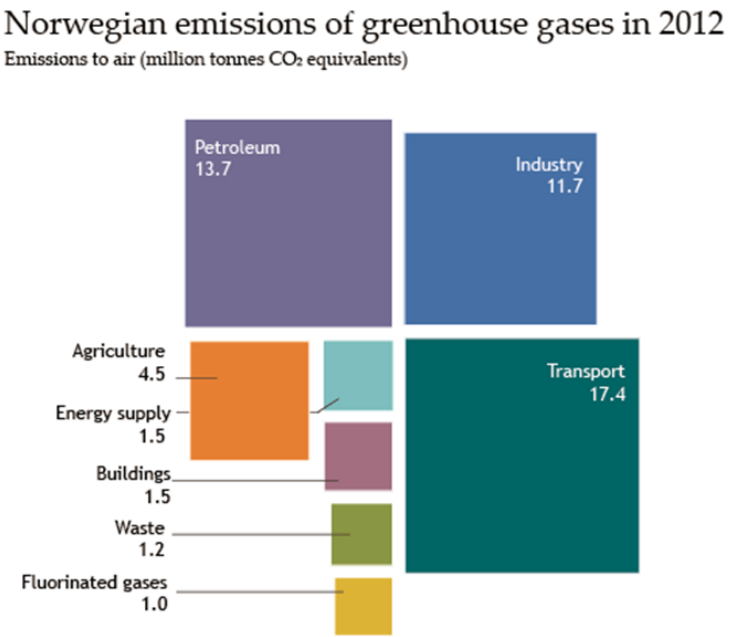
# National inventory system as a source for information for the mitigation policy planning

Audun Rosland, Director of the Climate Department, Norwegian Environment Agency

# GHG emissions in Norway

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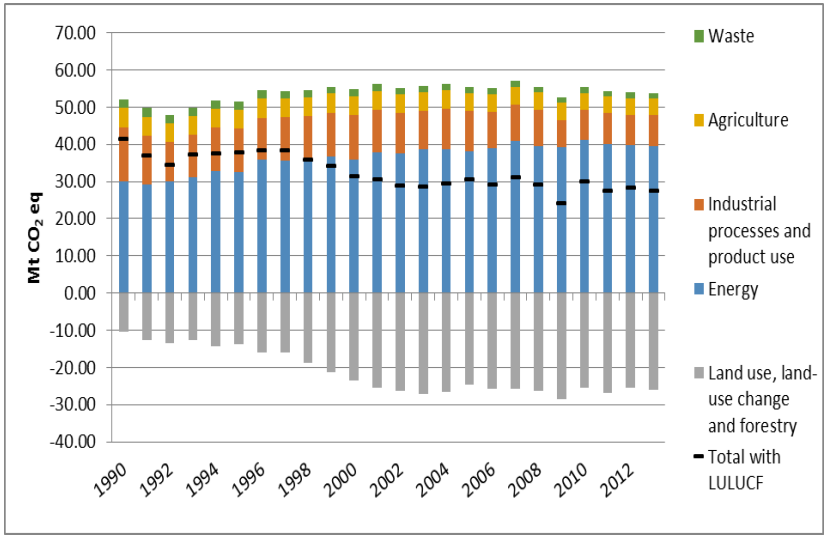
# GHG emission trend in Norway

- 3.3 per cent increase from 1990 to 2013 (excluding LULUCF)
- Net removal from the LULUCF increased by 147 per cent from 1990 to 2013
- LULUCF 2013 offset 49 per cent of emission from other sources

