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Progress in the development of national baseline scenarios

37th Session of the Task Force on
Integrated Assessment Modelling, Geneva, Feb. 22-24, 2010

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Data sources of draft national projections for Gothenburg Protocol revision: energy

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National scenarios	IEA WEO 2009	PRIMES 2008 C&E (NEC report #6)	
Austria (transport only)	Albania	Belgium	Latvia
Croatia	Belarus	Bulgaria	Lithuania
Czech Republic	Bosnia-H.	Cyprus	Luxembourg
Denmark	Moldova	Estonia	Malta
Finland	Russia	France	Poland
Greece	Serbia	Germany	Romania
Ireland	Ukraine	Hungary	Slovakia
Italy		Turkey	Slovenia
Netherlands		TFYROM (PRIMES2009)	
Norway			
Portugal			
Spain			
Sweden			
Switzerland			
UK			

Data sources of draft national projections for Gothenburg Protocol revision: Agricultural projections

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National scenarios	FAO outlook 2003	CAPRI 2009 projections	
Austria	Belarus	Belgium	Latvia
Croatia	Moldova	Bulgaria	Lithuania
Finland	Russia	Cyprus	Luxembourg
Ireland	Turkey	Czech Republic	Malta
Italy	Ukraine	Denmark	Norway
Netherlands		Estonia	Poland
Romania		France	Slovenia
Slovakia		Germany	Portugal
Spain		Hungary	
Sweden		Greece	
Switzerland			
UK			

Review process

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- Activity data, emission factors and resulting emissions were prepared for review:

<http://gains.iiasa.ac.at/index.php/policyapplications/gothenburg-protocol-revision>

- Additional comments and material sent by 10 countries have been implemented.
- Most countries that have sent national scenarios provided also info on control strategies (e.g., national interpretation of flexibilities in the Commission's proposal for IED). For other countries the effects of those flexibilities on uptake of control measures in 2020 will be checked based on ENTEC analysis.
- Transport emission factors and assumptions about turnover for all EU and EFTA countries based on COPERT IV model.
- Draft final version will be made available on March 1, 2010

Base year inventory for 2005

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For many countries there are disagreements between national and IEA energy statistics

- 2 versions in GAINS:
 - National scenario: use of national statistics
 - PRIMES scenario: use of IEA/PRIMES statistics

There are differences between national inventories reported to CEIP and GAINS estimates

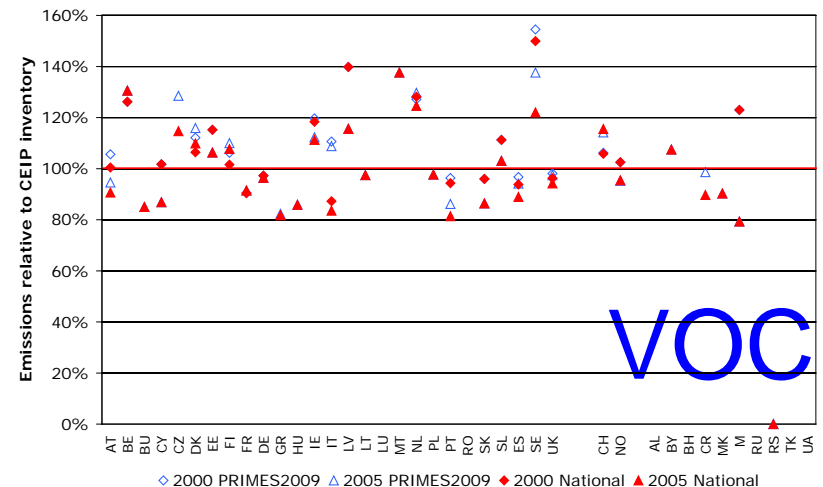
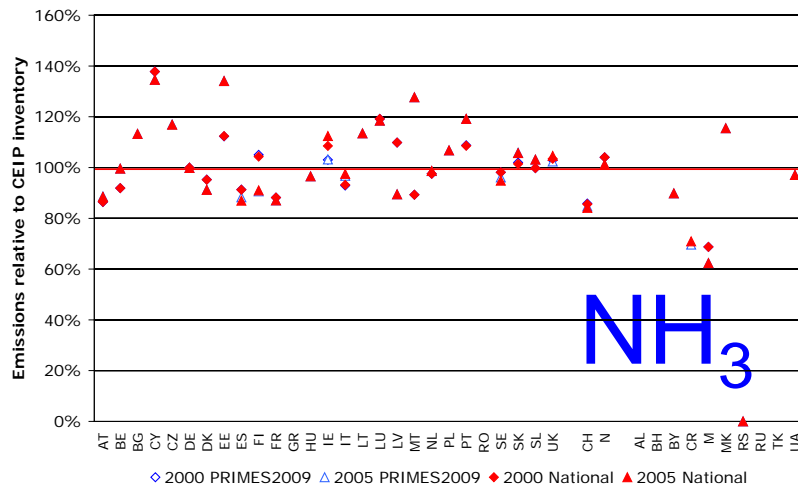
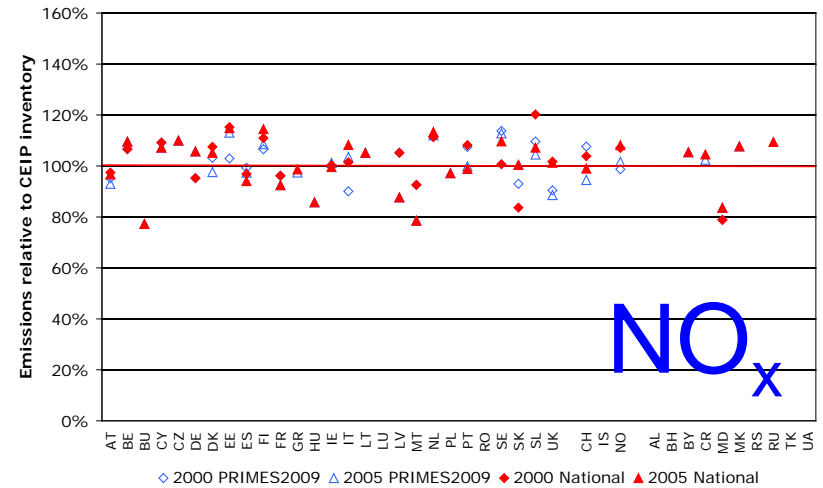
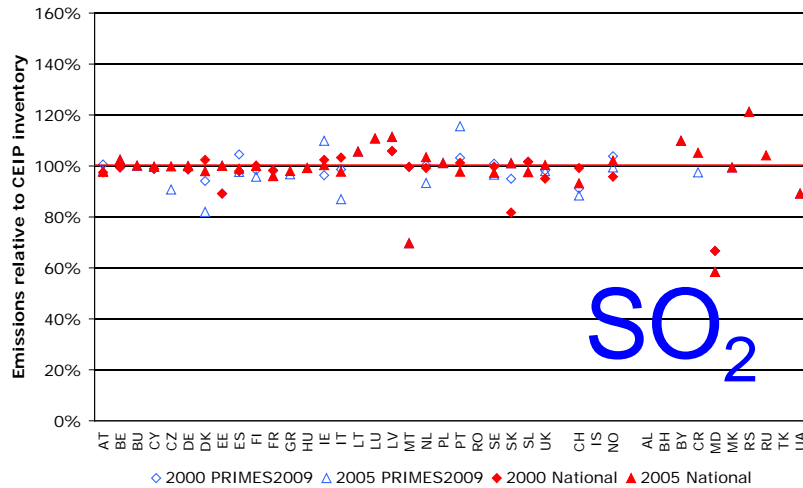
- National inventories are moving targets as national inventories for 2000 and 2005 keep changing
- Main reasons for disagreement:
 - Different energy/activity statistics
 - Missing sources in national inventories
 - GAINS uses COPERT emission factors
 - Insufficient communication with national experts

