



PBL Netherlands Environmental  
Assessment Agency

# Monitoring climate targets in the Netherlands

Outline of the  
methodologies involved

12 February 2014 | Martijn Verdonk



## Content

1. Which climate targets?
2. How are these monitored?
3. Food for thought

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# Which climate targets are relevant for NL?

## ■ 2020 climate targets

- EU ETS: 21% GHG reduction between 2020-2005
  - › Banking fully allowed
  - › CDM & JI allowed up to 50% of EU-wide reduction 2008-2020
- EU Non-ETS: 10% GHG reduction between 2020-2005
  - › Shared among EU Member States (NL effort is 16%)
  - › Limited use of flexibility (trade, CDM/JI, borrowing)

## ■ 2030 climate targets

- EC proposal of 40% GHG reduction between 2030-1990
- NL ambition of at least 40% GHG reduction 2030-1990 in EU context

## ■ Long term ambitions of 80-95% reduction by 2050 in EU

## How is progress monitored in the Netherlands?

- Ex-post
  - Annual inventories of GHG emissions
  - According to guidelines of IPCC, EU ETS, EU MMR
  - Coordinated by the Dutch Emission Register
    - › for ETS: the Dutch Emissions Authority
  
- Ex-ante: projections of GHG emissions (& energy, air pollutants)
  - Every few years: 2005, 2010, 2012 (last) and 2014 (next)
  - Joint effort of PBL and ECN



## Projection scenarios & included policies

- **Projections up to 2020** based on most plausible developments (*forecast*)
- **Projections between 2020-2030**: business as usual (*scenario*)
  
- Two basic policy scenarios
  - **With Existing Measures**
    - › EU policies (ETS, RED, Ecodesign, CO2-norms cars etc)
    - › National policies (RES feed-in, efficiency covenants, ..)
  - **With additional measures**
    - › More stringent CO2-norms for cars, higher energy-efficiency standards for buildings, fiscal policies (mobility, coal use)

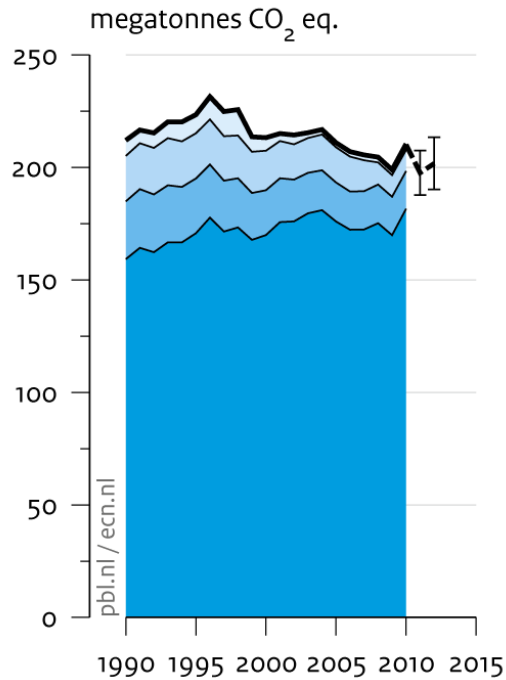


# Overview of general methodology of projections

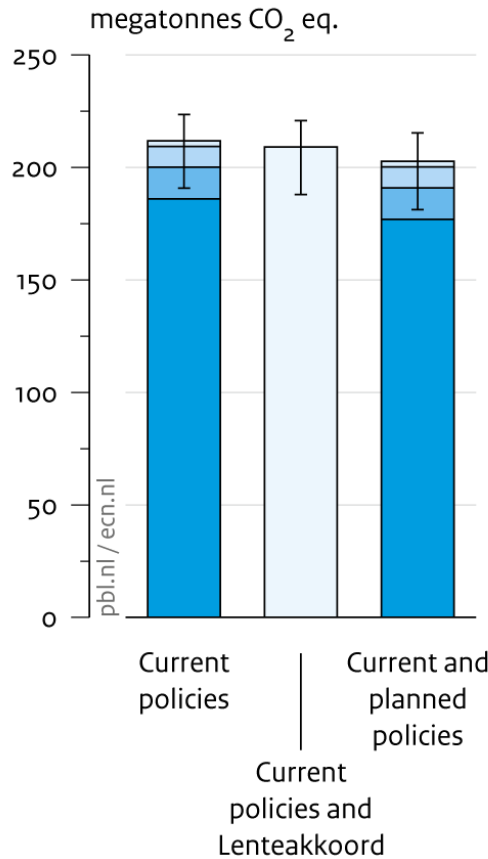
1. Determination of **activity levels** (*i.e. tonnes of steel, vehicle kms, livestock numbers*)
  - based on economic, fossil fuel prices, demographic developments
  - Using input-output & general equilibrium models
2. Modelling of **energy demand**
  - based on technological progress & costs, policies and energy prices
  - Using sectoral models for industry, buildings, transport
3. Modelling of **energy supply**
  - based on technological progress & costs, policies and energy prices
  - Using sectoral models and a model for the electricity market
4. Calculation of projected **emissions**