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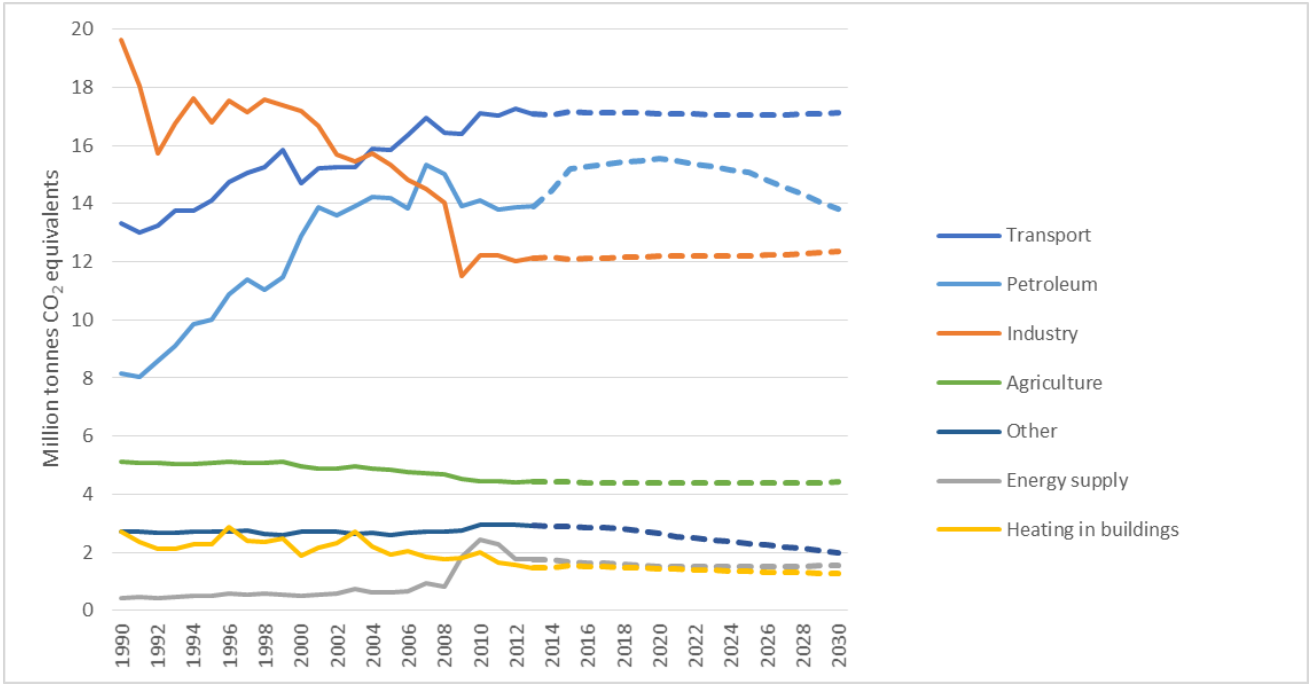
# Emission development by sector

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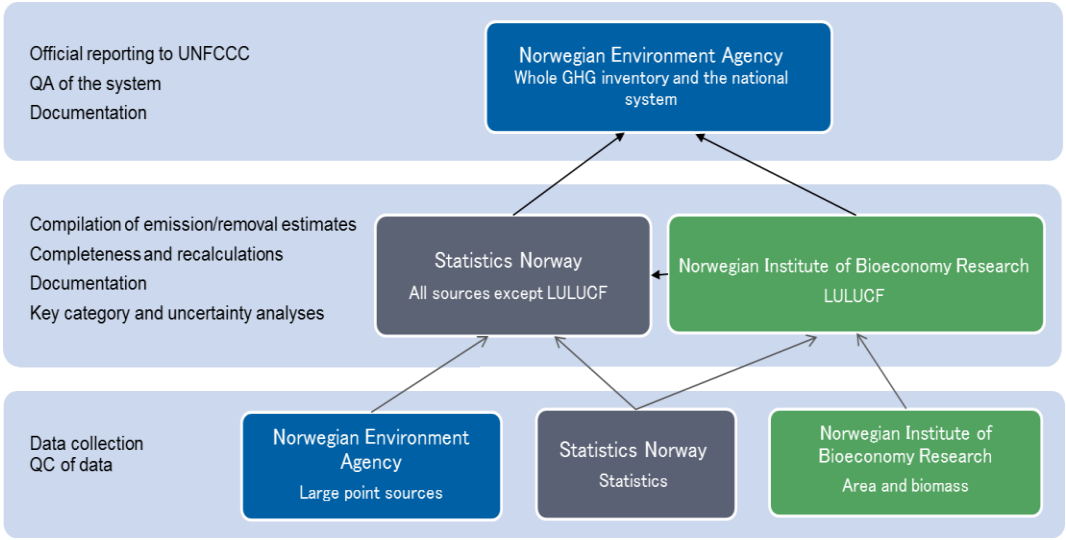
# Division of labour and responsibilities

