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Emission control potentials in non-EU countries

Status of ratifications of the Gothenburg Protocol
as of May 24, 2007, Parties in the GAINS model domain

EU Parties		Other Parties	
20 ratifications	**7 not ratified**	**2 ratifications**	**11 not ratified**
Belgium	Austria*	Norway	Albania
Bulgaria	Estonia	Switzerland	Belarus
Cyprus	Greece*		Bosnia-H.
Czech Republic	Ireland*		Croatia*
Denmark	Italy*		Montenegro
Finland	Malta		Rep. Moldova
France	Poland*		Russia
Germany			Serbia
Hungary			TFYR Macedonia
Latvia			Turkey
Lithuania			Ukraine
Luxembourg			
Netherlands			
Portugal			
Romania			
Slovakia			
Slovenia			
Spain			
Sweden			
UK			

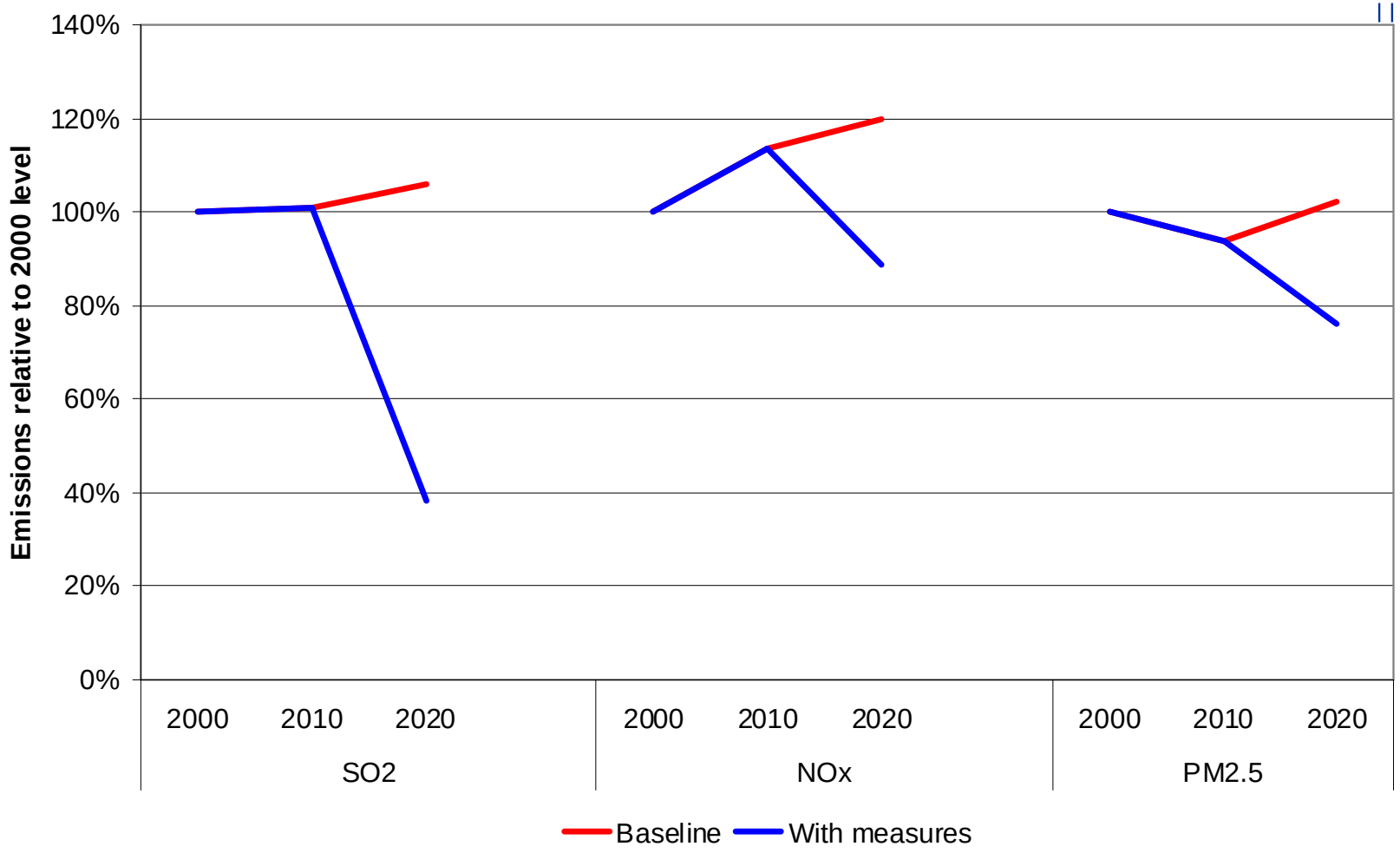
*) signed but not ratified