Emission estimates for 2000 and 2005

GAINS estimates (draft) vs. CEIP Aug2009 inventory

PROVISIONAL RESULTS

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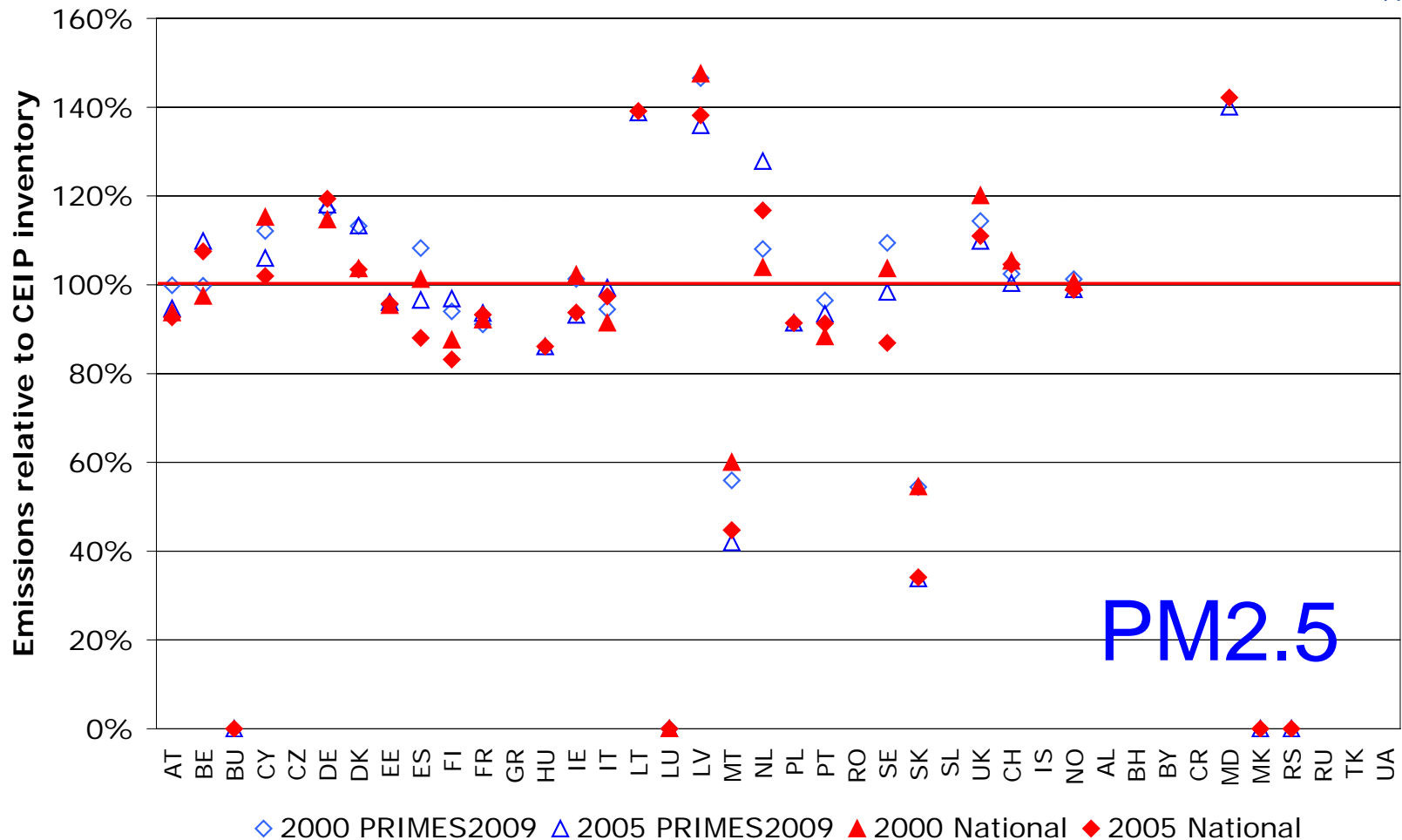