- Norwegian Environment Agency national entity
- Three core institutions:
  - Norwegian Institute of Bioeconomy Research
  - Statistics Norway
  - Norwegian Environment Agency

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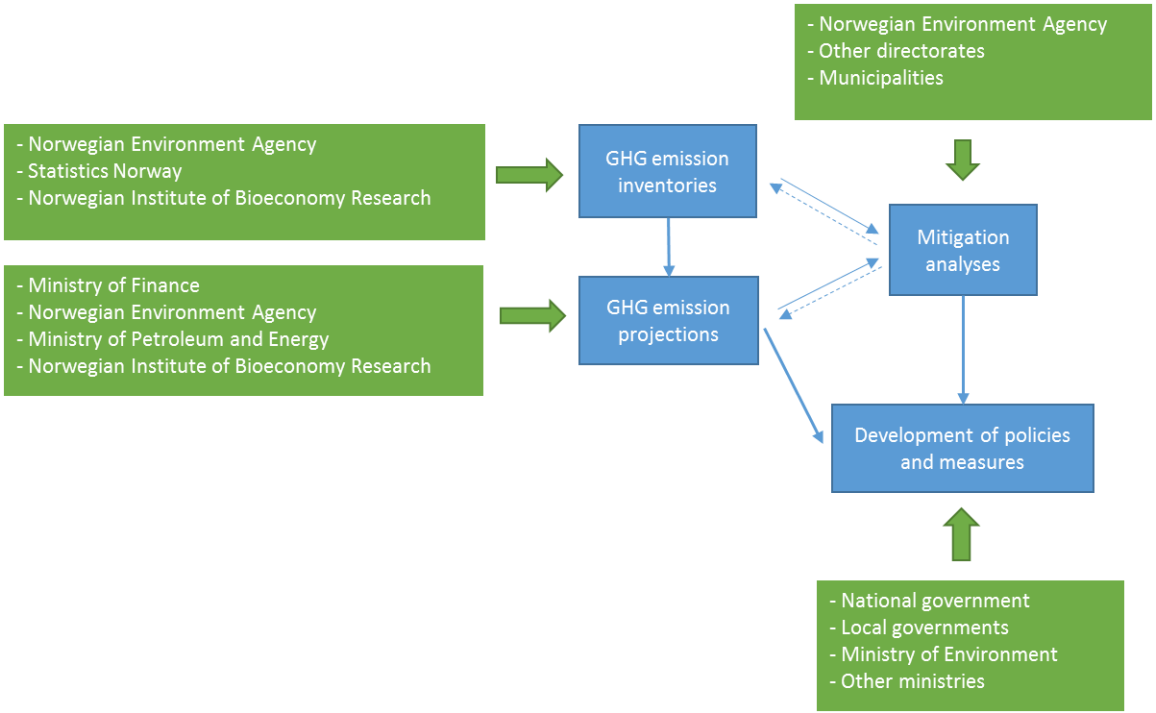
# Division of labour and responsibilities

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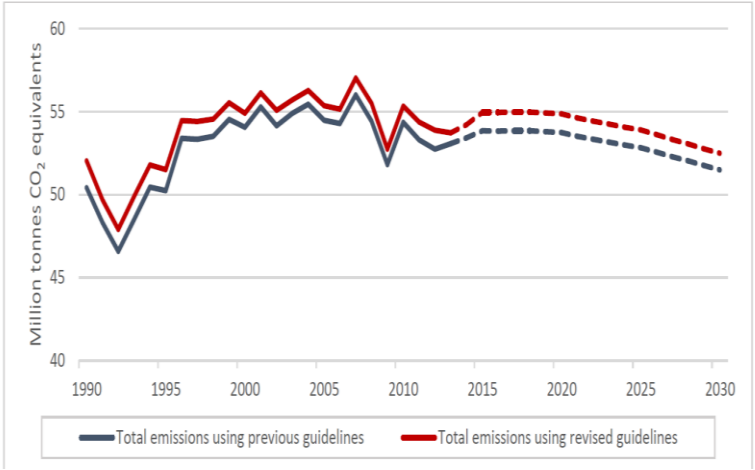
# Emission inventories basis for projections