# Emission of greenhouse gases per gas

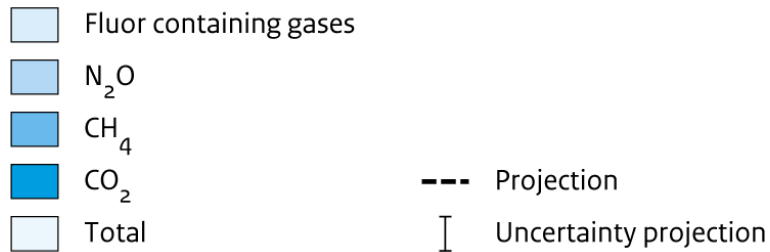
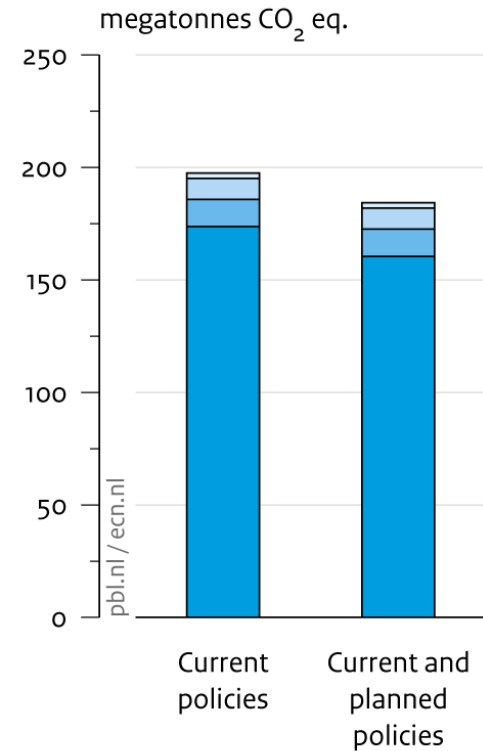
Realisation



