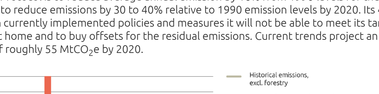
CLIMATE ACTION TRACKER

Norway

History: 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011

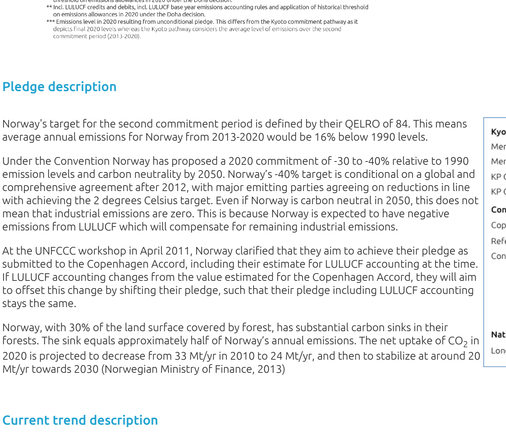
Page last updated: 30th November 2012

Rating



Assessment

Norway's target under the Kyoto Protocol is to reduce average annual emission by 16% from 1990 levels for the second commitment period. Under the Convention it pledged to reduce emissions by 30 to 40% relative to 1990 emission levels by 2020. Its 40% reduction target is conditional on global action. With currently implemented policies and measures it will not be able to meet its target. The national policy is to cut approximately 2/3 of emissions at home and to buy offsets for the residual emissions. Current trends project an increase of around 10% above 1990 levels, reaching emissions of roughly 55 $MtCO_2e$ by 2020.



* Excl. LULUCF credits and debits, excl. LULUCF base year emissions accounting rules and without application of historical threshold on emissions allowances in 2020 under the Doha decision.
** Incl. LULUCF credits and debits, incl. LULUCF base year emissions accounting rules and application of historical threshold on emissions allowances in 2020 under the Doha decision.
*** Emissions level in 2020 resulting from unconditional pledge. This differs from the Kyoto commitment pathway as it depicts Final 2020 levels, whereas the Kyoto pathway considers the average level of emissions over the second commitment period (2013-2020).

Pledge description

Norway's target for the second commitment period is defined by their QELRO of 84. This means average annual emissions for Norway from 2013-2020 would be 16% below 1990 levels.

Under the Convention Norway has proposed a 2020 commitment of -30 to -40% relative to 1990 emission levels and carbon neutrality by 2050. Norway's -40% target is conditional on a global and comprehensive agreement after 2012, with major emitting parties agreeing on reductions in line with achieving the 2 degrees Celsius target. Even if Norway is carbon neutral in 2050, this does not mean that industrial emissions are zero. This is because Norway is expected to have negative emissions from LULUCF which will compensate for remaining industrial emissions.

At the UNFCCC workshop in April 2011, Norway clarified that they aim to achieve their pledge as submitted to the Copenhagen Accord, including their estimate for LULUCF accounting at the time. If LULUCF accounting changes from the value estimated for the Copenhagen Accord, they will aim to offset this change by shifting their pledge, such that their pledge including LULUCF accounting stays the same.

Norway, with 30% of the land surface covered by forest, has substantial carbon sinks in their forests. The sink equals approximately half of Norway's annual emissions. The net uptake of CO_2 in 2020 is projected to decrease from 33 Mt/yr in 2010 to 24 Mt/yr, and then to stabilize at around 20 Mt/yr towards 2030 (Norwegian Ministry of Finance, 2013)

Kyoto Protocol	
Member of KP CP1 (2008-2012)	yes
Member of KP CP2 (2013-2020)	yes
KP CP1 target (below base year)	+1%
KP CP2 target (below base year)	-16%
Convention	
Copenhagen pledge	-30%/-40%
Reference for pledge	1990 emissions
Conditions (for higher pledge level)	Global and comprehensive agreement after 2012, with major emitting Parties agreeing on reductions in line with achieving the 2 degrees Celsius target
National goals	
Long term goal(s)	Carbon neutral by 2030

Current trend description

With currently implemented policies and measures, the latest projections for Norwegian national emissions are 55 $MtCO_2e$ in 2020 and 53 $MtCO_2e$ in 2030 (Norwegian Ministry of Finance, 2013 and CRF, 2013), which would be an increase of 10% and 6% respectively, compared to 1990. The effect of measures and policies adopted between 1990 and 2008 (including ETS) is estimated to yield a total reduction of about 16 $MtCO_2e$ in 2020. Nevertheless, this does not represent an absolute reduction since the population and economy is growing.

Apart from small dips in the early 90s and during the financial crisis, emissions in Norway have seen a slight but steady upward trend since 1990. The petroleum sector is the largest emitter in Norway, responsible for 26% of total emissions. Emissions from off-shore activities have increased by 80%, from 7 $MtCO_2e$ in 1990 to 14 $MtCO_2e$ in 2010, and are the main reason why Norway is not able to meet its pledge to reduce emissions nationally.