- Updated projections include new policy and economical development
- Consistency between inventory and projection is necessary for useful mitigation analyses
- Timing of production cycles for inventories and projections can be challenging

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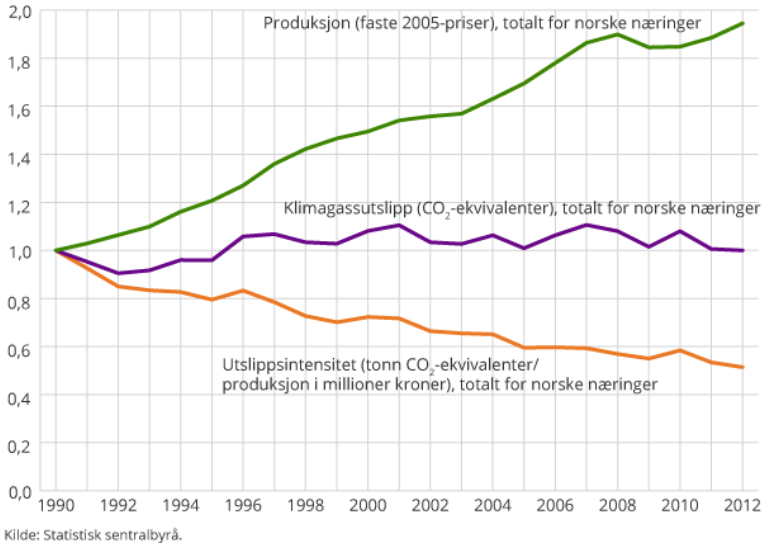
# Growth and GHG-emission have decoupled since 1990




GDP

GHG emissions

Emission intensity
(GHG relative to GDP)

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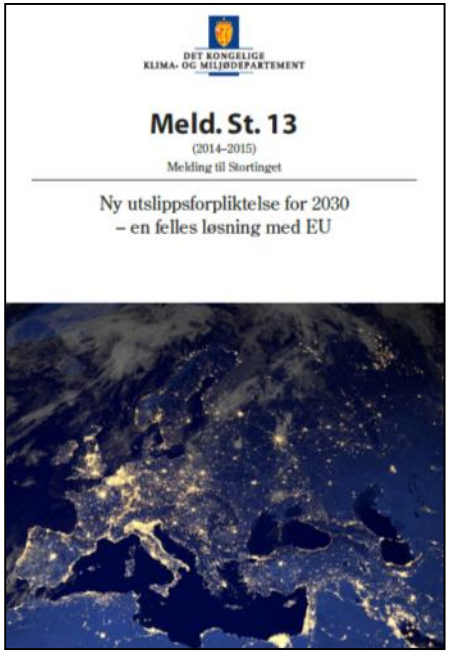
# Norway's indicative targets for 2030

- Reduce emissions by at least 40 percent in 2030, compared to 1990 level
- The government aims to join the EU 2030 framework for climate policies in order for Norway and the EU to jointly fulfil their climate targets
  - ETS sector: part of EU's cap
  - Non-ETS: burden sharing between 0-40 percent reduction

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# Recent mitigation analyses in Norway


March 2014: Phase 1


October 2014: Phase 2


June 2015: Phase 3

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# Using emission inventories and projections in mitigation analyses

- Emission inventories form the basis for evaluating where mitigation actions should be considered

- Inventories and projections form the backbone of the mitigation analysis, and mitigation actions are scaled according to this information

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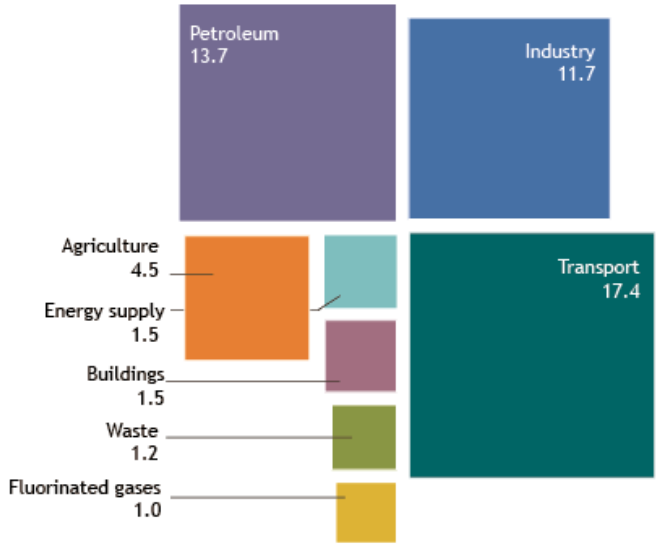
# Norway as a low emission society