Analysis for non-EU countries
that have not ratified the Gothenburg Protocol

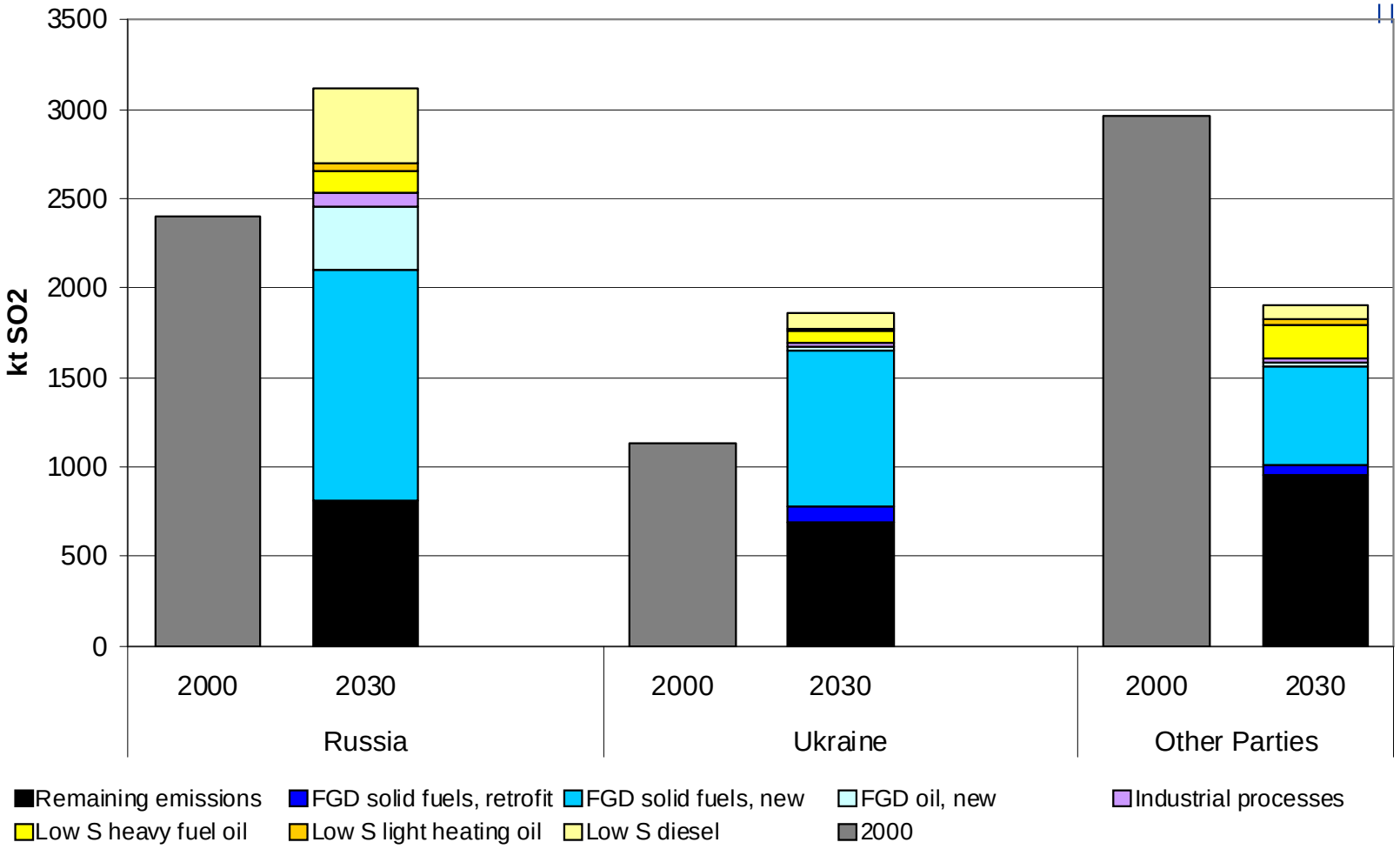
- Baseline projection:
  - National activity projections supplied by Russia (2002), Ukraine (2004)
  - 1996 energy projection used for Gothenburg Protocol for Albania, Belarus, Bosnia-H., Croatia, TFYROM, Serbia-M.
- "With measures" scenario:
  - FGD for new and retrofit of 50% of old plants in 2020
  - Low sulphur fuels (1% heavy fuel oil, 0.1% light fuel oil, 0.05% diesel
  - Industrial processes: -50% SO_2 , -40% NO_x, and current EU PM emission standards for new Member States
  - Primary NO_x measures for boilers
  - Euro 4/IV for diesel and gasoline vehicles
  - Improved electrostatic precipitators for large boilers