PM2.5 emission estimates for 2000 and 2005

GAINS estimates (draft) vs. CEIP Aug2009 inventory

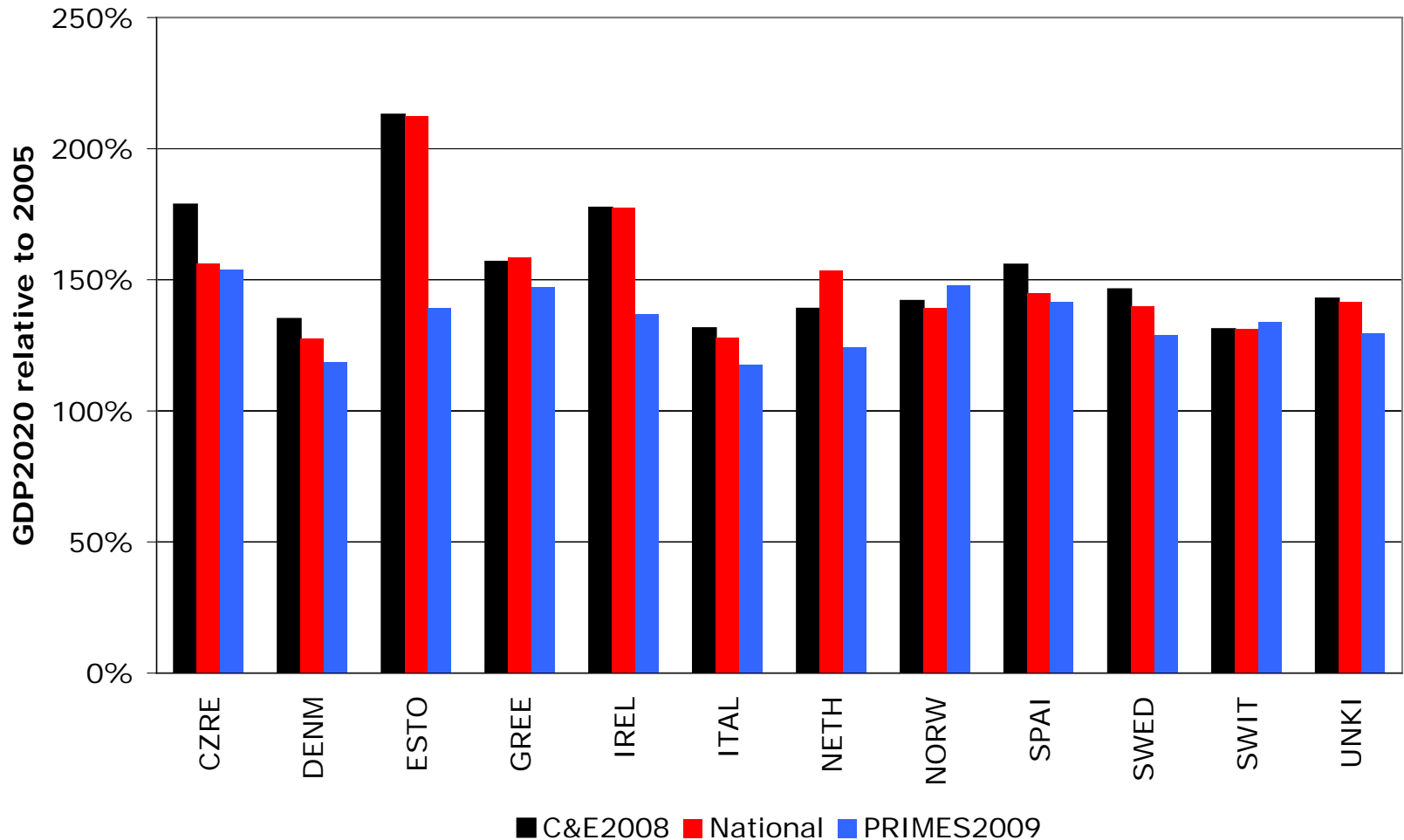
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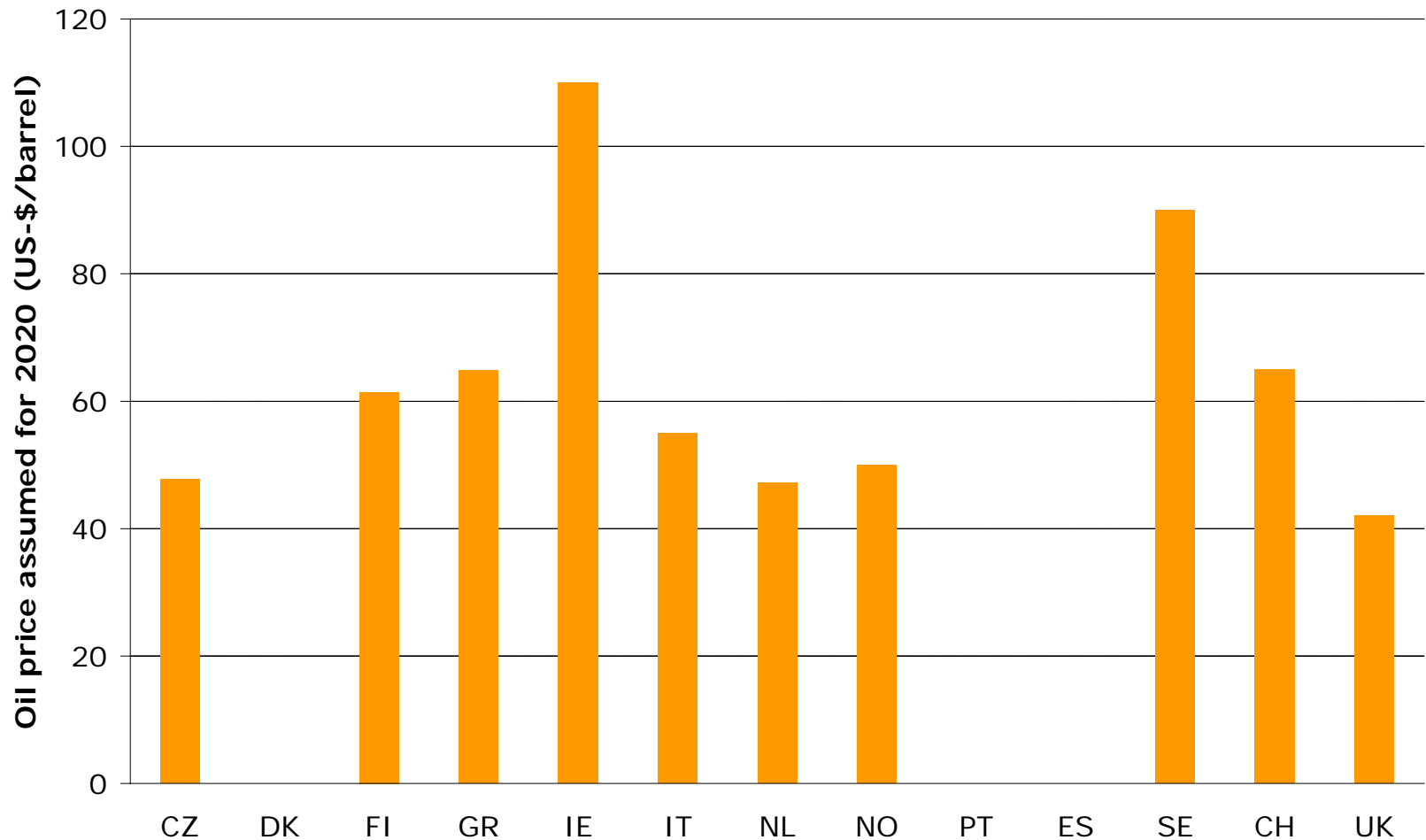
Comparison of assumed GDP growth between 2005 and 2020

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Comparison of oil prices assumed in national scenarios for 2020

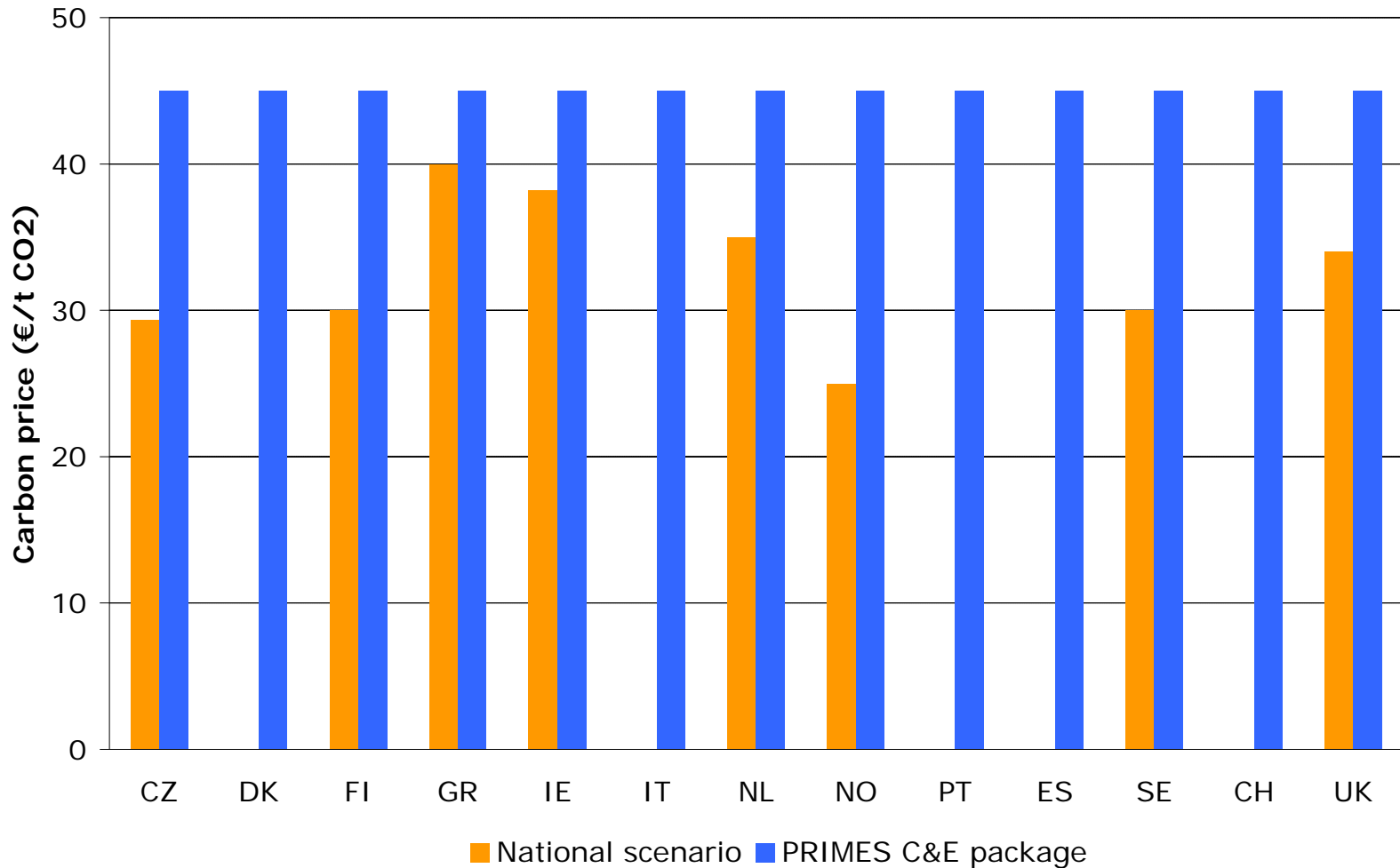
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Comparison of carbon prices assumed for 2020