## Norwegian emissions of greenhouse gases in 2012

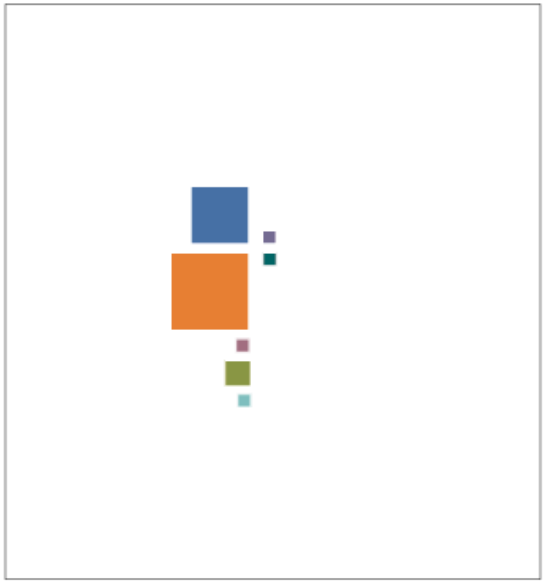
Emissions to air (million tonnes $CO_2$ equivalents)




10,5 tonne per capita

## Norske utslipp av klimagasser i 2050

Tonn $CO_2$-ekvivalenter



1 tonne per capita

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# Approach for mitigation analysis

84 different mitigation measures were assessed

- Mitigation potential for the period 2015 – 2030 was calculated
- All measures were «categorized» according to costs and «feasibility» (technical og possible policy instruments)
- Increased demand for renewable energy was calculated

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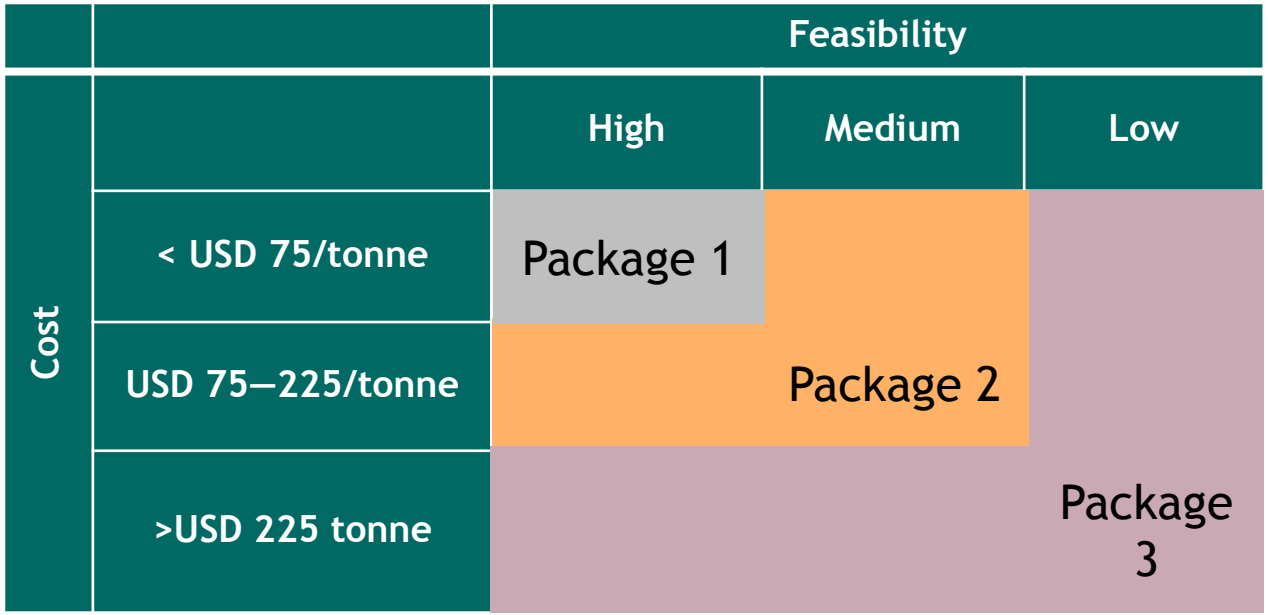
# Mitigation analysis for 2030

