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# National baseline activity projections for the revision of the Gothenburg Protocol

36<sup>th</sup> Session of the Task Force on Integrated Assessment Modelling  
Laxenburg, October 6-7, 2009

# Contents

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- Available scenarios – comparison of assumptions
- Baseline emission projections
- Environmental impacts

# Availability of national energy scenarios as of August 2009

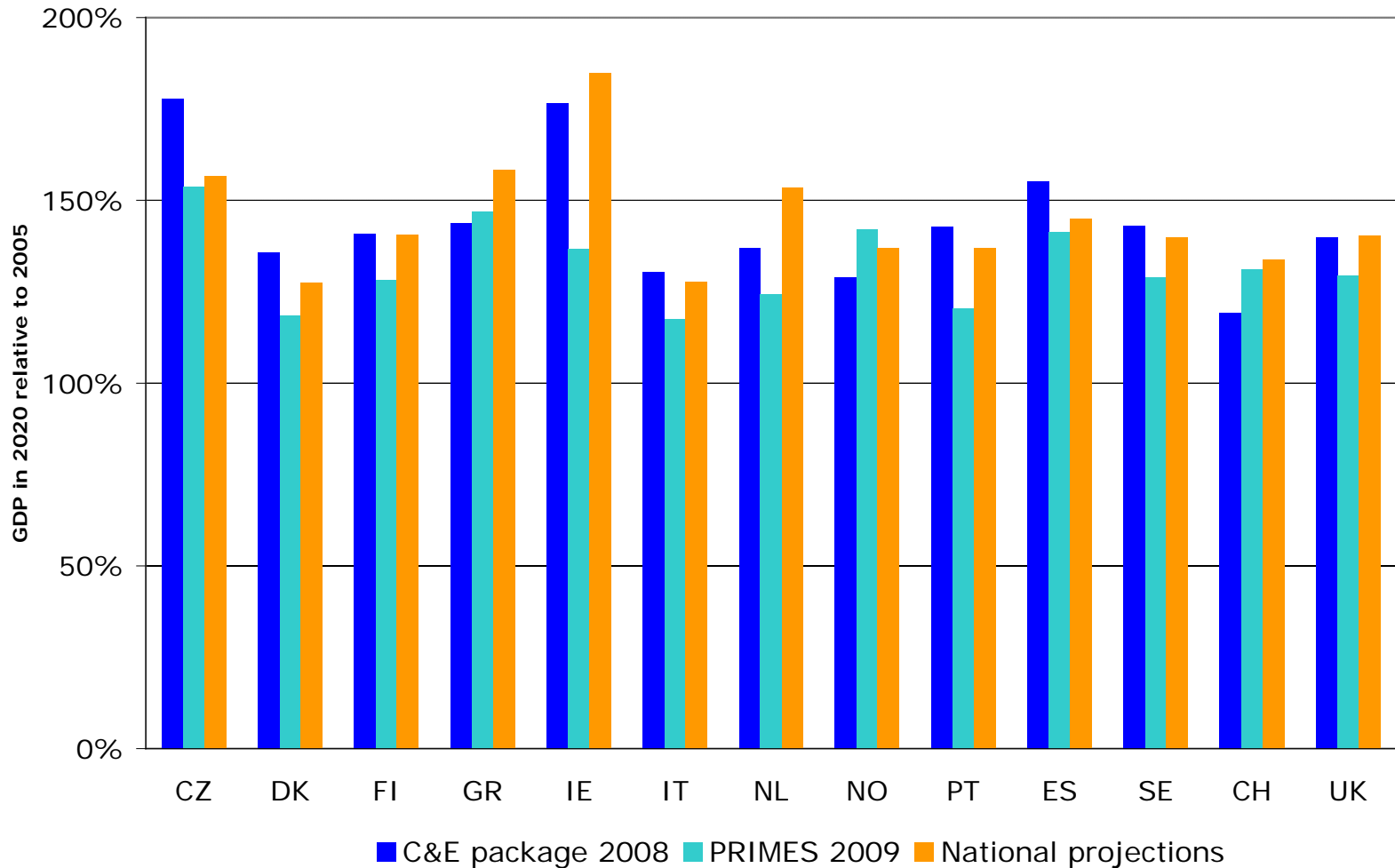


New national scenarios received	IEA World Energy Outlook 2008	PRIMES 2008 Climate & Energy package (NEC report #6)	
Czech Republic	Belarus	Austria	Latvia
Denmark	Bosnia-H.	Belgium	Lithuania
Finland	Croatia	Bulgaria	Luxembourg
Greece	Moldova	Cyprus	Malta
Ireland	Russia	Estonia	Poland
Italy	Serbia	France	Romania
Netherlands	Ukraine	Germany	Slovakia
Norway	TFYROM	Hungary	Slovenia
Portugal	Turkey		
Spain			
Sweden			
Switzerland			
UK			

# 1. Assumptions

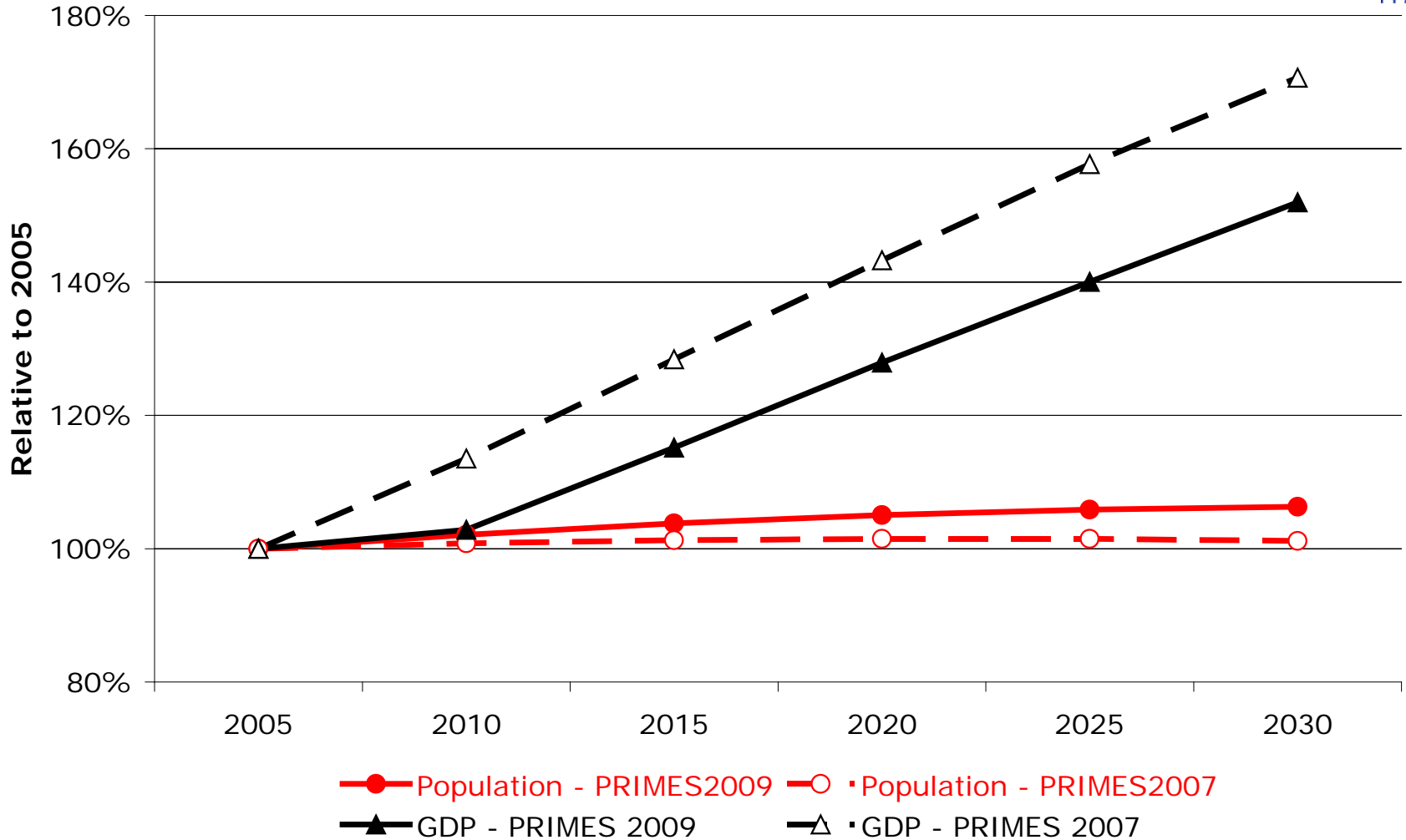
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# Comparison of assumed GDP growth