National scenarios vs. PRIMES C&E package

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Baseline emission projections

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National projections:

- Energy
 1. National scenarios, if available
 2. PRIMES 2008 Climate & Energy Package, if available
 3. IEA World Energy Outlook 2009
- Agriculture
 1. National agricultural projections, if available
 2. CAPRI projections
 3. FAO 2008 projections

PRIMES 2009 baseline

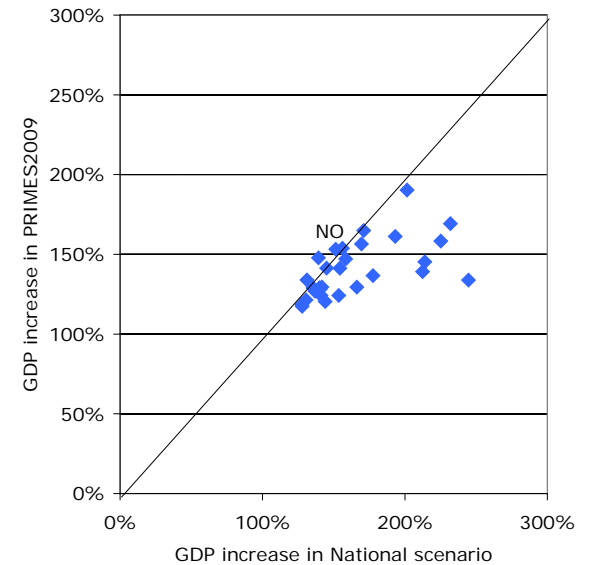
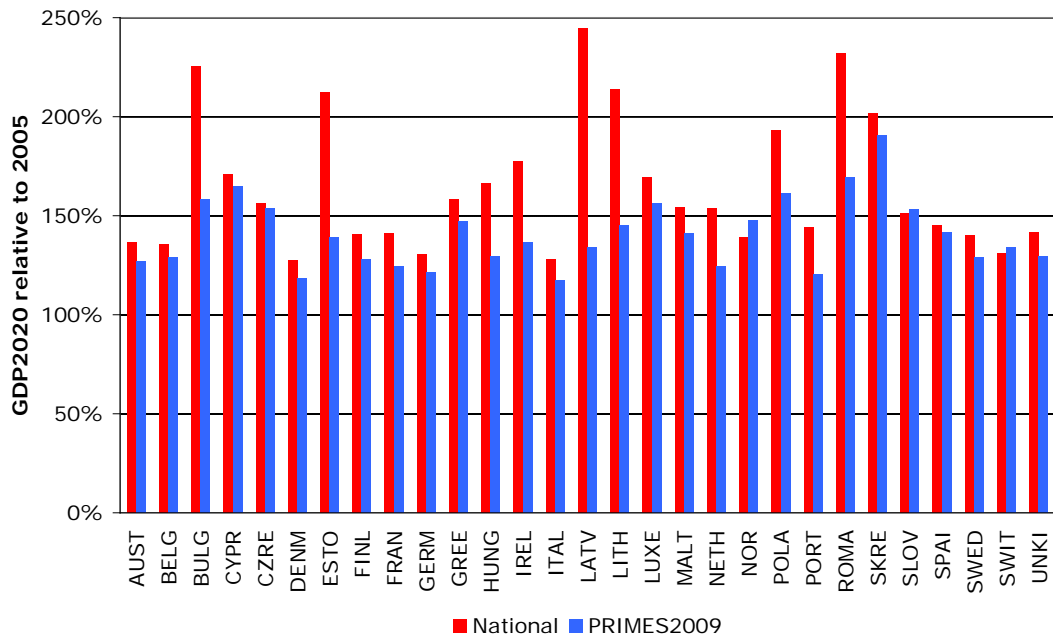
(basis for envisaged NEC proposal):

- Energy
 1. PRIMES 2009 baseline, if available (current national energy and energy policies, no full achievement of C&E package targets)
 2. IEA World Energy Outlook 2009
- Agriculture
 1. CAPRI projections
 2. FAO 2008 projections

+ Current policies on air pollution (national policies + advanced EU proposals)

Assumed GDP growth in National and PRIMES scenarios

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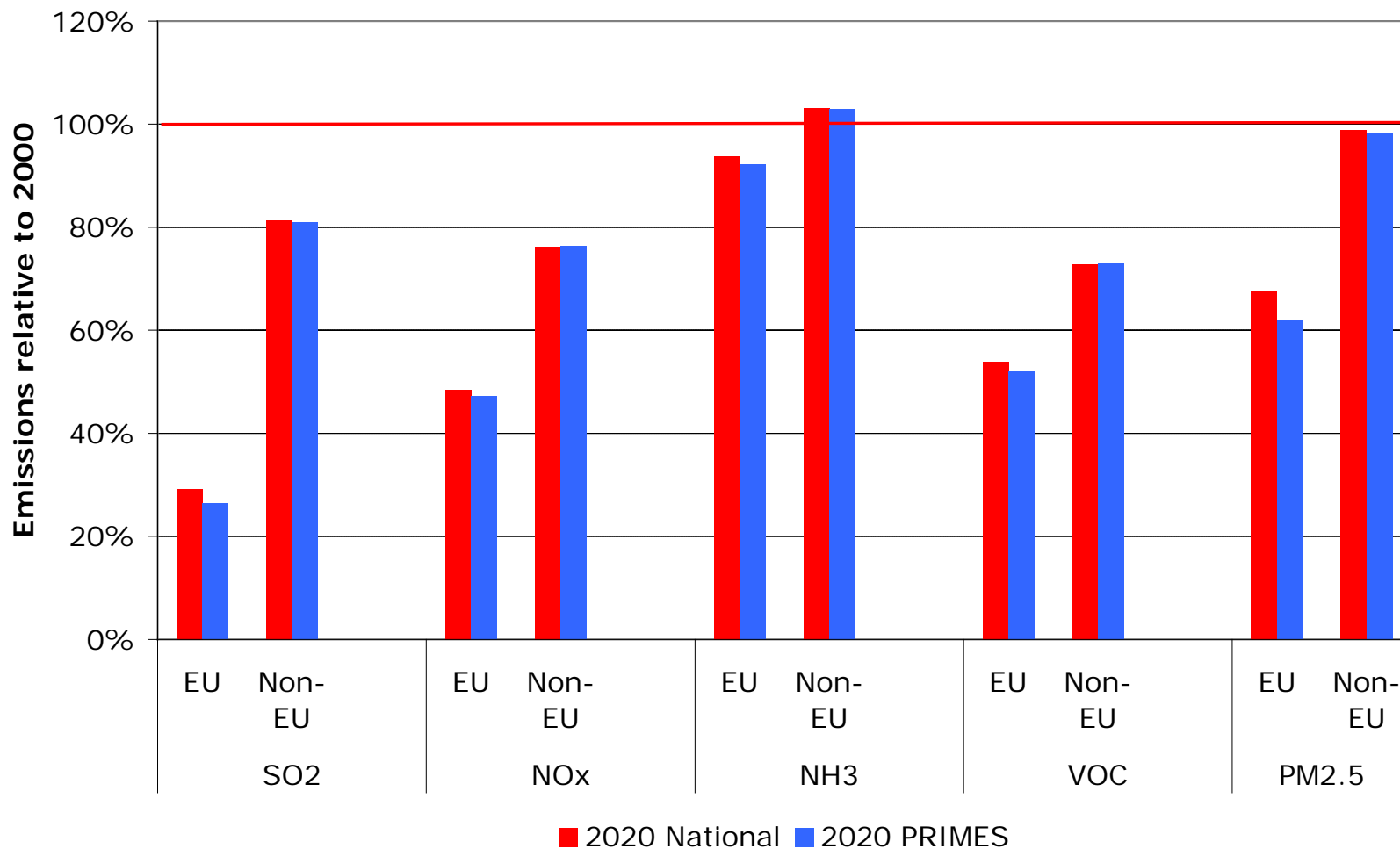


