

## **Roadmap for a low carbon economy by 2050**

Referring to the consultation on the Roadmap for a low carbon economy by 2050 the Norwegian Ministry of environment would like to give some remarks.

The Norwegian climate policy is founded on the objective of the Convention on Climate Change and the Kyoto Protocol and the scientific understanding of the greenhouse effect set out in the reports from IPCC. Climate change and emissions of greenhouse gases have been a concern of Norwegian policy since the late 1980s. As of today, Norway has a comprehensive set of measures covering almost all emissions of greenhouse gases.

Norway is working towards an ambitious global climate agreement that will ensure a maximum global mean temperature rise of 2° C compared to the pre-industrial level. This is necessary to avoid dangerous climate change that threaten life on earth, and will require political leadership by all nations. Global emissions will have to be reduced by 50-85 per cent by 2050<sup>1</sup>, most likely closer to 85 per cent.

### **White paper on Climate policy / national emission targets**

The latest white paper on Norwegian climate policy is Report No. 34 (2006-2007) to the Storting<sup>2</sup>: Norwegian climate policy. This white paper with the Storting debate and decisions are the foundation for the Norwegian climate policy. In these documents the general targets and the policy instruments to reach these targets are outlined. The main Norwegian climate targets are as follows:

- Under the Kyoto Protocol, Norway has an international obligation to ensure that its average annual greenhouse gas emissions in the period 2008–2012 do not exceed the 1990 emission level by more than one per cent. The Kyoto Protocol provides for parties to use the Kyoto mechanisms as a supplement to national measures in fulfilling their emission commitments.
- Strengthen Norway's Kyoto commitment by 10 percentage points, corresponding to 9 per cent below the 1990 level.
- Reduction of global greenhouse gas emissions by the equivalent of 30 per cent of our 1990 emissions by 2020. The Government considers that a realistic target is to reduce Norwegian emissions by 15-17 million tonnes CO<sub>2</sub> equivalents relative to the reference scenario presented in the National Budget for 2007, when CO<sub>2</sub> uptake by forests is included. In this case, about two-thirds of the cuts in total emissions by 2020 will take place in Norway.
- Norway has made a political pledge to achieve carbon neutrality, undertaking to reduce global greenhouse gas emissions by the equivalent of 100 per cent of its own emissions by 2050 at the latest.
- If an ambitious global climate agreement is achieved, in which other developed countries also take on extensive obligations, Norway will undertake to achieve carbon neutrality by 2030 at the latest.
- It is also a long-term objective for Norway to become a low-emission society.

The Government will in particular consider measures that will be cost effective with a projected rise in carbon prices over the lifetime of the investments, and that will not

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<sup>1</sup> compared to 2000 level

<sup>2</sup> The Norwegian parliament

necessarily be implemented in response to current policy instruments. In this connection, priority will be given to measures that promote technological developments. Measures may also be considered to encourage the population as a whole to begin a changeover to a low-emission consumption pattern sooner than they would as a result of the projected rise in carbon prices alone.

In addition to the targets mentioned above the 30 per cent target can be increased to correspond to a 40 per cent cut in emissions from the 1990 level by 2020, if this can contribute to agreement on an ambitious climate regime that includes specific emissions commitments on the part of the major emitters.

To secure that the 2020 ambition for national emission reductions is fulfilled the Government put in place the group Klimakur 2020 in 2008 (see below).

### **Policy instruments**

Effectiveness, cost effectiveness and the polluter-pays principle are key criteria in development of policy instruments. General policy instruments are a central element of the Government's domestic climate policy. Cross-sectoral economic instruments form the basis for decentralised, cost-effective and well informed measures to ensure that the polluter pays. More than 70 per cent of domestic greenhouse gas emissions are either covered by the emissions trading scheme, subject to the CO<sub>2</sub> tax or other taxes directed to reduce greenhouse gas emission. Certain sources of emissions cannot be incorporated into the emissions trading scheme or made subject to the CO<sub>2</sub> tax. In such cases, the authorities must use other instruments to reduce greenhouse gas emissions.