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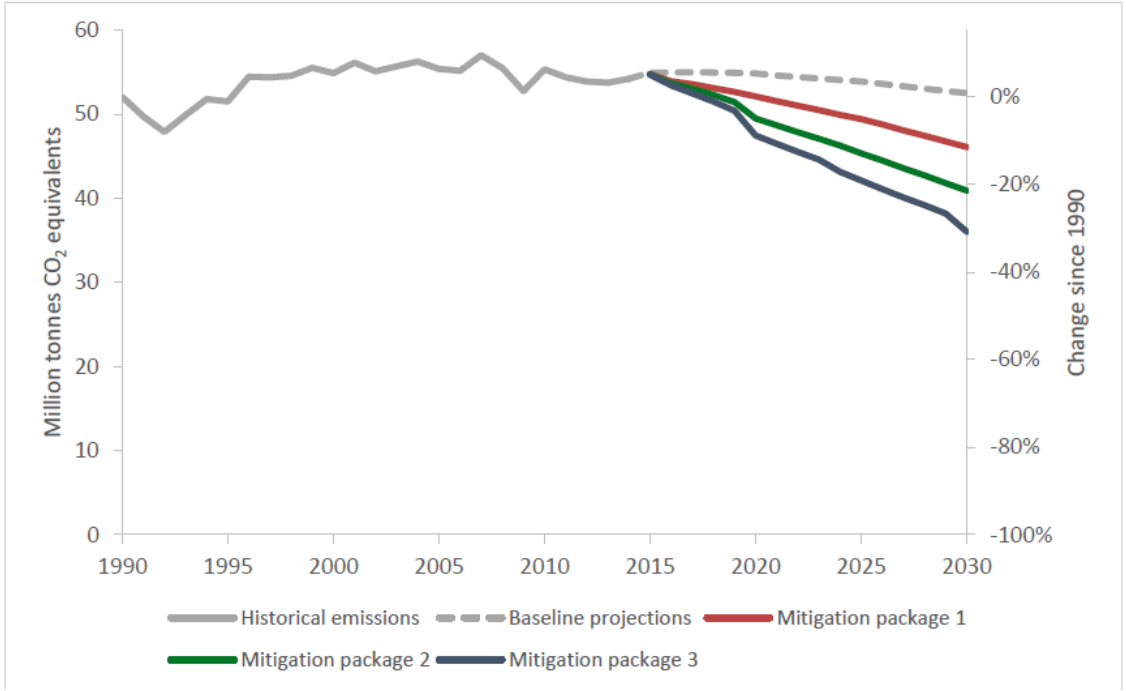
# Potential effects of «mitigation packages» towards 2030