National scenarios assume higher GDP growth than PRIMES2009

Baseline emissions projections for 2020

PROVISIONAL RESULTS

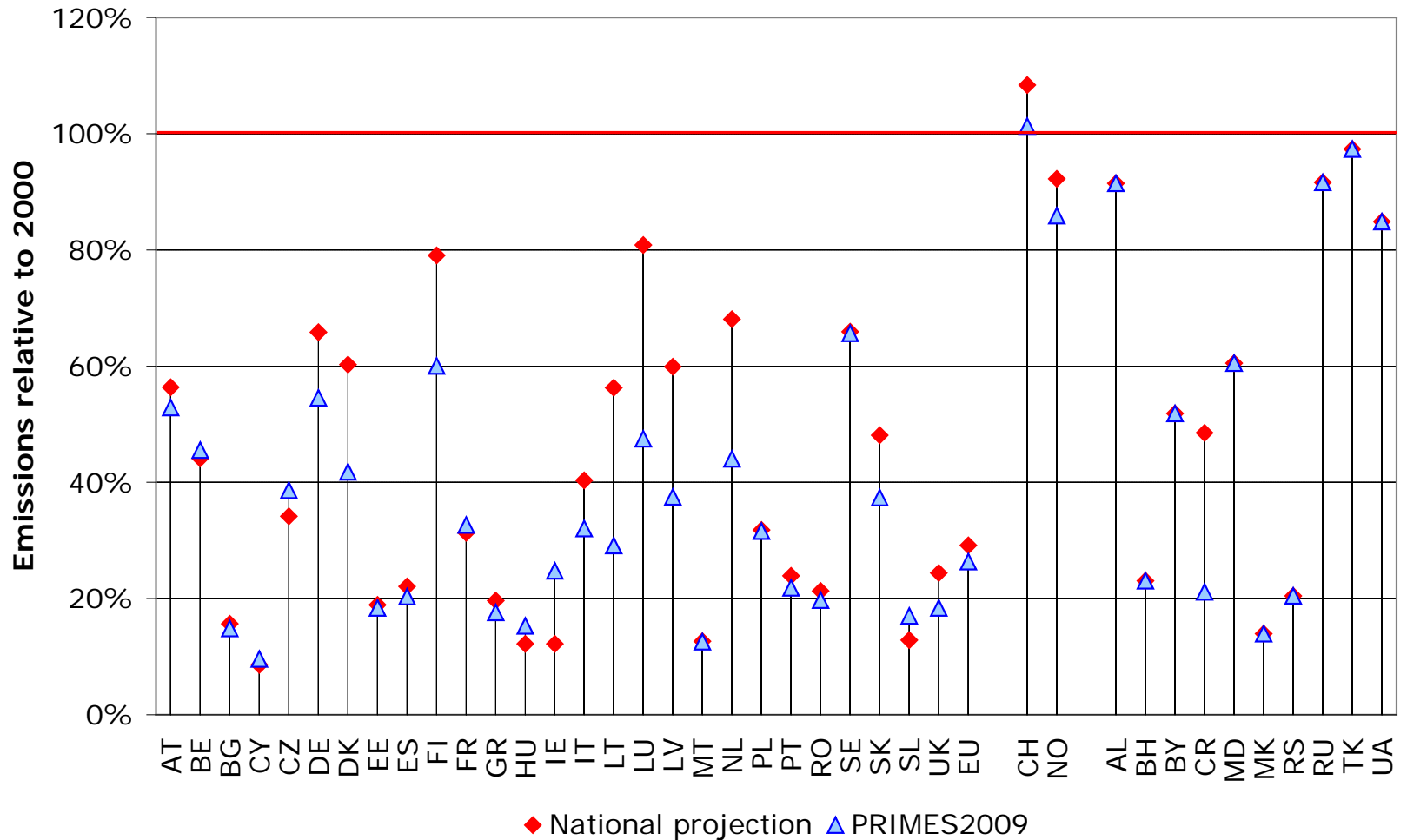
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Baseline emission projections for 2020