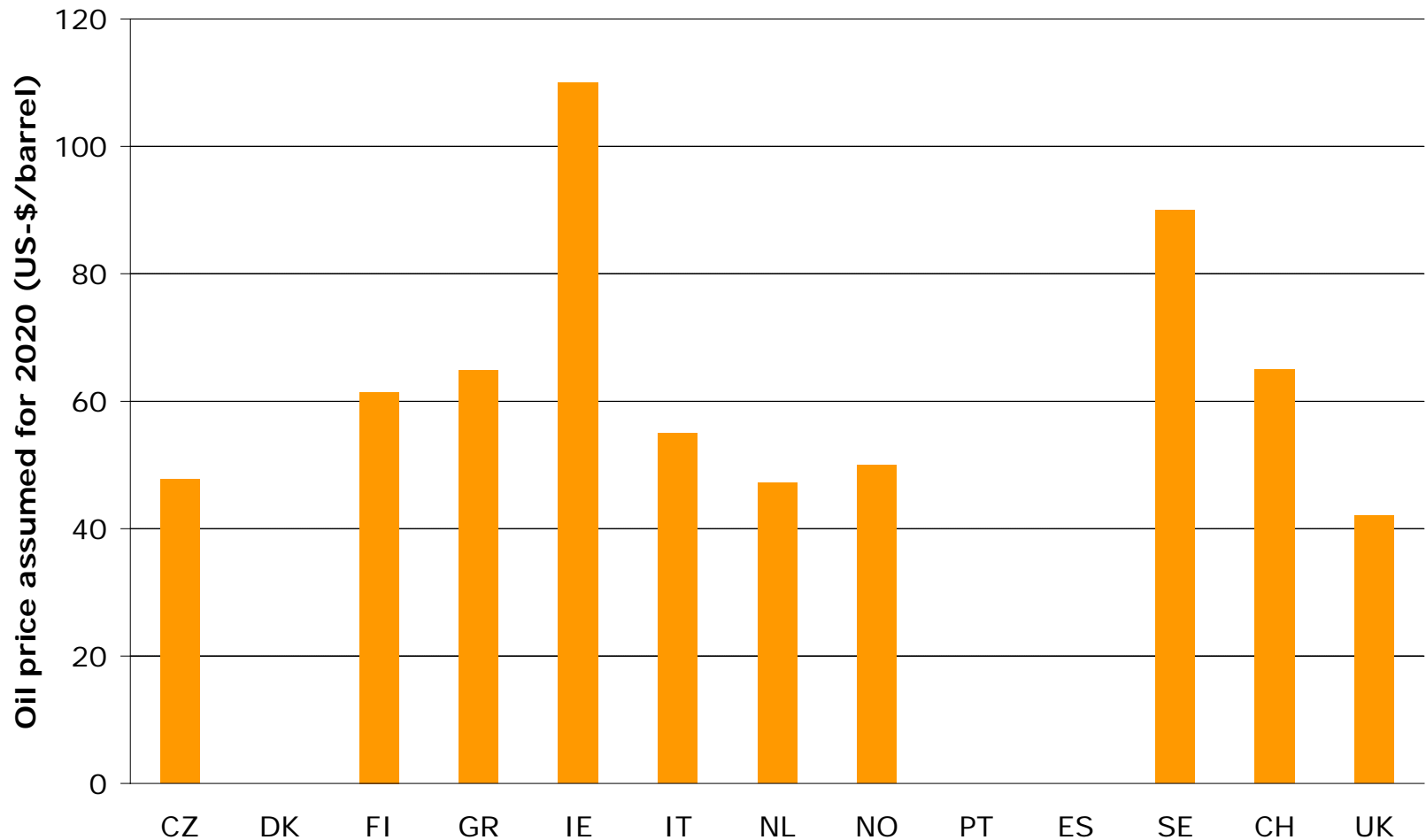


# Population and GDP development

## Assumptions of PRIMES draft 2009 vs. 2007 projections

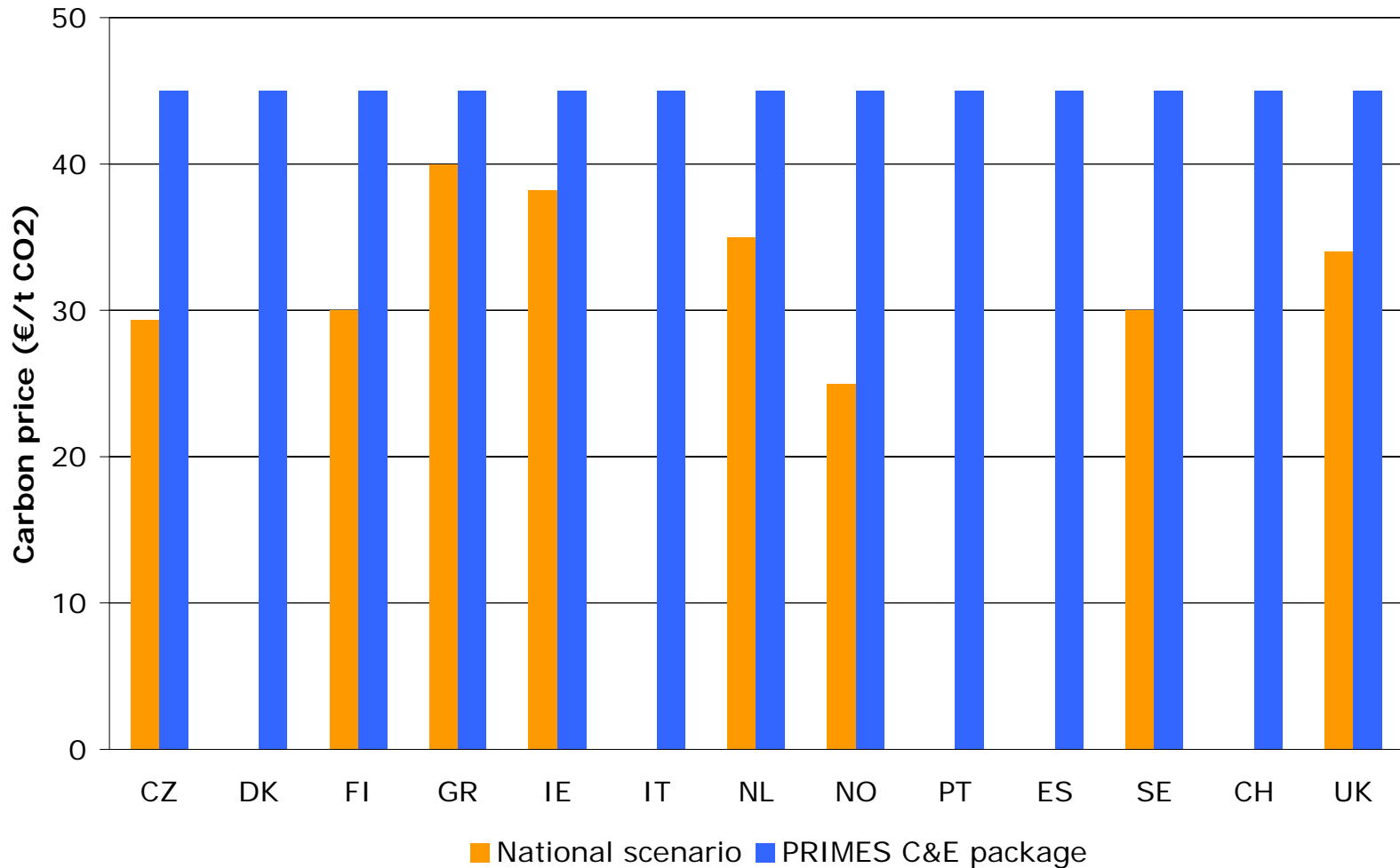


# Comparison of oil prices assumed in national scenarios