Emission projections

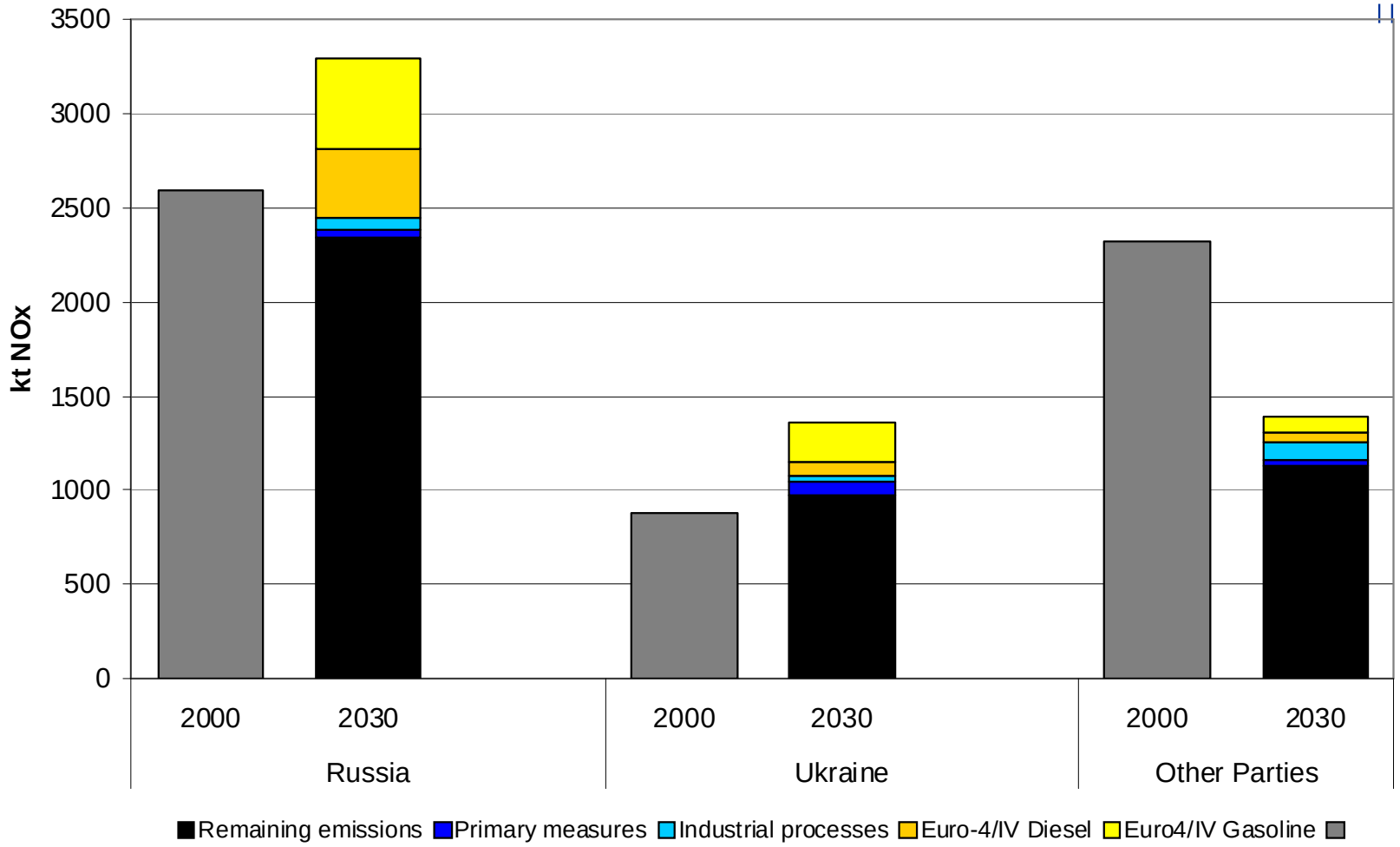
Baseline projection and "with measures" scenario