Projection, 2020



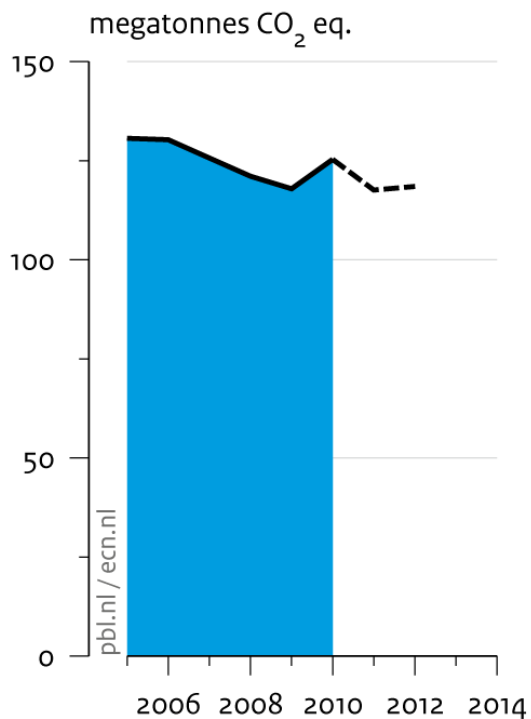
Longterm projection, 2030



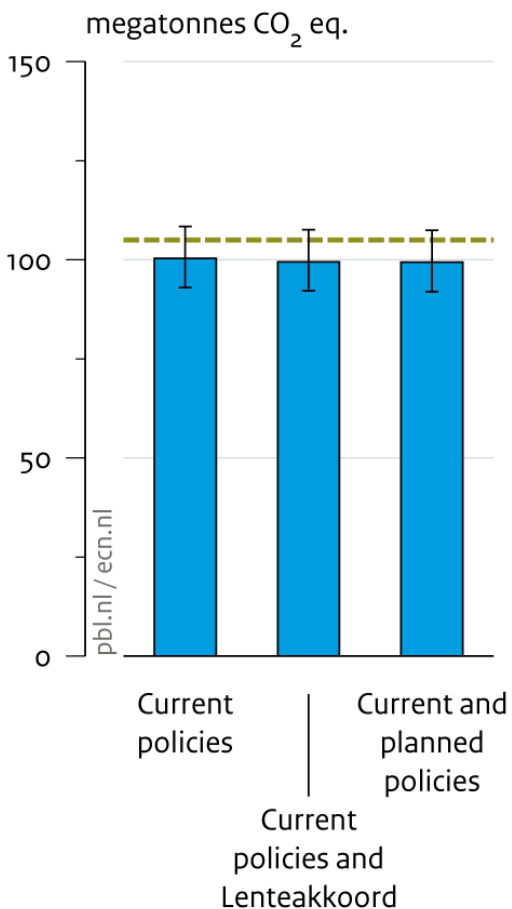
Source: PBL Netherlands Environmental Assessment Agency and ECN

## Emission of non-traded greenhouse gases

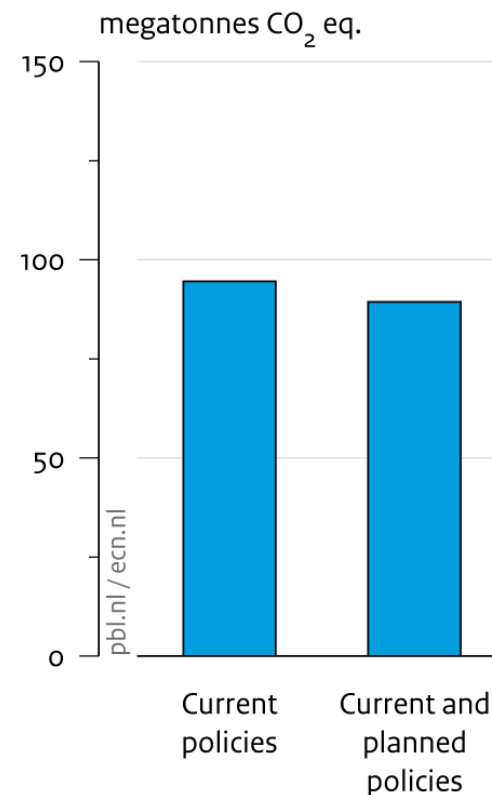
Realisation



Projection, 2020



Longterm projection, 2020



- Central projection
- - - Projection
- - - Emission budget
- | Uncertainty projection





## How are these projections used?

- Distance to target: is government on track to meet its goals?
  - Published in 'Environmental Balance' by PBL
  - Submitted to EEA for their annual Trends and Projections report
  - Submitted to UN for National Communications et cetera
- Steering information for policy makers (such as for)
  - CDM purchase program in 1st Kyoto periode
  - Non-ETS sectoral climate policies up to 2020 (and beyond)
- Policy analysis by PBL and other researchers
  - Effects of new national or European policies, programmes of political parties and coalition agreement, covenants with stakeholders

## Some food for thoughts

- Dutch projections serves multiple purposes, including distance to target analysis. Projection *making* is a significant effort.
  - What level of detail is required for rating carbon markets?
  - To what extend/detail are policy assessments required? For instance, interaction of national/international polices can have profound impact on effectiveness of carbon markets (i.e. offsetting, RES subsidies)
- Although projections are made with care, they are also built on numerous assumptions using models. Uncertainties are therefore unavoidable.
  - What role can projections play in rating carbon markets?
  - How to rate likelihood of implementation?



# Thank you for your interest!

[martijn.verdonk@pbl.nl](mailto:martijn.verdonk@pbl.nl)