for 2020



# Comparison of carbon prices assumed for 2020

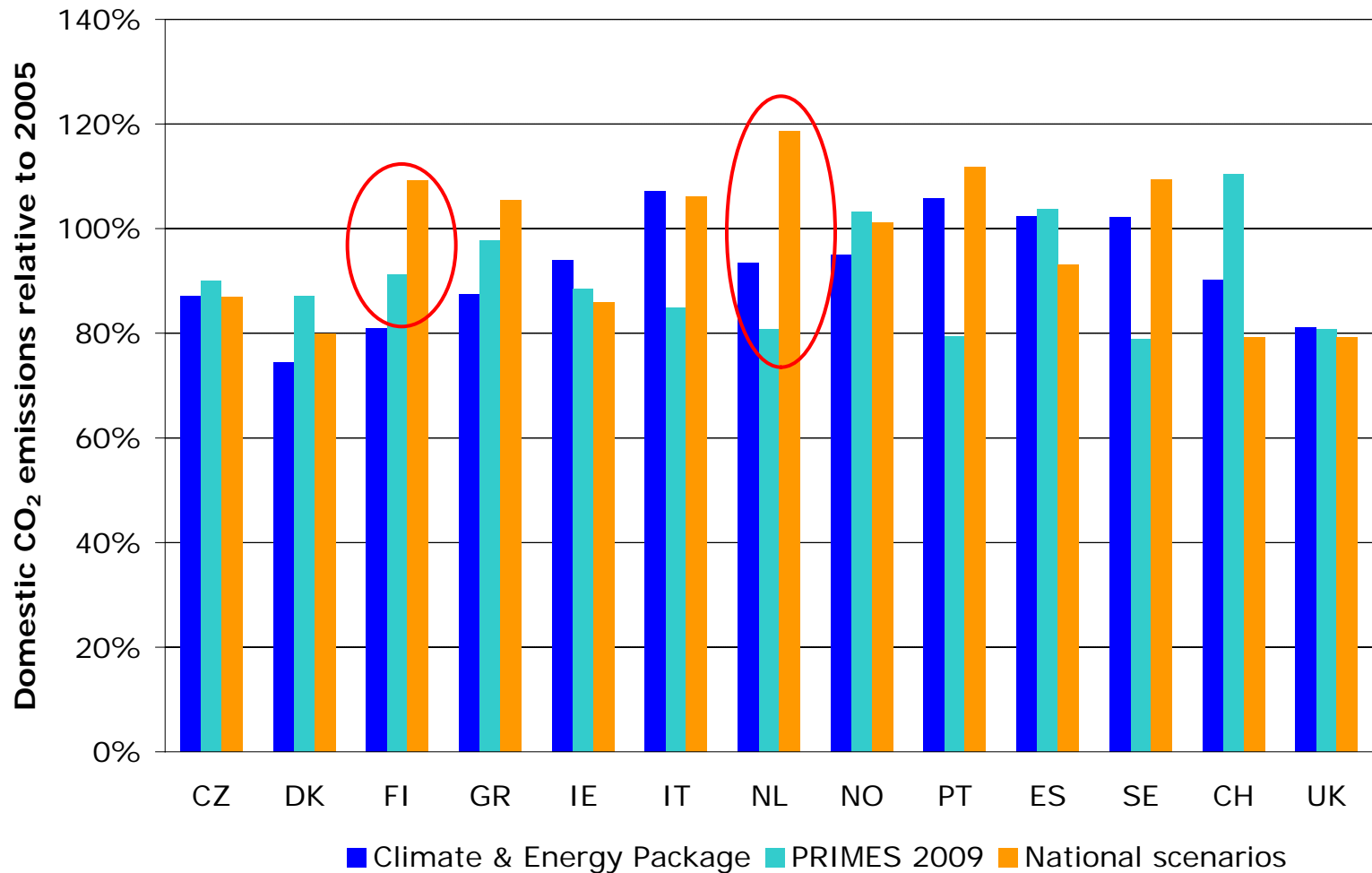
## National scenarios vs. PRIMES C&E package





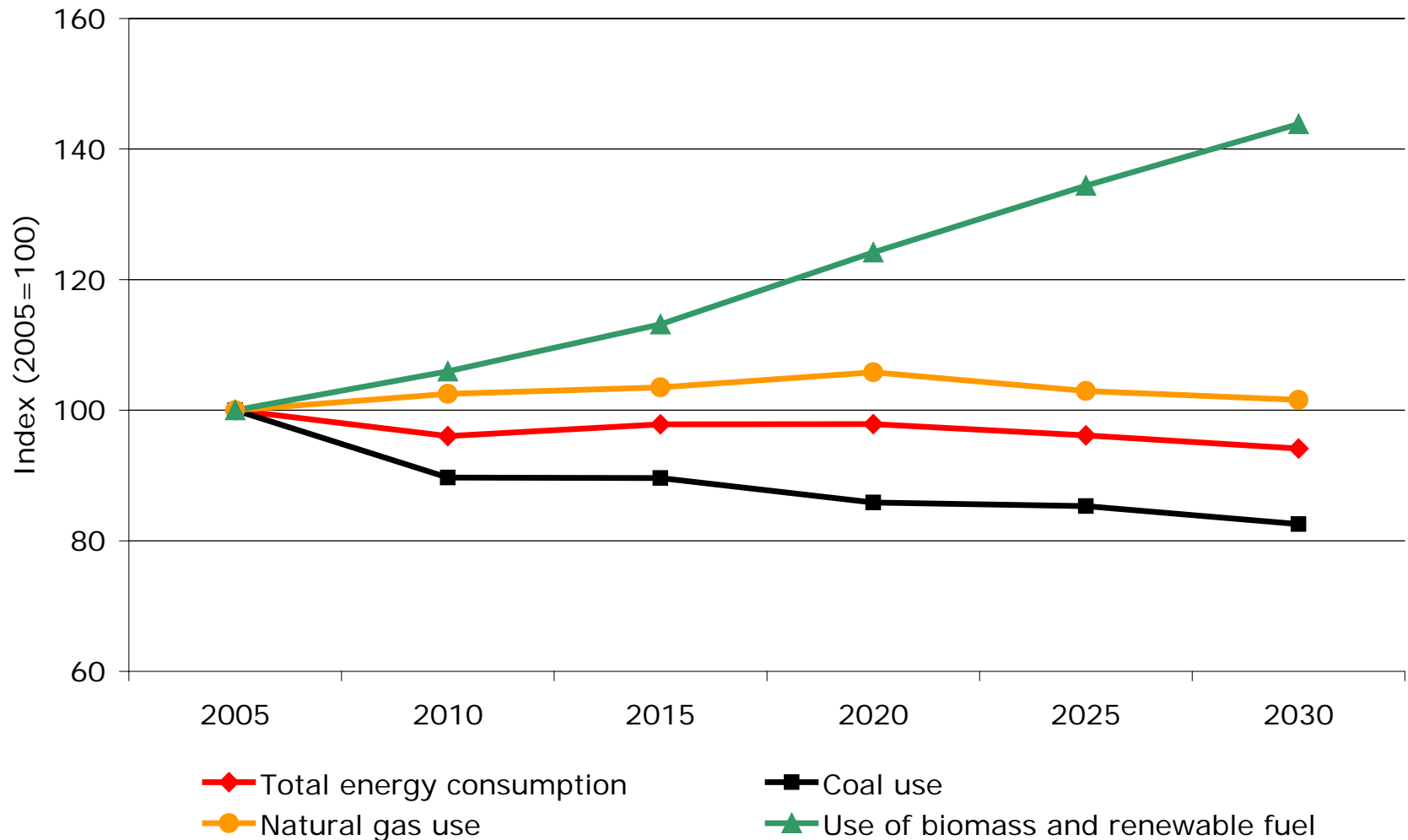
# Domestic CO<sub>2</sub> emissions in 2020

