The OptionsDocument for BOLK

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OptionsDocument : what ?

- Tool to assess potentials, effects, … on top of a reference situation for NL.

- Target year is 2020.

- Optimises (cost-efficiently) how reduction levels can be met.

- Shows which options fill in the gap.

- Options are described in factsheets (technical potential, costs and effects).

- Tool developed in AIMMS language, handles both input and output.

OptionsDocument : how does it work

Option factsheets   Database   Tool

Background data

Results

Energy research

OptionsDocument : BOLK work

- Updated factsheets based on new information, knowledge from 4 detailed reports (stationary biomass, biofuels, LCA of biofuels and CCS).

- Reference scenario update of 2009 used as background for emissions, fuel costs and scaling of option potentials.

- Translation of policy targets into OptionsDocument suitable information

OptionsDocument : BOLK work

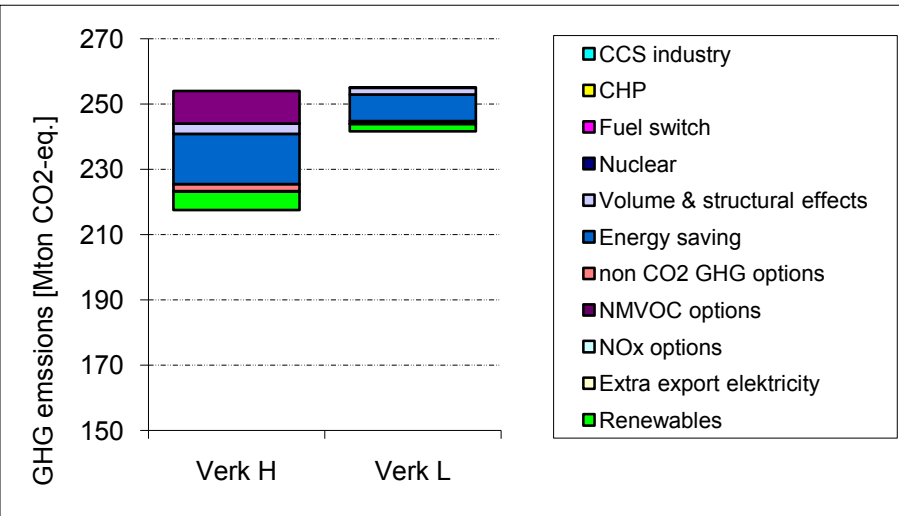| Option	CO_2 reduction (Mton)	Costs (€/ton)	Co-impacts (kton)
CCS new coal power plant	12	35	-4.5 SO_2 +2.9 NH_3 +1.7 NO_x
Biogas from manure digestion	3.2	189	-7.4Mt CH_4 (CO_2-eq) +4.4 NO_x +2.0 NMVOC +0.3 SO_2 +0.1 PM_{10}
2nd generation biofuel mix	0.5	481	-0.2 kton NO_x +0.1 kton SO_2

Policies in OptionsDocument : 1) C&E

- Clean and Efficient Outlook used (low and high variant, 2009) to determine a number of instrumentation packages
with their effect.

- Coverage of instrumentation translated to options.

- Effect of instrumentation translated to implementation level of options.

Sectors	GHG reduction (Mt) uncertainty range	
	Low	High
Energy	1.0	10.0
Industry and Refineries	0.0	1.6
Transport	6.5	13.4
Residential	3.5	5.8
Commercial, Trade, Services	1.2	2.3
Agriculture	0.1	1.7
Non CO2 GHG	0.8	1.5
Export of electricity	-1.0	0.0
Total	13.1	36.3

- Fixed solution, no optimising, simulation of GHG-effects, side effects for air pollutants additional outcome.
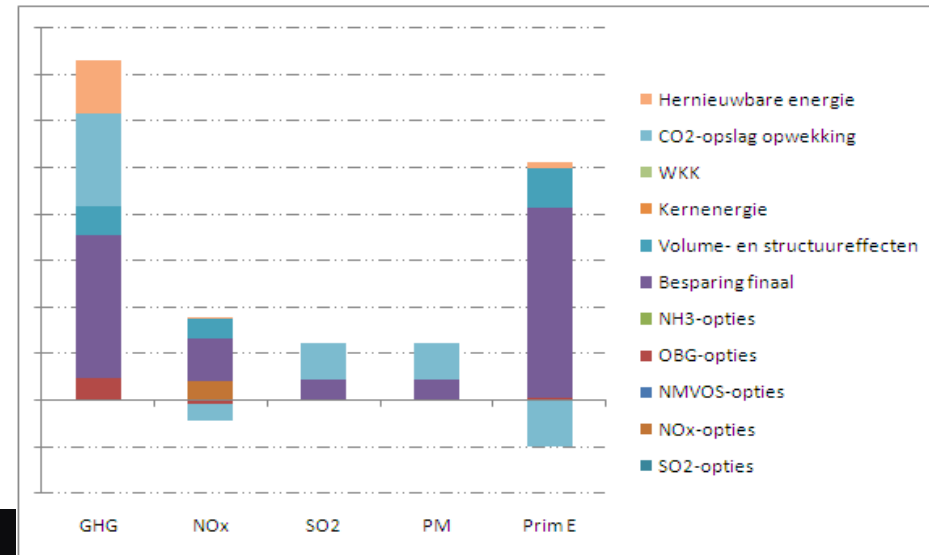
Policies in OptionsDocument : 2) NL and EU targets