SO₂ PROVISIONAL RESULTS

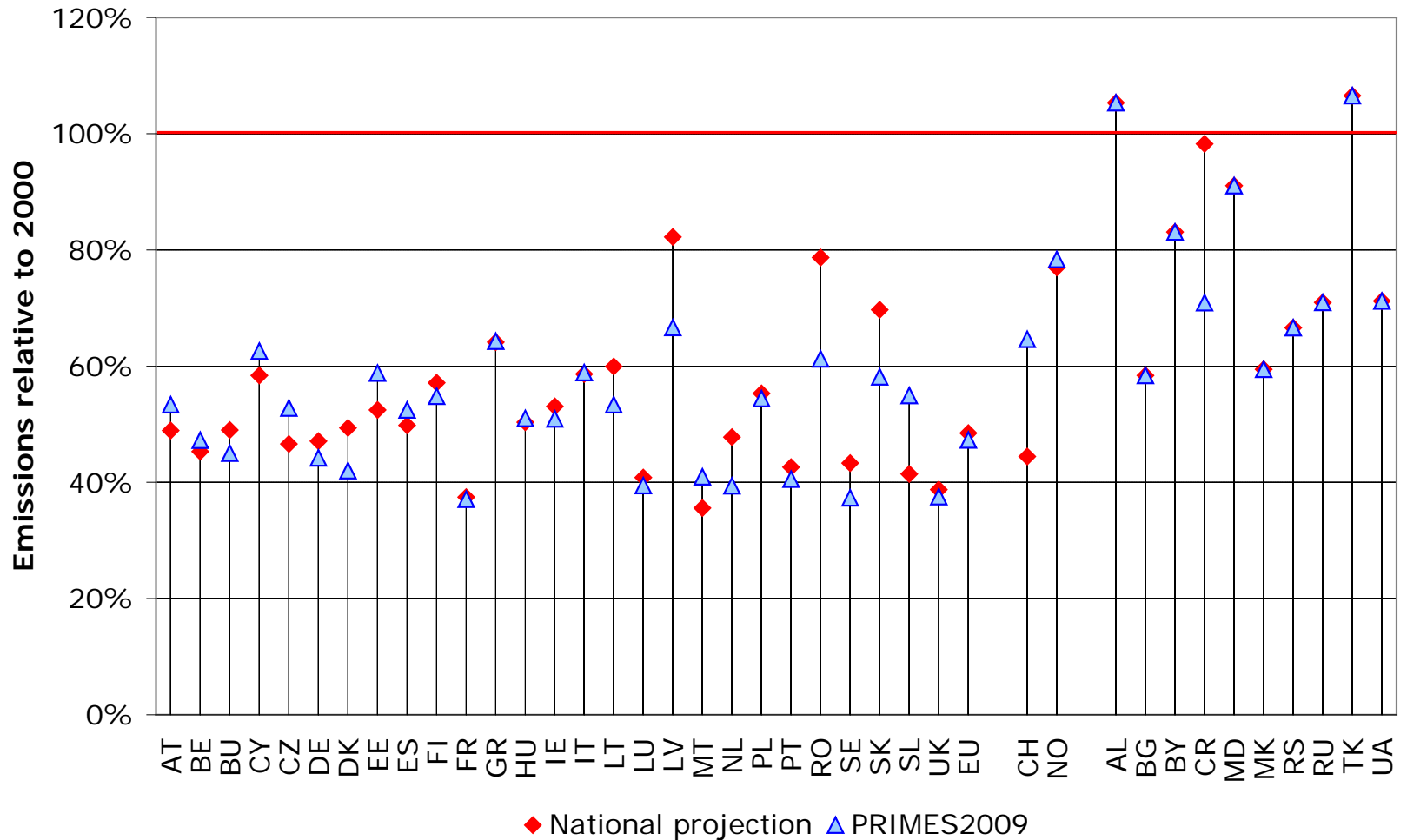
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Baseline emission projections for 2020

NO_x PROVISIONAL RESULTS

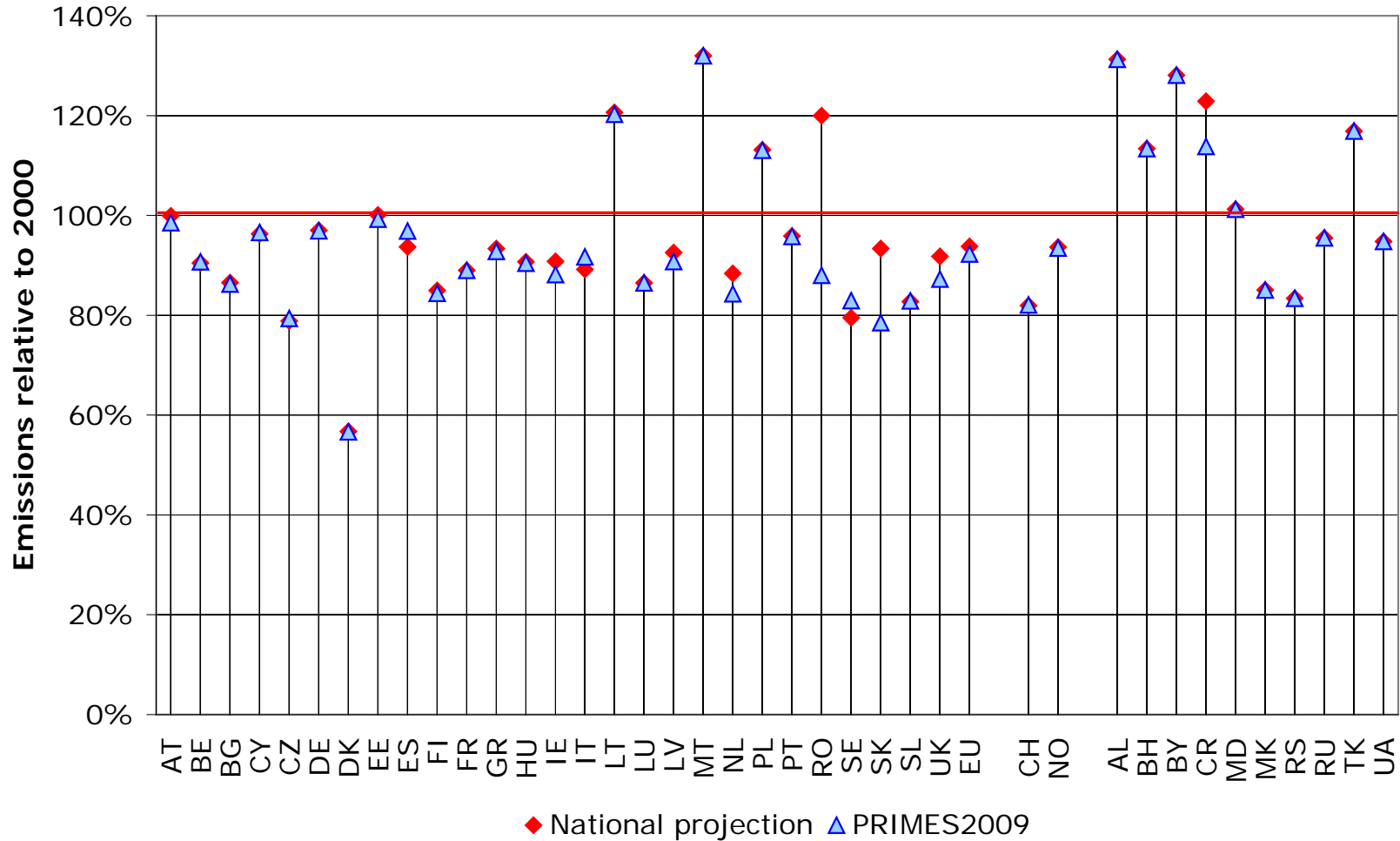
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Baseline emission projections for 2020