Provisional results



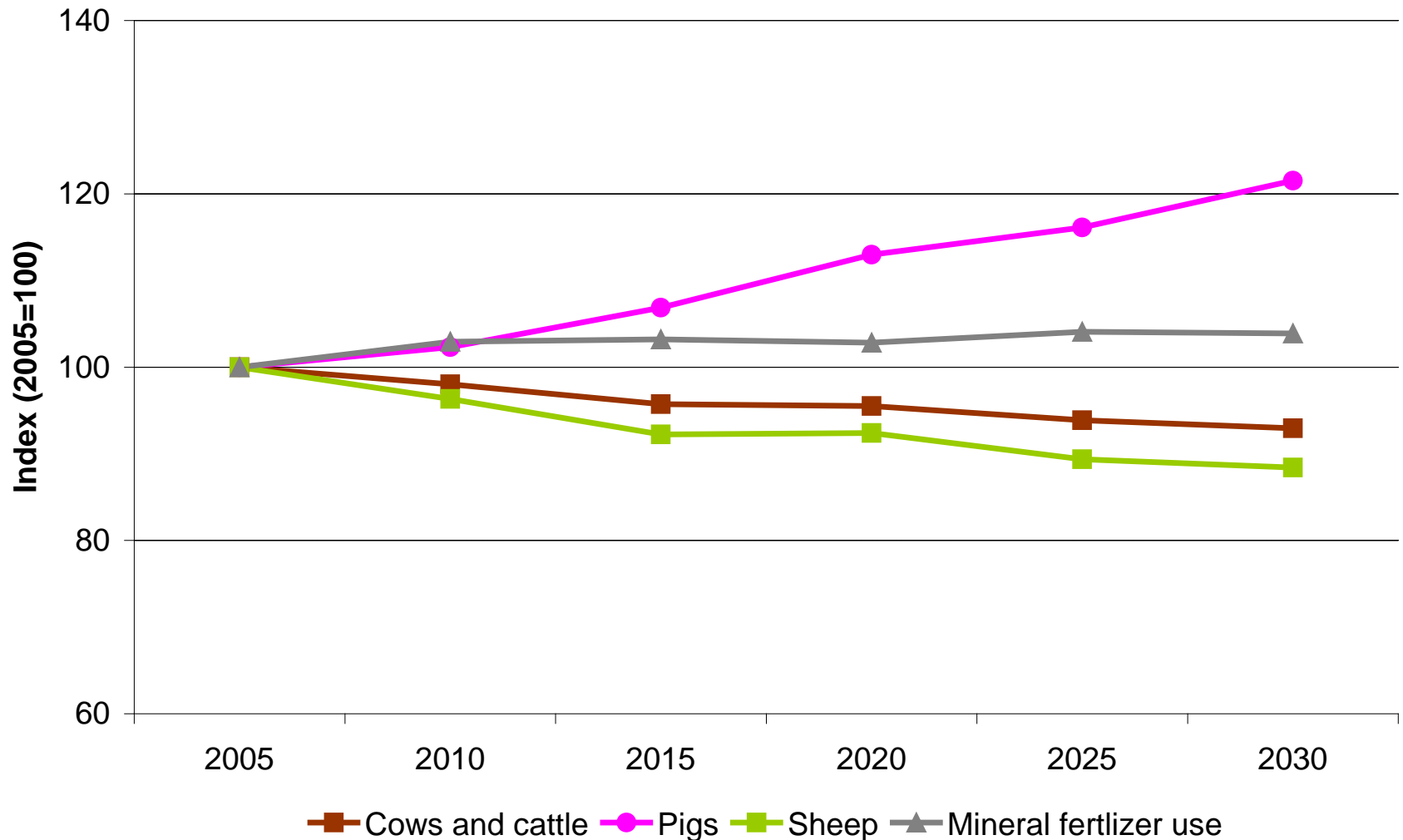
# Trends in relevant activity data for EU-27