- C&E Outlook used as starting point
- Options' potential reduced with implemented fraction from C&E
- NL and EU targets translated into GHG emission
- Additional boundary conditions for PJ primary energy saved and PJ renewable energy based on target %
- Optimal solution to reach these multiple targets at the same time, side effects for AP additional outcome.
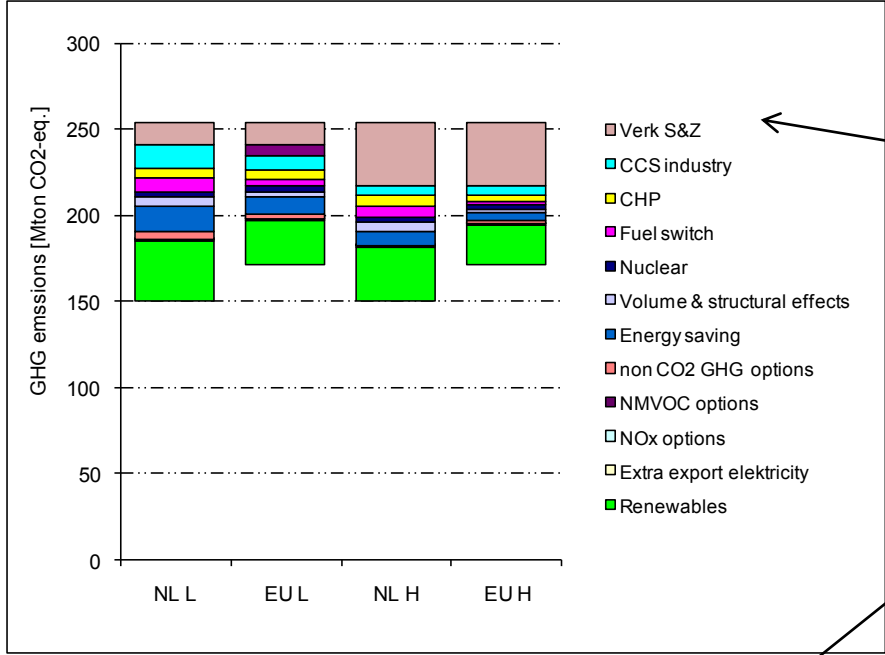
Results from OptionsDocument : 1) C&E
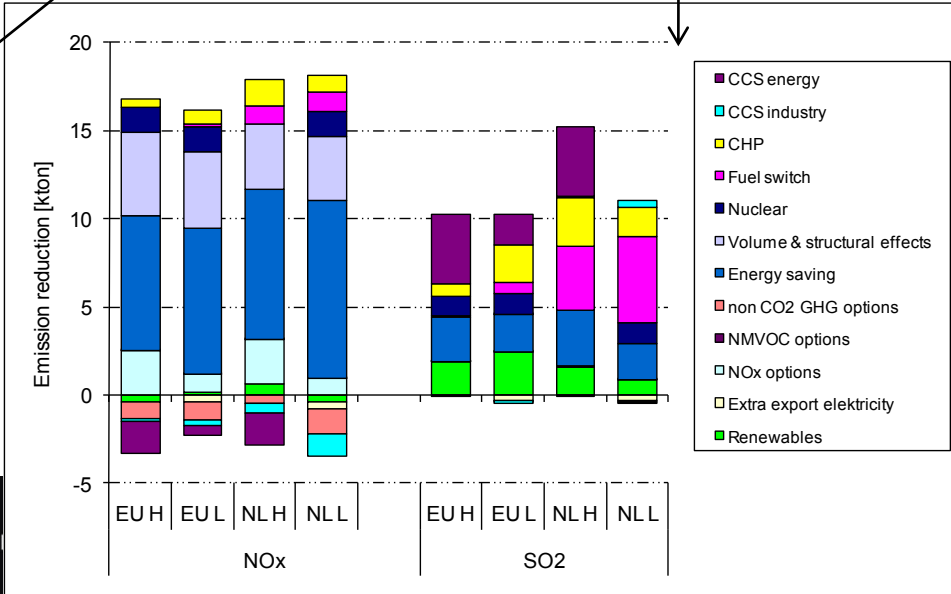
Results from OptionsDocument : 2) NL and EU targets

Direct GHG reductions

Side effects air pollutants

Indicator level

	URGE	Verk S&Z	NL target	EU target
Renewable energy	4.9%	5.8% -7.3%	17.7% -18.5%	14%
Energy saving	0.8%/a	1.10% -1.38%/a	2.0% /a	-

Outlook OptionsDocument

- Update with Raming 2010 (RR-V).
- Actualisation NEC effects options
- Estimation NEC effects RR-VV

Wishlist

- Overhaul options in building sector, industry, agri- & horticulture, CHP
- Extension to 2030
- ….

Questions?

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