NH₃ PROVISIONAL RESULTS

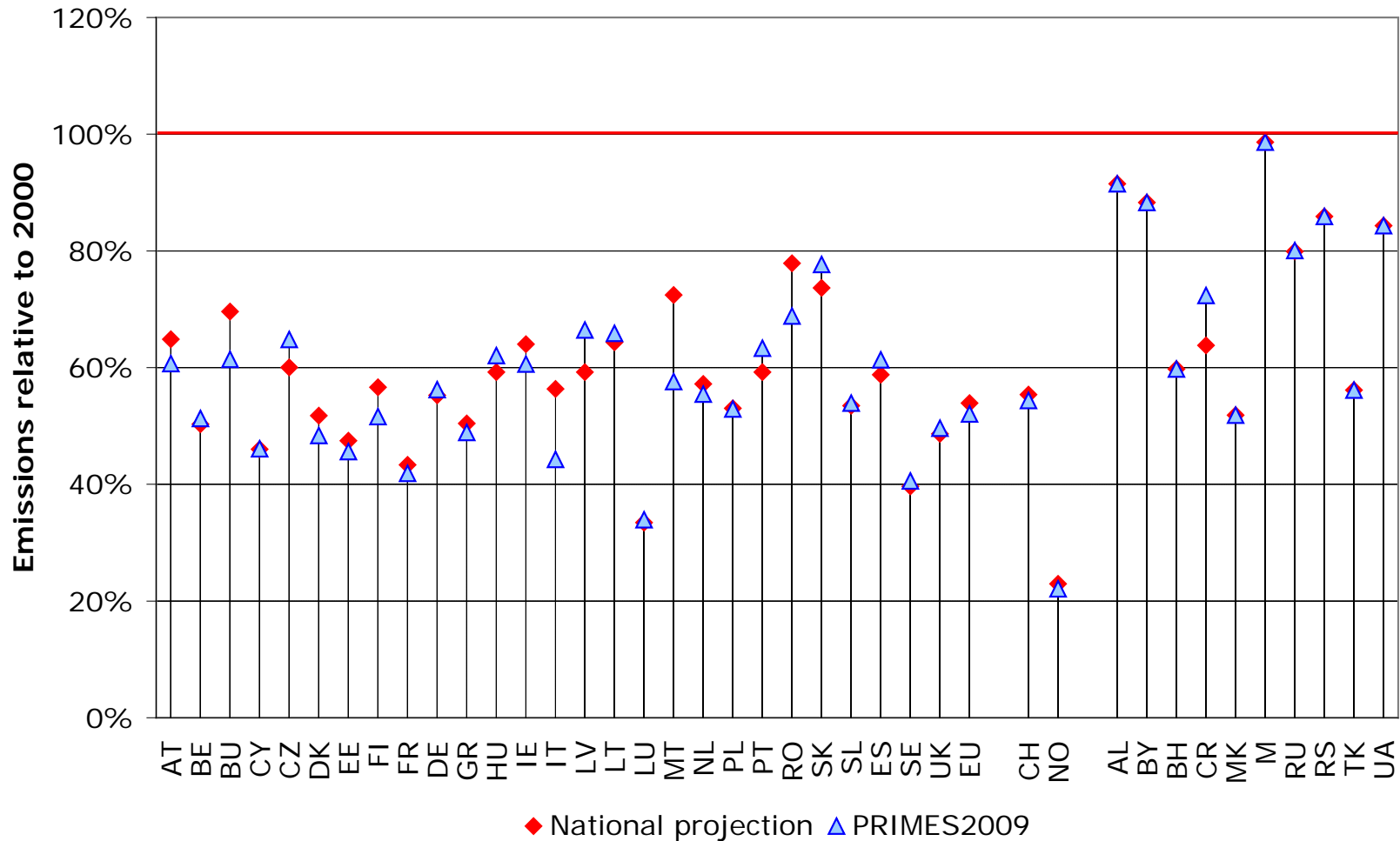
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Baseline emission projections for 2020

VOC PROVISIONAL RESULTS

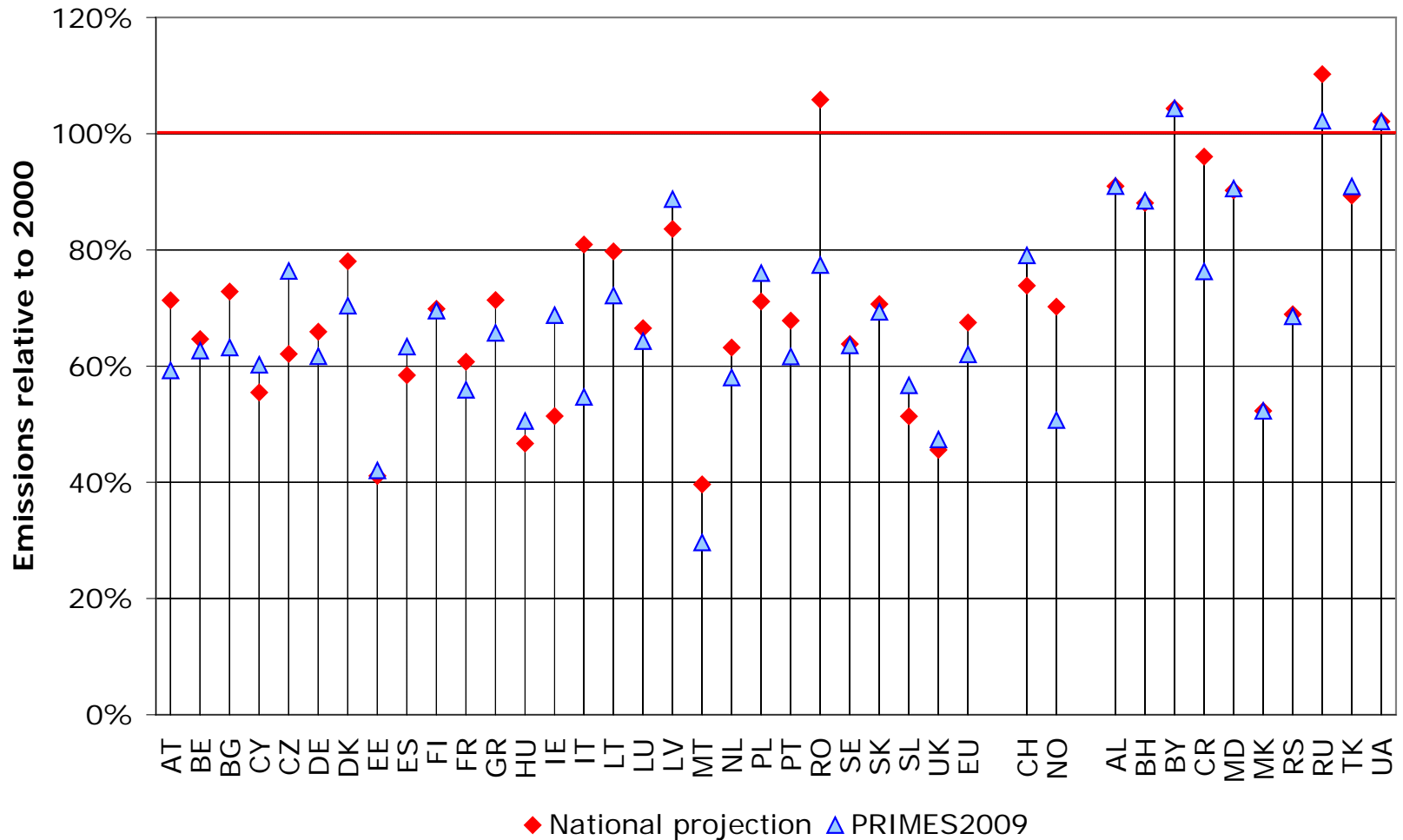
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Baseline emission projections for 2020