## Energy use (draft PRIMES projection 2009)



# Trends in relevant activity data for EU-27

## Agricultural activities (draft CAPRI projection 2009)

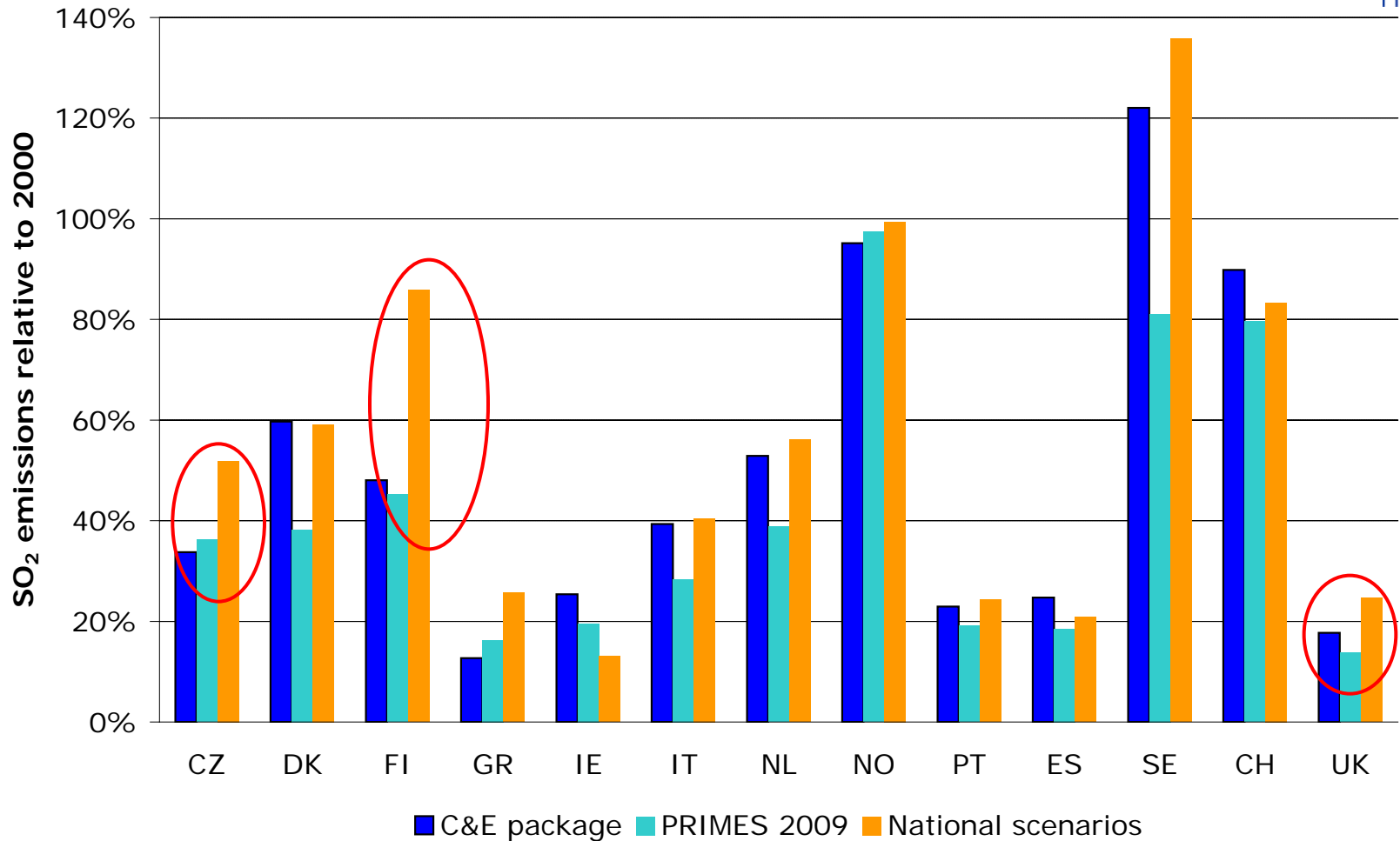


## 2. Emission projections

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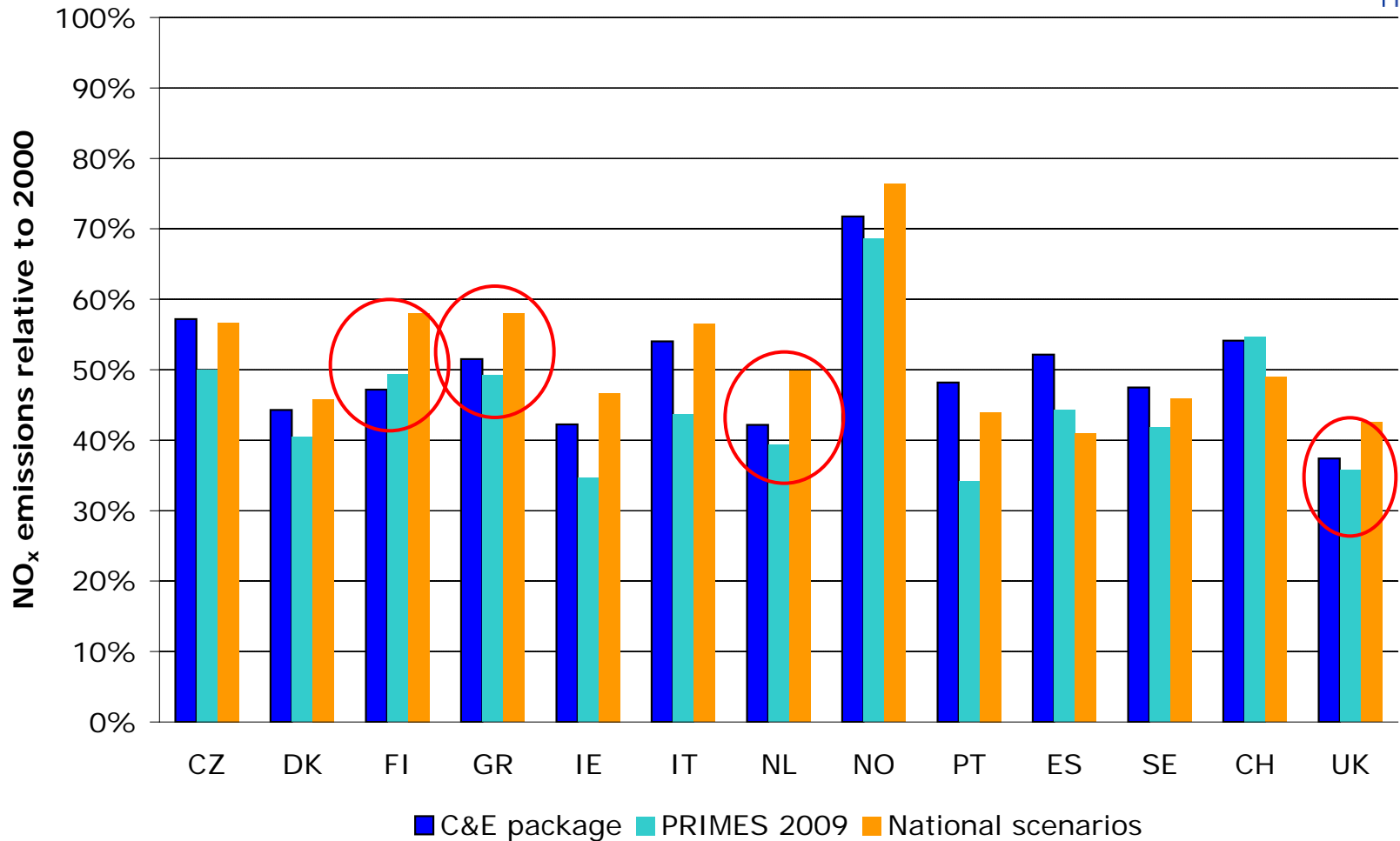
# Baseline SO<sub>2</sub> emissions in 2020

Provisional results



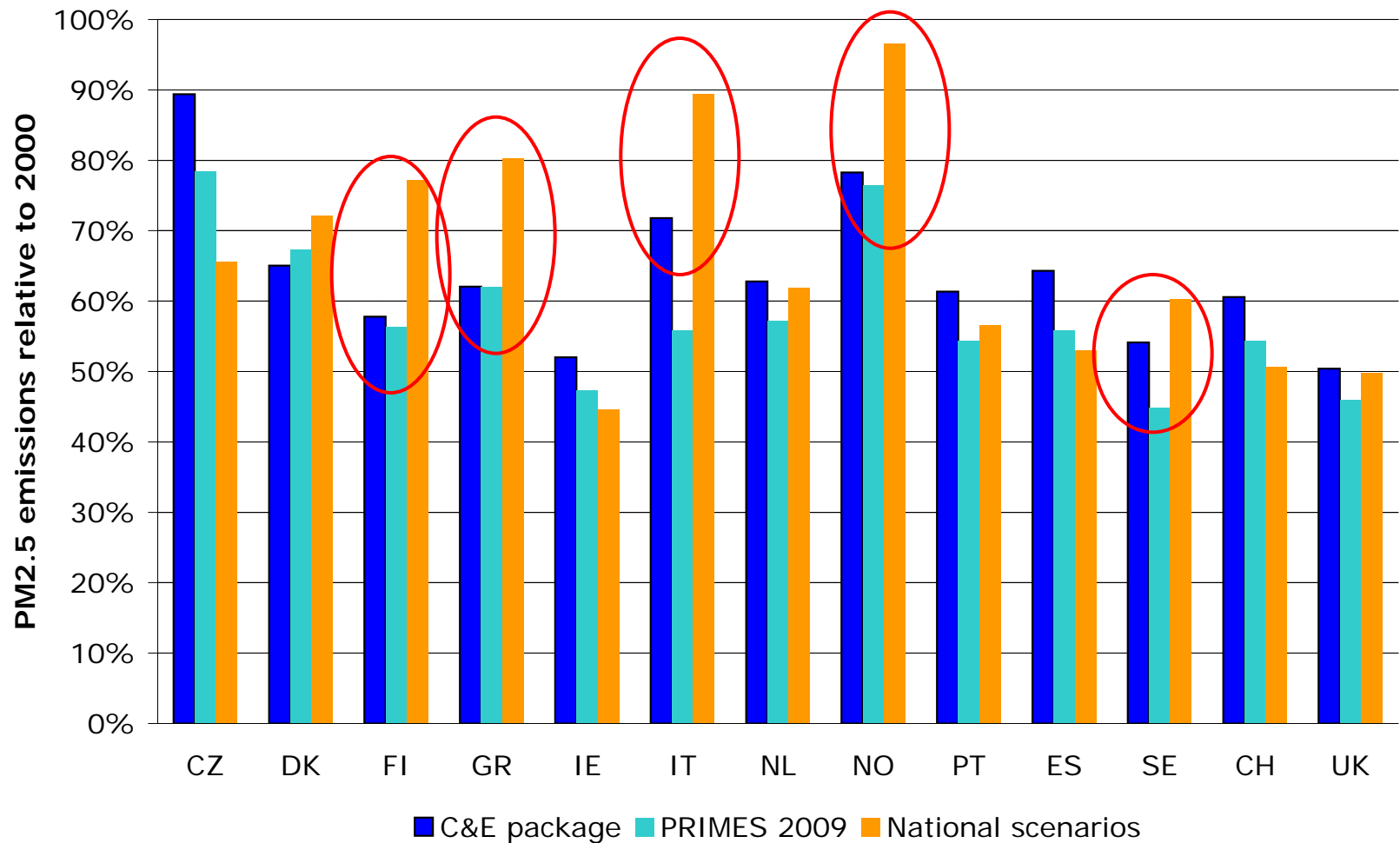
# Baseline NO<sub>x</sub> emissions in 2020

