g CO2/km. The main purpose of the differentiation was to make car buyers chose cars with a low climate impact. This system is still in use for cars sold before 1st of July 2018 (This is now replaced by Bonus Malus)

#### *Super-green car rebate*

Buyers of passenger cars that met EU exhaust requirements Euro 5 or Euro 6 and emitted a maximum of 50 grams of carbon dioxide per kilometre was entitled to a super-green car rebate. The rebate was SEK 40,000 for private buyers of electric cars (see text below about Bonus Malus)

#### *Lower benefit value on cars with advanced environmental technology*

Company-registered cars represent about 50 % of new car registrations in Sweden. Many of these cars are made available to employees for private use. The benefits of private use of such cars are subject of tax but tax is lower for cars with lower emissions. In addition to this reduction, the benefit value of electric cars, plug-in hybrids and cars powered by natural gas (other than liquefied petroleum gas) were provided an extra reduction of 40 %, up to a maximum of SEK 16,000 annually.

#### *Local Climate Investment Program (Climate leap)*

Sweden has a comprehensive investment support called the Climate Leap<sup>1</sup>. Municipalities, companies, organizations and others can apply for investment support for measures to reduce climate impact, to a large extent related to the transport sector. Such as investments in biogas plants or the installation of charging points for electric vehicles

#### *Consideration of climate in long-term infrastructure planning*

In 2016, the Swedish Parliament decided on a new national infrastructure plan for 2018–2029. There is a clear requirement to take environmental and climate issues into account in planning.

In the long term, we consider it's important not building up transport needs with road transport when planning new infrastructure and also in planning of new communities, industry establishments etc. Future transports should, to a greater extent, be managed with energy efficient railways and shipping.

--Some important new instruments since 2018--

### *Emission reduction obligation (Fuel change)*

Since July 1st, 2018 Sweden has an emission reduction obligation called the Fuel Change. This puts an obligation on petrol and diesel suppliers to reduce carbon dioxide emissions from petrol and diesel by increased biofuel blending. Targets are for 2019 2.6% for petrol and 20% for diesel. Strengthened Targets for 2025 and 2030 are to be decided. Low blended biofuels are not tax exempted any longer, while high blended biofuels (like E85 (85% ethanol & 15% petrol, or biodiesel), still are.

### *Bonus-malus-system for new light vehicles*

A bonus malus-system for the purchase of new light vehicles is in effect from July 1st, 2018. Vehicles with low emissions of carbon dioxide will qualify for a bonus at purchase, while vehicles with high emissions of carbon dioxide will be taxed at a higher rate for the first three years. The system has replaced the tax exemption for environmentally friendly vehicles and super-green car rebate.

### *Charge at home-grant*

In the budget proposal for 2018, the Government proposes a charge at home-grant. Private individuals receive a rebate equaling 50% of costs for buying and/or installing charging stations for electric vehicles in their homes.

### *Aviation*

Aviation emissions are not included in the Swedish 2030 target but aviation – particularly the international aviation– is a very important source for climate impact, also as the high-altitude effects can nearly double the impact of carbon dioxide alone. Emissions are predicted to grow and are considered becoming a major future problem due to the lack of technical solutions for reducing emissions. An aviation tax was therefore introduced in Sweden on 1 April 2018. The tax has been designed as a tax on commercial flights and will be paid for passengers travelling from a Swedish airport. The airline that carries out the flight shall be liable to tax. Various levels of tax (SEK 60, 250 and 400) will be levied based on the aircraft's final destination. Aviation is also included in the EU Emissions Trading System for CO<sub>2</sub> emissions.

--Further reading--

For further information we recommend Sweden's Seventh National Communication on Climate Change:

[https://unfccc.int/files/national\\_reports/annex\\_i\\_natcom\\_/application/pdf/6950713\\_sweden-nc7-1-swe\\_nc7\\_20171222.pdf](https://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/6950713_sweden-nc7-1-swe_nc7_20171222.pdf)

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Question by China at Wednesday, 10 April 2019

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 12 April

Title: tax instrument

What are the social impacts of the tax instruments applied by Sweden in energy and transport sector?

Answer by Sweden, Friday, 07 June 2019

Sweden has not yet analyzed the full-scope socio-economic implications of tax instruments in the energy and transport sectors.

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Question by China at Wednesday, 10 April 2019

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 12 April

Title: conditional target

As a member state of European Union whose conditional 2020 target is 30% emission reduction comparing with 1990 level, what is the plan to further strengthen your mitigation actions and to enhance its pre-2020 ambition?

Answer by Sweden, Friday, 07 June 2019

In addition to its unilateral 20% reduction commitment, the EU made a conditional offer to move to a 30% reduction by 2020 compared to 1990 levels, as part of a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emission reductions and developing countries contribute adequately according to their responsibilities and respective capabilities.

While the conditions for the EU to move to a 30% reduction by 2020 compared to 1990 levels have not been met, the EU remains on track to reach its target of reducing GHG emissions by 20 % from 1990 levels by 2020 under the Convention (including aviation as covered by EU legislation, excluding LULUCF) as well as its commitment for the Kyoto Protocol second

commitment period (average emissions between 2013-2020 below 80% of base year emissions, jointly with Iceland).

In 2017, EU GHG emissions were down by 21.9 % from 1990 levels, according to preliminary data (covering emissions from international aviation, but not emissions and removals from land use, landuse change and forestry (LULUCF)). According to projections from 2017/2018, the domestic greenhouse gas reductions in 2020 compared to 1990 would be around 26% with existing measures and without the use of international credits (JI and CDM).

The European Commission and Member States are in continuous process of climate policy review and design, further strengthened by the development of integrated national climate and energy plans (NECPs) under the recently adopted Governance Regulation. Progress towards targets is monitored annually on the basis of greenhouse gas inventory information and projections (updated at least biennially) to inform policy development ( more information at: [https://ec.europa.eu/clima/policies/strategies/progress\\_en](https://ec.europa.eu/clima/policies/strategies/progress_en)).

More information about Swedish national targets for greenhouse gas emissions can be found at <https://www.government.se/articles/2017/06/the-climate-policy-framework/>

**Session SBI50 (2019)**  
Session closes at 08-06-2019  
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