Norway's knowledge platform on Short-lived climate forcers (SLCF) – holistic thinking and multiple benefits for climate change and air quality

Vigdis Vestreng, Maria Malene Kvalevåg, Sigmund Guttu and Solrun Figenschau Skjellum, Norwegian Environment Agency
The challenge ahead of us
A few potential impacts of Climate Change

- Food and water shortages
- Increased poverty
- Increased displacement of people
- Coastal flooding
CO₂ is the most important forcer
Why do we care about SLCF?
Short-lived climate forcers:

- Black carbon, methane and tropospheric ozone, some HFCs, organic carbon and sulphur.
- Relatively short lifetime in the atmosphere - a few days to a decade.
- Location matters.
- Warming or cooling influence on climate.
- Also dangerous air pollutants, with various detrimental impacts on human health, agriculture and ecosystems.

Photo: Vigdis Vestreng
Rapid reductions are smart and possible

- Co-benefits (Climate, air pollution, food production).
- Health and food security are strong policy drivers.
- Mitigation of SLCFs slows down the rate of warming.
- Complimentary to CO$_2$.
- Implementation of measures can start before 2020.
Norway’s SLCF knowledge platform
Five elements of our knowledge platform

1. Emission inventories and projections.
2. Short-term climate effect.
3. Holistic analysis of policy measures.
4. Economic analysis.
5. Reduction strategies.
Challenges for SLCF policy development

- Norway’s SLCF action plan was the first of its kind.
- Scientific understanding evolves rapidly - complicates policy development.
- No universal methodological approach.
- No internationally agreed metric.
- Lack of international definitions and reporting guidelines for black carbon and organic carbon.
Important to assess net climate effect
A metric for the short term climate effect must consider:

- The methodology (GWP or GTP).
- The time period (e.g. 10, 20 or 100 years).
- The region - where the emissions occur (e.g. globally or in Norway).
- “GTP10,Norway” was developed for the Norwegian knowledge platform.
Important to reduce both short-lived climate pollutants and CO$_2$ in the short term.
The cost of measures decrease when health benefits are included.

600 NOK = 100 USD/tonne CO$_2$eq (GTP10, Norway)
Reduction strategies
Some selection criteria:

<table>
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<th>Measure</th>
<th>Cost-efficiency</th>
<th>Climate effect</th>
<th>Health effect</th>
<th>Effectiveness of instrument</th>
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</table>

Cost efficiency, climate and health effects are internally rated. Effectiveness of instrument is qualitatively.
Key messages

- Two-in-one solution: Climate and air pollution.
- Holistic approach is necessary to convey the right message.
- There is a need for internationally agreed definitions and methodology.
- Science still evolving, but strong case for action.
Norway’s way forward

- Calculate the short-term climate effect of “CO$_2$-measures”.
- Further develop the measures in the SLCFs knowledge platform.
- Contribute in international cooperation (CCAC, LRTAP, AC).

Photo: Hilde Knapstad