Provisional results

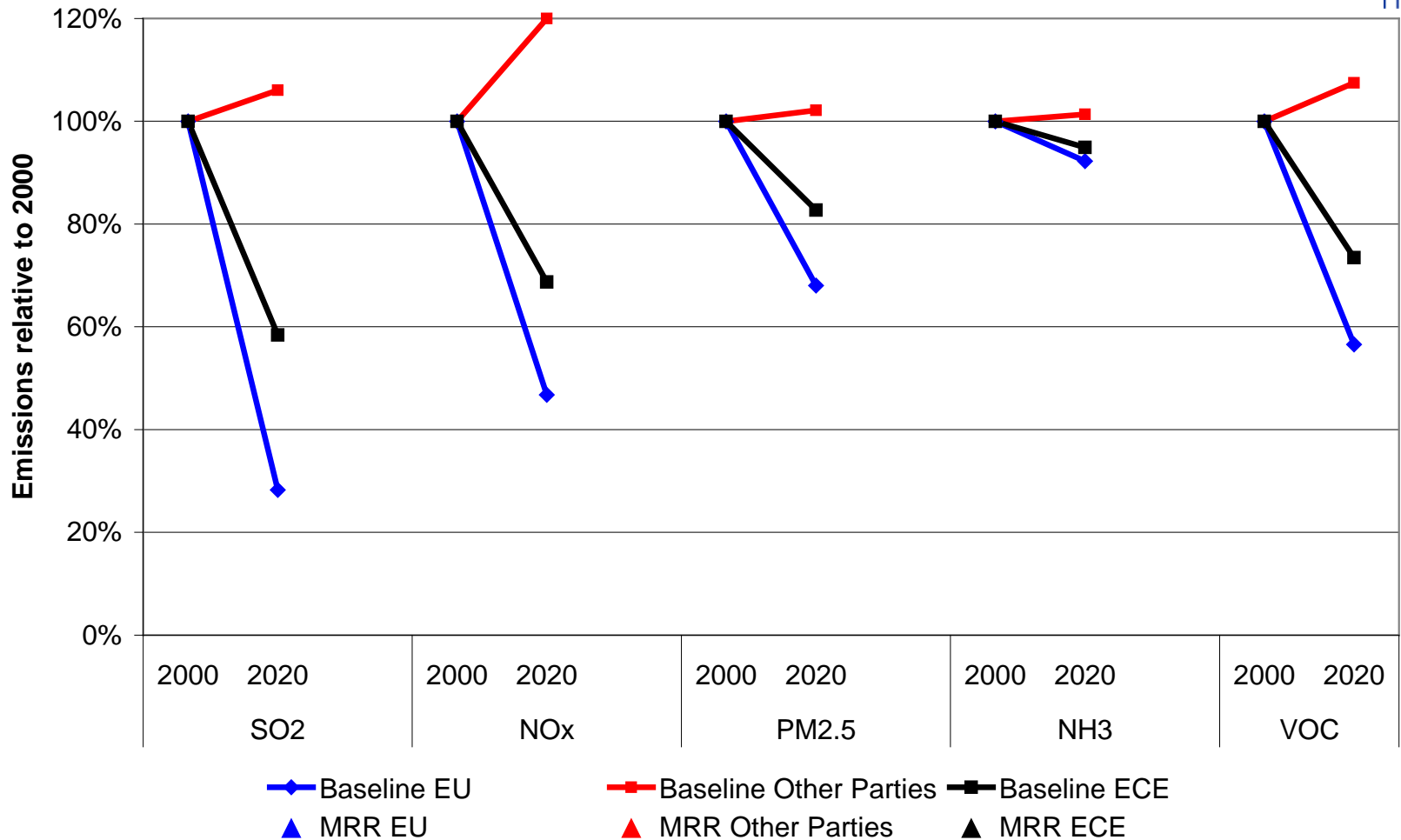


# Baseline PM2.5 emissions in 2020

Provisional results



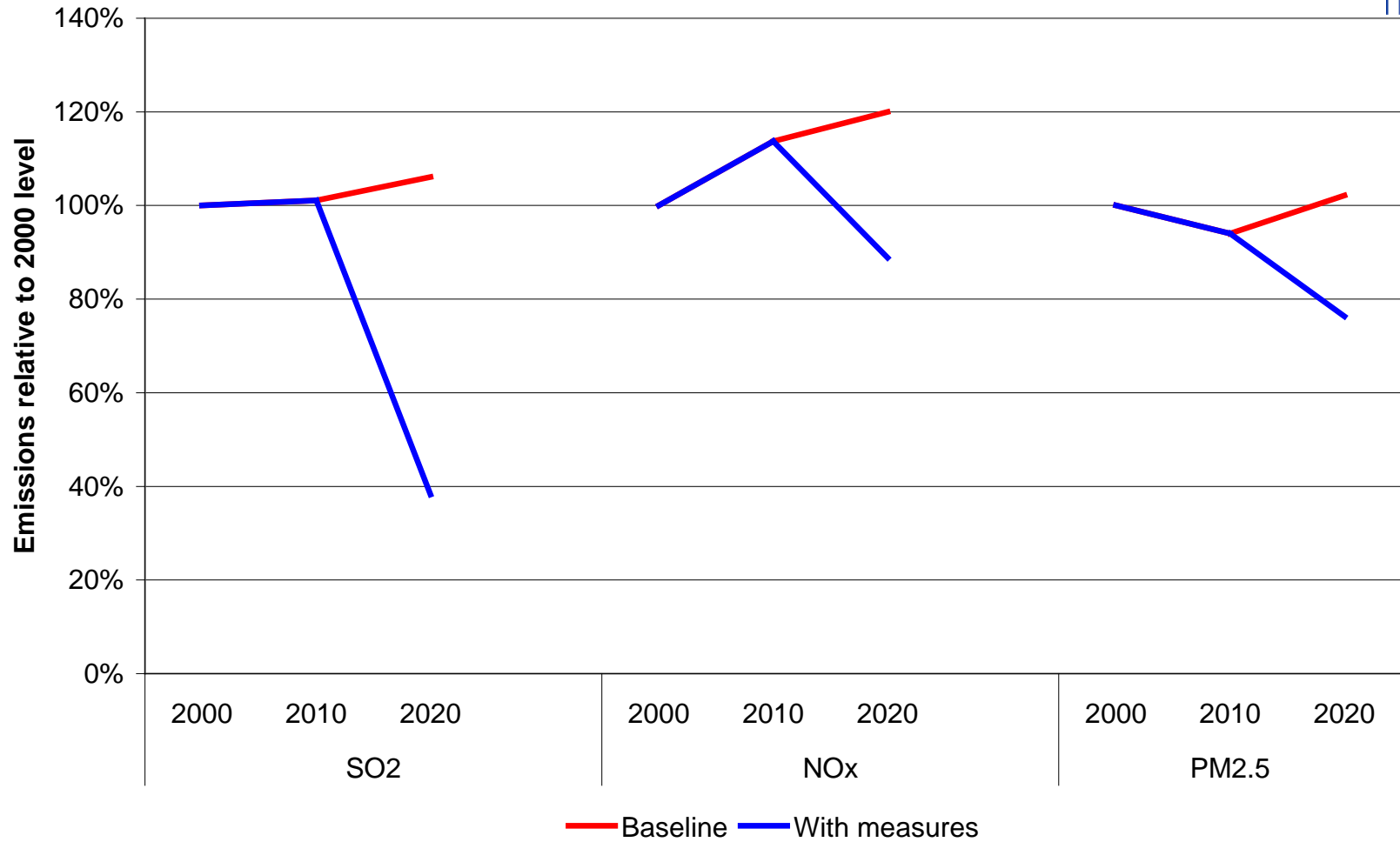
# Baseline emissions, EU and non-EU Parties relative to 2000





# Emission projections for non-EU countries

## Baseline projection and "with measures" scenario



# Conclusions

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- 13 Parties have provided national energy projections.
- Parties employ different assumptions on economic development, oil prices and climate policies. Are these projections useful for a fair international burden sharing agreement, or do they include strategic biases?
- Most of these scenarios are based on a pre-crisis perspective. A post-crisis view suggests 12-15% lower baseline emissions in 2020.
- For non-EU countries, assumptions on implementation of current legislation seem more important than economic development trends