---Package 1

---Package 2

---Package 3

--- BAU

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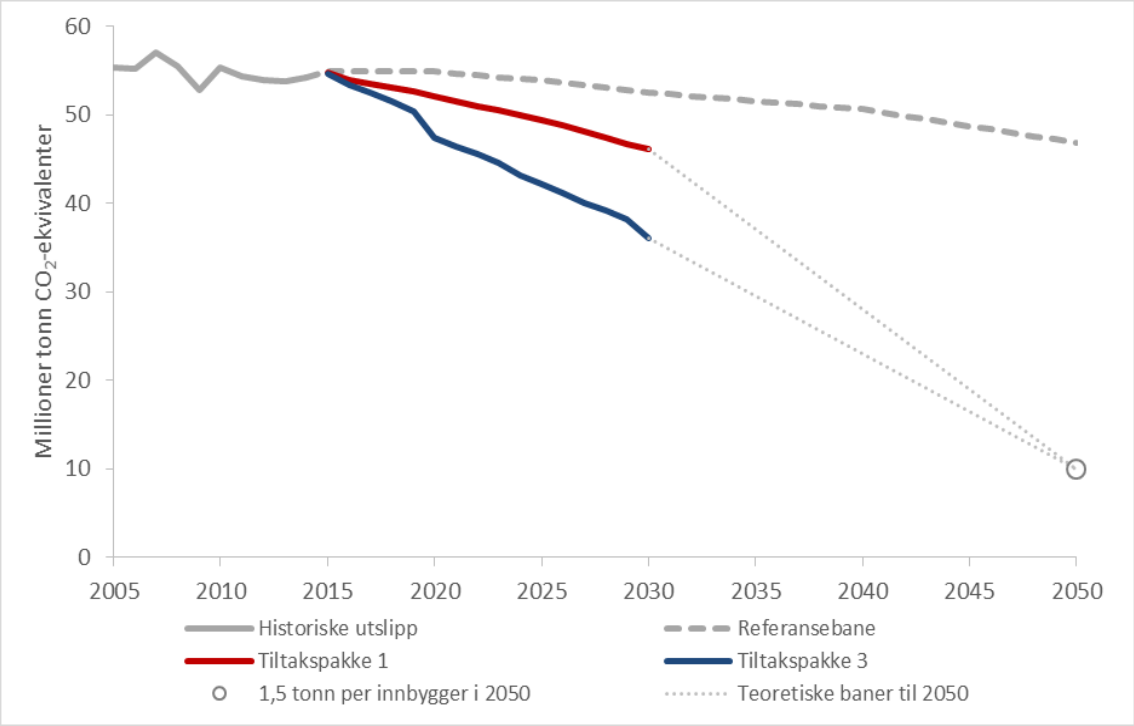
# Towards the low emission society in 2050

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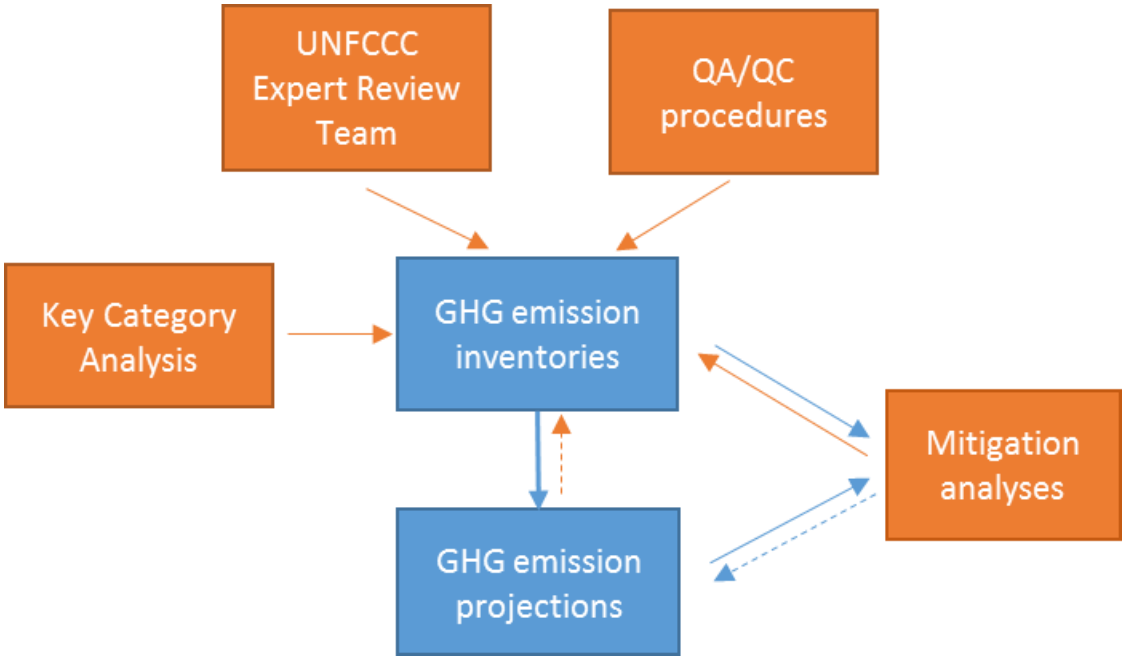
# Improving emission inventories

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