PM2.5 PROVISIONAL RESULTS

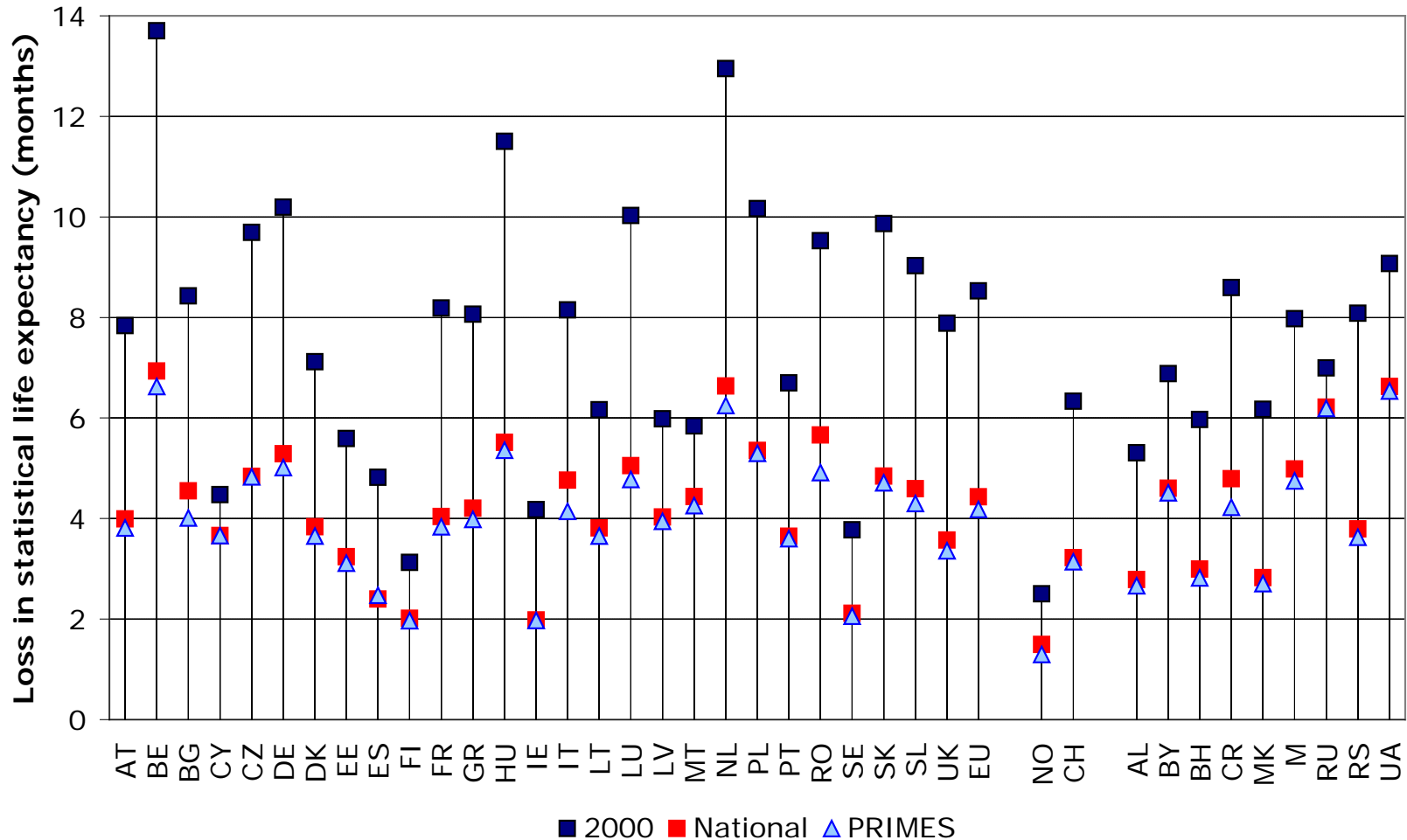
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Loss in statistical life expectancy

PROVISIONAL RESULTS

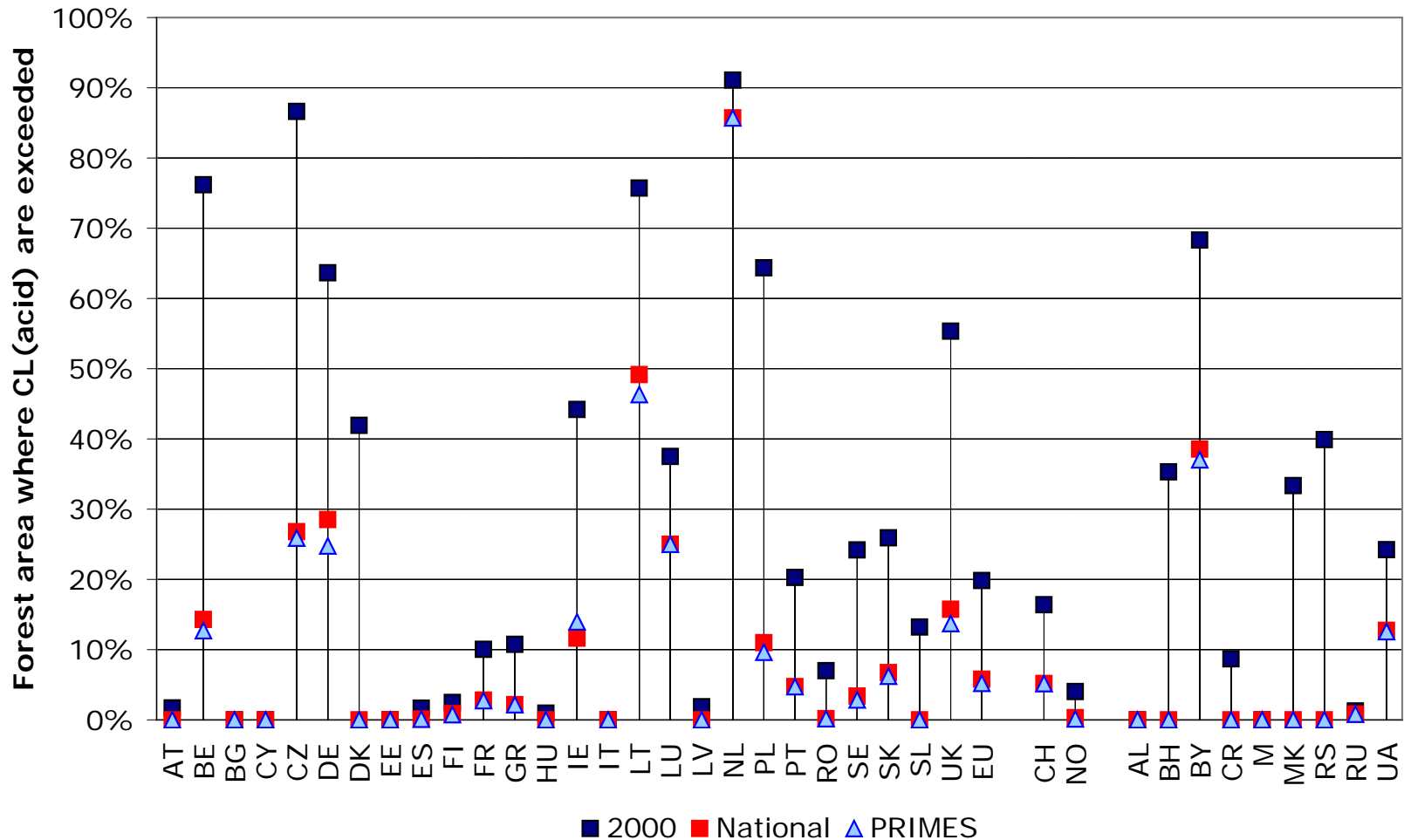
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Excess of CL for acidification in forest soils

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Conclusions

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- National projections received from 16 countries, Draft implementation ready for final comments by March 1, 2010.
- There are differences in statistical data for 2000 and 2005 between national and international statistics. Implications for emission ceilings?
- National scenarios do not employ internationally coherent assumptions on economic development, climate policy, oil prices, etc.
- While for some countries differences in emission projections between national projections and PRIMES2009 are significant, differences in calculated environmental impacts are limited.