One reason for the projected development is the expected population growth and increased economic activity until 2020. Per capita national emissions (excluding petroleum off-shore activities) are expected to decrease 17% by 2020, as a result of mitigation measures. The petroleum sector contributes increasingly to emissions in the same period.

Policies and measures implemented since 1990 with the highest potential of reducing emissions are the CO_2 Tax, ETS and the Pollution Act. Other regulations are the Climate Change Agreement with the aluminium industry, and measures to reduce N_2O emissions from the production of nitric acid (Norwegian Ministry of the Environment, 2012).

Since 2008, Norway is part of the EU ETS.

The most conspicuous reductions have taken place in the petroleum sector, with annual reductions of 5 $MtCO_2$ due to the CO_2 tax and ETS (compared to BAU). Due to the CO_2 tax, Norway has separated and injected 1 $MtCO_2$ annually since 1996 at the Sleipner formation below the North Sea (Ministry of Petroleum and Energy, 2011).

Interesting particularities of the Norwegian situation:

- Norway has an extremely large renewable share (99% of electricity production), which makes emissions reduction in the energy sector difficult. Additional measures would imply shifting from fossil fuel use to renewable electricity.
- Petroleum production is entering a phase where the production fields are getting older and more energy intensive per unit produced, causing increased emissions even if production is stable.
- A support scheme for renewable electricity production was introduced in 2012 (green certificate system) and will provide 13 TWh new clean production by 2020. This could be used to phase out fossil energy use in building and transport, but can also be exported to neighbouring countries. A third alternative is to use the energy for industry purposes, for instance aluminium production.

It remains to be seen what the final utilisation of the new renewable electricity will be, as there are options with differing implications for Norway's emissions. Part of the additional renewable electricity could be used to cover increasing demand resulting from population growth; the demand is also dependent on the level of ambition of implemented energy conservation measures. Another option is to replace the entire Norwegian vehicle fleet with electric vehicles. This could use around 8-10 TWh and reduce emissions from fuels by 5 $MtCO_2$ (Zero, 2013). However, the official policy is aiming at a share of 5% electric vehicles by 2020. Since it is not clear what the additional renewable electricity would achieve, we have not included the resulting potential emission reductions.

Amendments to policy instruments implemented after 2007 are projected to provide a reduction in Norwegian emissions of up to 5 $MtCO_2e$ in 2020 (Norwegian Ministry of the Environment, 2012). Please note that these calculations are carried out on a very uncertain basis, and are therefore not included in our analysis. If verified these activities would contribute to bring Norway's emissions closer to its target.

Changes in energy use and electrification of off-shore installations are estimated to contribute a reduction of almost 2 $MtCO_2e$. New measures in private transport will also result in a 1 $MtCO_2e$ reduction.

Date of pledge: May 2012

Assumptions

Pledge

Targets for 2020 were calculated from the most recent national inventory submissions (2013).

While Norway intends to become a carbon neutral nation, only part (two-thirds) of the cuts in total emissions by 2020 would be made domestically and would include their LULUCF sector, which is currently a large sink. We assume emissions excluding LULUCF decrease to 80-95% below 1990 by 2050.

Norway has stated that they will maintain 1990 as their historic reference level for forest management.

Current trends

The current trend projections are based on the white paper no. 12 (2012-2013) (Norwegian Ministry of Finance, 2013). Historical data is based on CRF 2013.

Sources

CRF (2013). UNFCCC AWG-KP Submissions 2013. Common Reporting Format.

Government of Norway (2012a) Information by Parties included in Annex I listed in annex 1 to decision 1/CMP.7 on their quantified emission limitation or reduction objectives for the second commitment period under the Kyoto Protocol

Government of Norway (2012b) Submission to the Ad-Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP): Information by Parties included in Annex I listed in annex 1 to decision 1/CMP.7 on their quantified emission limitation or reduction objectives for the second commitment period under the Kyoto Protocol, 8 May 2012

Government of Norway (2011) Submission to the Ad-Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP): Forest management reference level

Government of Norway (2010). Norway's pledge to the Copenhagen Accord. Compiled in: Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention, UNFCCC (2011).

Government of Norway (2009a) AWG-KP - Submission by Norway, 20 February 2009, FCCC/KP/AWG/2009/MISC.1

Government of Norway (2009b) Submission to the Ad-Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP): Data on forest management

Norwegian Ministry of Finance (2013). Perspektivmeldingen 2013. Stortingsmelding Nr. 12 (2012-2013) (white paper)

Norwegian Ministry of the Environment (2012). Norwegian Climate Policy. Stortingsmelding Nr. 21 (2011-2012) (white paper).

Norwegian Ministry of Petroleum and Energy (2011). Fullskala CO_2-håndtering. Stortingsmelding Nr. 9 (2010-2011) (white paper)

Stoltenberg et al (2009) New policy platform for the red-green coalition Government Press release, Press release 7.10.2009, No.: 156/09

Zero (2013): Calculations on low-emission standards in vehicles by Benjamin Myklebust. Unpublished, available on request. Zero Emissions Resource Organisation, Oslo, Norway.

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