# 3. Environmental impacts

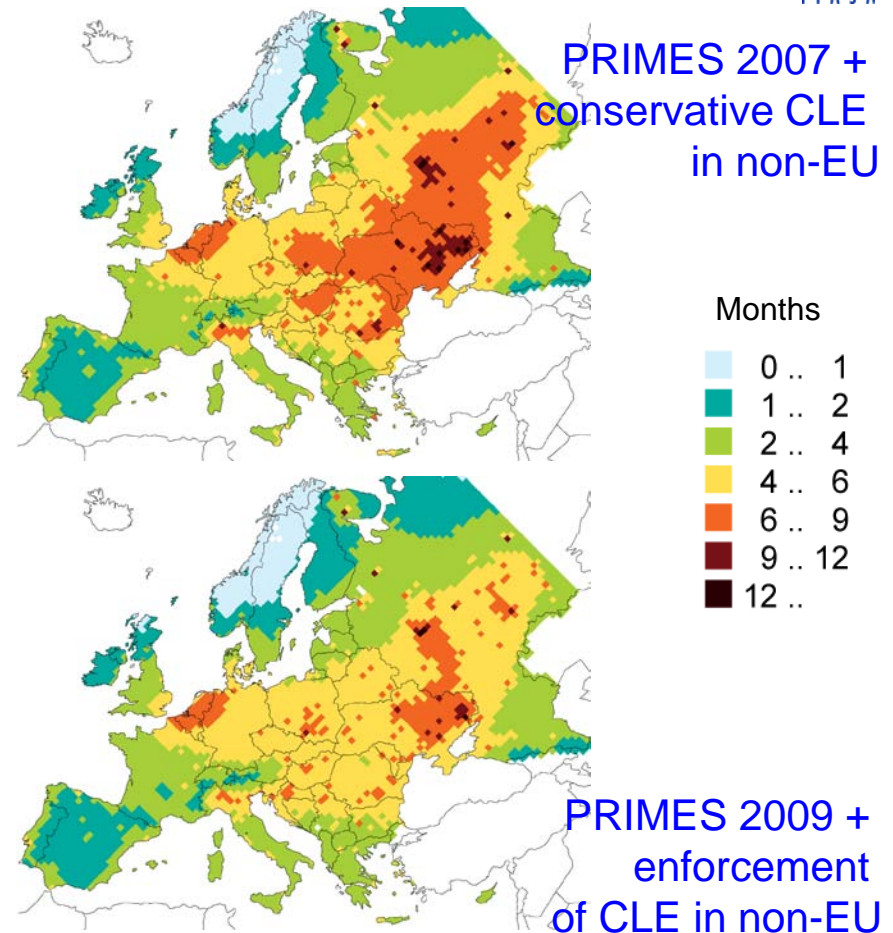
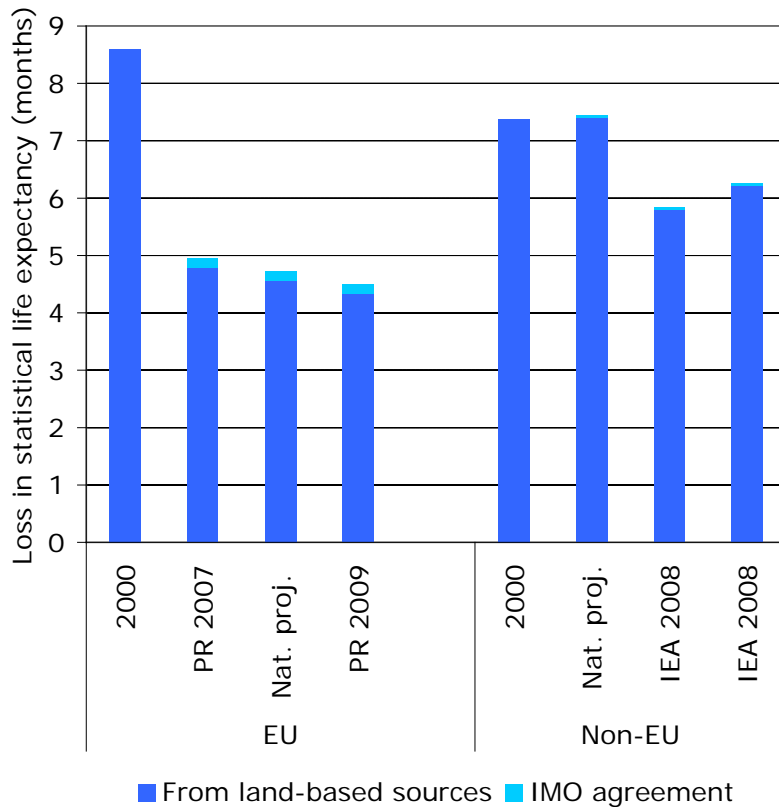
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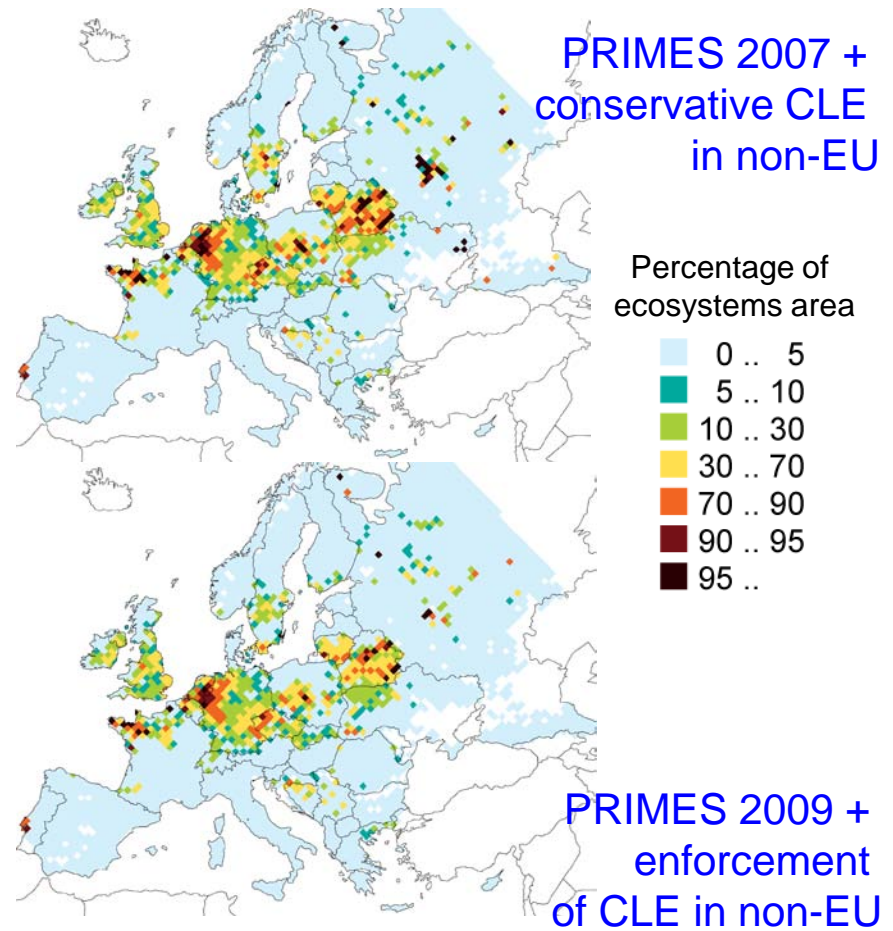
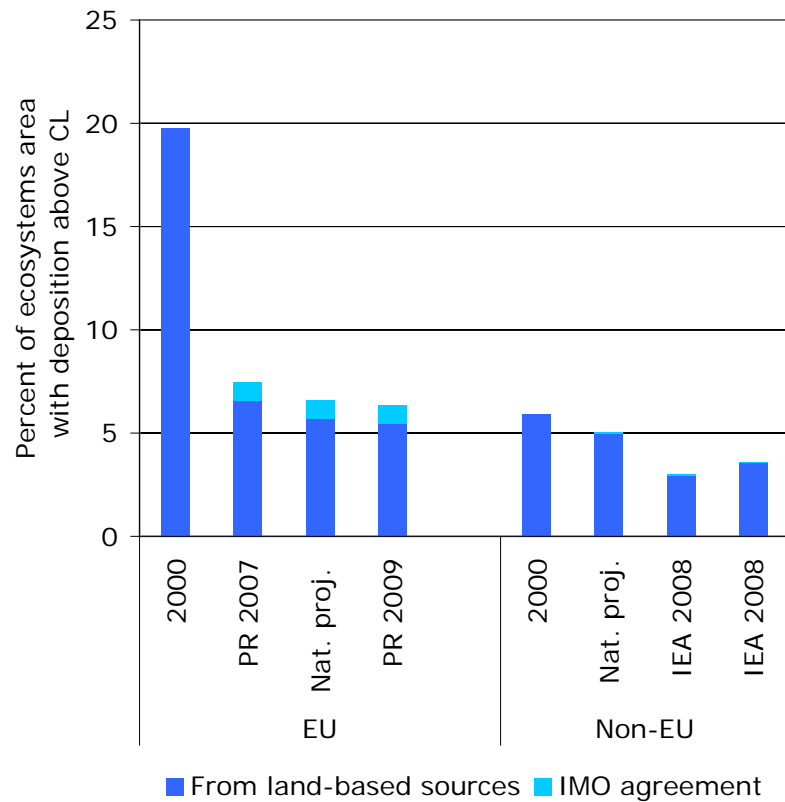
## Provisional assessment of environmental impacts

- PRIMES 2007:
  - EU countries: PRIMES 2007 baseline + current policy
  - non-EU: National projections + conservative assumption on enforcement of current legislation (Case B)
- National projections:
  - EU: National projections or PRIMES burden sharing + current policy
  - non-EU: IEA2008 + full enforcement of current legislation
- Draft PRIMES 2009:
  - EU: draft PRIMES 2009 + current policy
  - non-EU: IEA2008 + full enforcement of current legislation