The Government's view is that further regulation should as a general rule be avoided in areas that are already regulated by means of general policy instruments. However, the Government wishes to retain the possibility of using other policy instruments in addition to emissions trading and taxes in these sectors too. For example, the petroleum sector is included in the emission trading scheme but is also subjected to CO<sub>2</sub> taxation.

In addition to demand-side instruments like emission trading and taxes, there is a need to support research on and innovation of climate friendly technologies such as renewable energy solutions and carbon capture and storage (CCS). Such measures should provide complementary support where markets do not provide the solutions.

In the white paper on Norwegian climate policy (Report No. 34 (2006-2007) to the Storting) the Norwegian emissions were subdivided into four sectors: Petroleum and energy, Transport, The manufacturing industries and Primary industries and waste management. The white paper sets out sectoral targets for these four sectors with the respective ministries as the responsible sector authority.

In the white paper, action plans have been drawn up for the following sectors: petroleum and energy, transport, the manufacturing industries, primary industries and waste management, the municipalities, and functions in the state sector. The main purpose of the action plans is to identify measures that will result in cost-effective emission reductions that are not currently implemented in the sector concerned. This is also the starting point for the targets set out for each sector. The sectoral targets are based on estimates, and will have to be reviewed in response to any changes in projections, costs, technological advances and other relevant

factors. The current estimate for the technical emission reduction potential for each sector is presented, together with measures the Government intends to initiate.

### **Climate cure 2020 and a new White Paper**

According to the climate policy White Paper from 2007, The Government intends to make five-yearly reviews of progress and how the use of policy instruments at national level should be further developed. In the White Paper the Government also proposed that an evaluation of climate policy and how policy instruments should be modified should be submitted to the Storting midway through the first Kyoto period. The Ministry of the Environment will submit its first review of the climate policy and the use of policy instruments to the Storting in 2011.

To secure that the Government has the best possible basis for proposals regarding instruments to reach the ambition for national emission reductions, a group consisting of Directorates “Climate Cure 2020” (“Klimakur 2020”) was established in 2008. The group was to carry out an analysis of mitigation costs and measures for achieving the 2020 target for domestic emissions. The “Climate Cure” group was lead by the Climate and Pollution Agency, and also included the Public Roads Administration, the Norwegian Petroleum Directorate, the Norwegian Water Resources and Energy Directorate and Statistics Norway.

“Climate Cure” was initiated by the Government in June 2008 with the mandate to analyse whether existing policy measures are sufficient to reach the Norwegian climate objectives in 2020, and to analyse mitigation options and policy measures. The project will also evaluate the need for mitigation options and measures in a longer perspective. “Climate Cure” delivered its findings in February 2010. The “Climate Cure” project has both a bottom up approach through in depth analysis of each sector (industry, oil manufacturing, energy production, energy use in buildings, transport, agriculture, and waste handling) as well as a top down approach through macroeconomic analysis of the consequences for the total economy in the long run perspective. Existing and additional mitigation options and policies in the various sectors are drawn up and analysed. The macroeconomic model can give an indication of the total cost, measured by the welfare loss, of the measures in the economy.

The main report from Klimakur 2020 outlined the main findings concerning possible compositions, effects and properties of necessary additional policy measures.

### **New White Paper in 2011**

According to the Climate policy White Paper from 2007, the Government intends to make five-yearly reviews of progress and how the use of policy instruments at national level should be further developed. The Ministry of the Environment will submit its first review of the climate policy and the use of policy instruments to the Storting in 2011. The “Climate Cure” report will be an important input to this white paper.

### **Important documents:**

- White Paper “Norwegian Climate Policy”:  
[http://www.regjeringen.no/pages/2065909/PDFS/STM200620070034000EN\\_PDFS.pdf](http://www.regjeringen.no/pages/2065909/PDFS/STM200620070034000EN_PDFS.pdf)
- The summary of the Climate cure report can be downloaded here:  
<http://www.klif.no/publikasjoner/2678/ta2678.pdf>