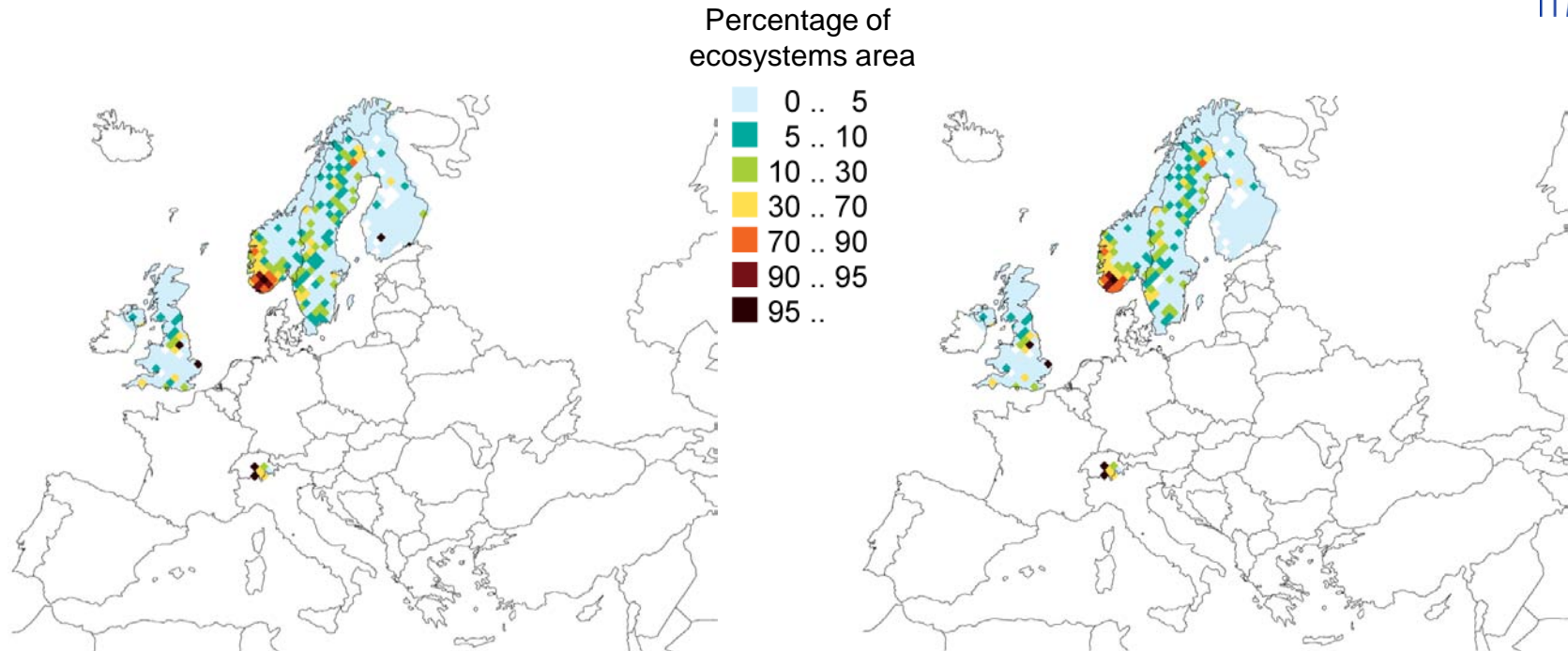
# Loss of statistical life expectancy in 2020 due to exposure to PM2.5



# Excess of CL for acidification, forests, 2020



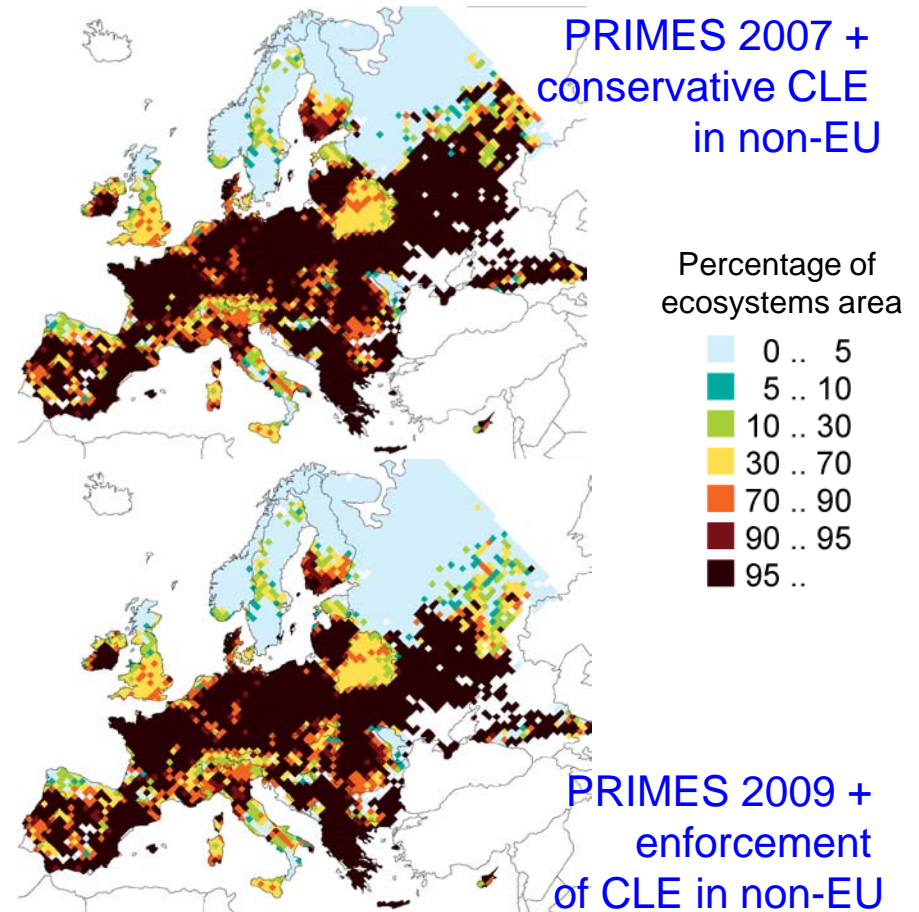
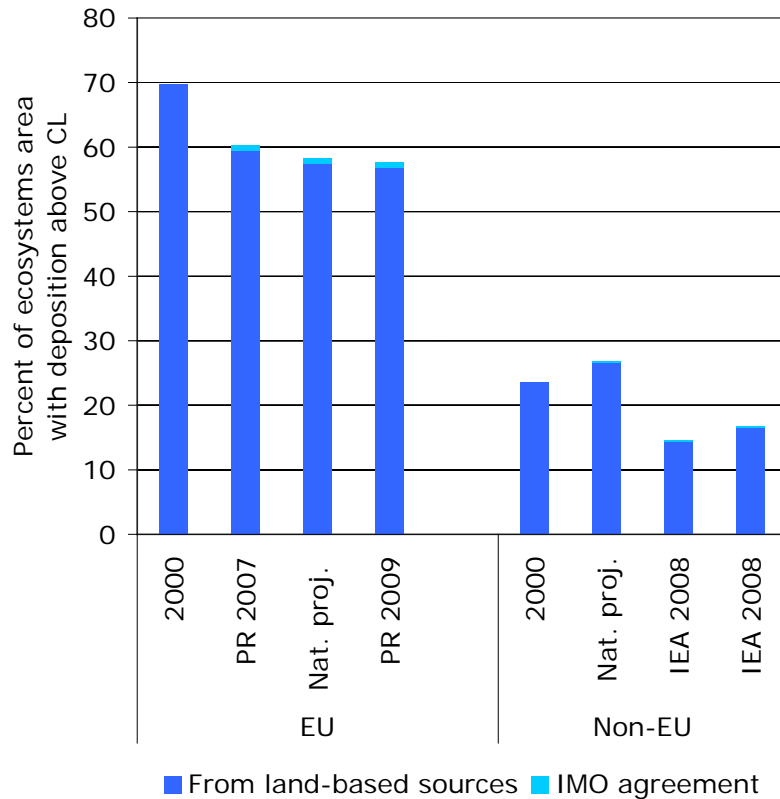
# Excess of CL for acidification, water, 2020



PRIMES 2007 + conservative interpretation of CLE enforcement in non-EU countries

PRIMES 2009 + enforcement of CLE in non-EU countries

# Excess of CL for eutrophication, 2020 calculated with ecosystems-specific deposition



# Cases of premature deaths from ozone