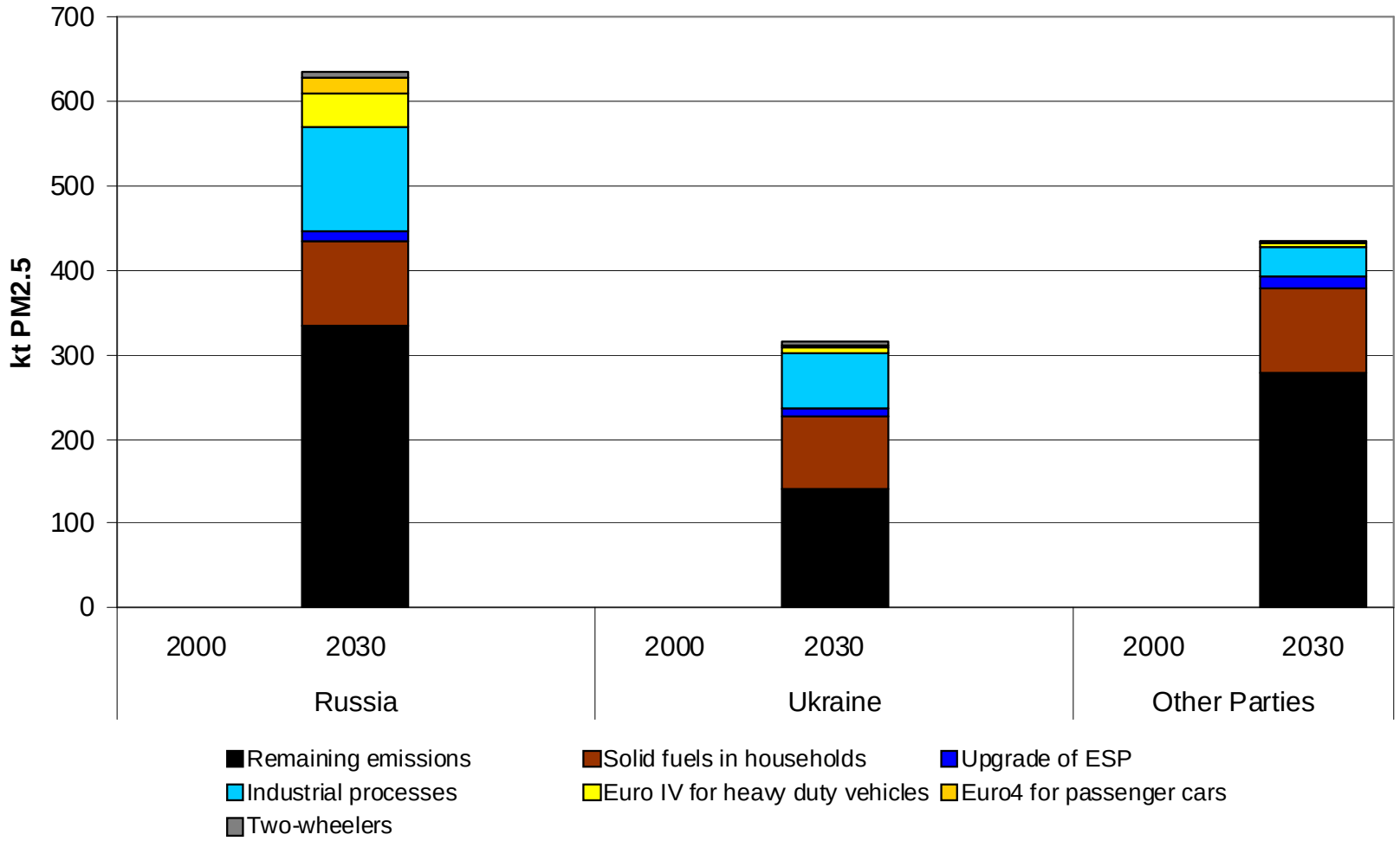
Emission control potentials for SO_2



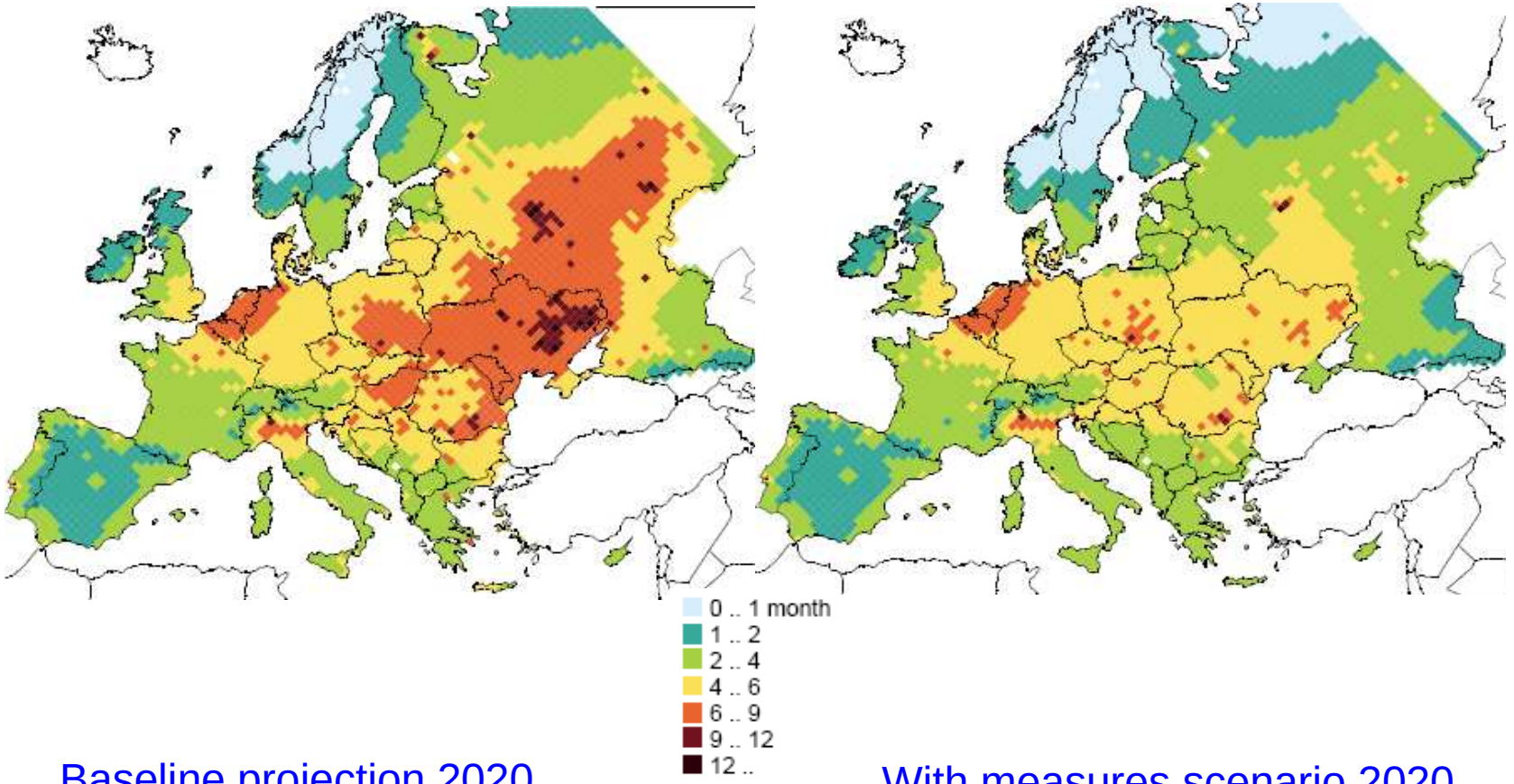
Emission control potentials for NO_x



Emission control potentials for PM



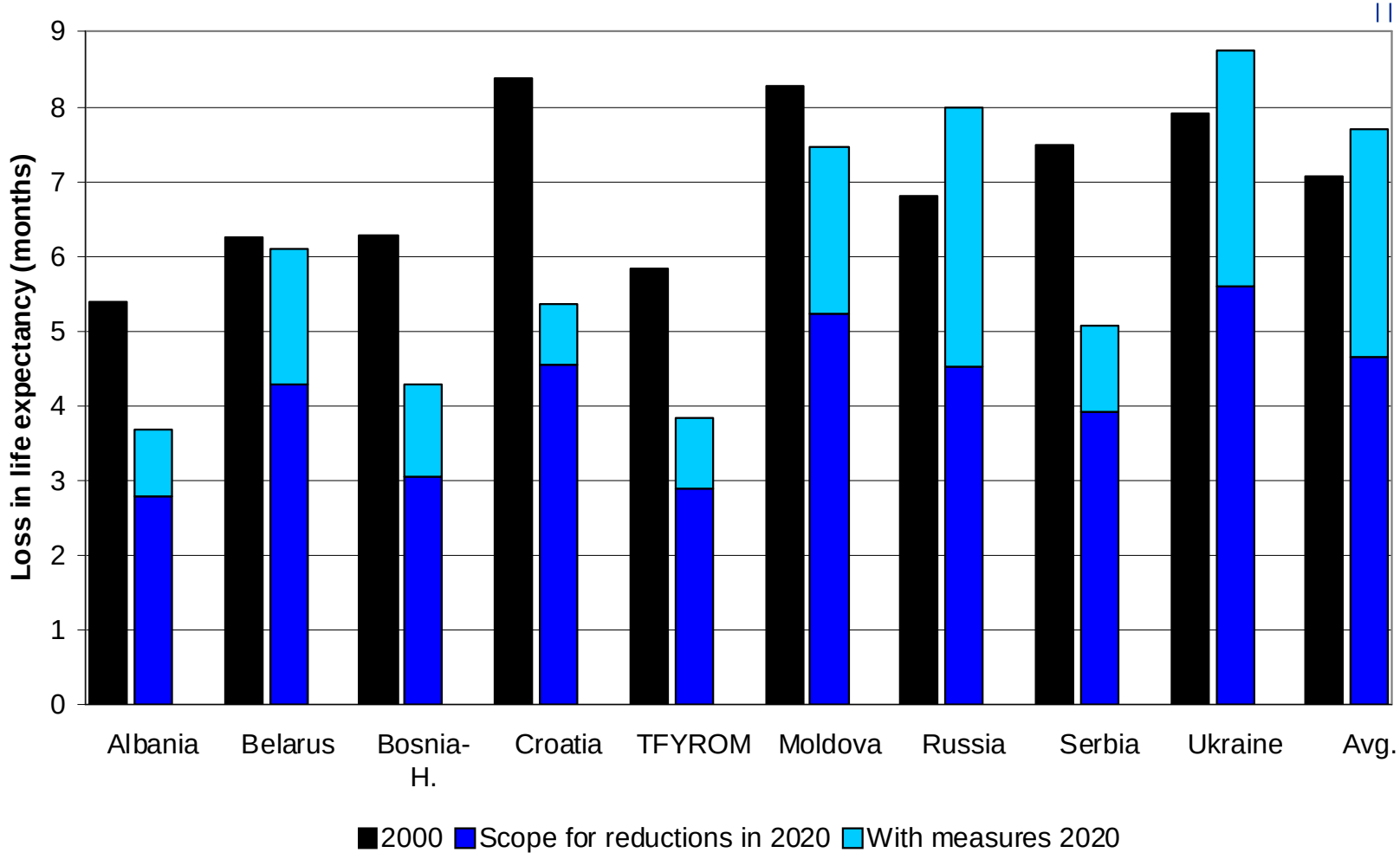
Loss in statistical life expectancy
due to anthropogenic PM2.5



Baseline projection 2020

With measures scenario 2020

Loss in statistical life expectancy
due to anthropogenic PM2.5



Potentials of major control measures

compared to 2020 baseline projection

- FGD for new plants: -40% SO_2
- 0.05% S diesel: -10% SO_2

- Euro-4 for passenger cars: -13% NO_x, -2% PM2.5
- Euro-IV for heavy duty vehicles: -8% NO_x, -4% PM2.5

- EU PM emission limit values for new Member States for stationary sources: -16% PM2.5

- In 2020, implementation of these measures would reduce health impacts from PM by 40 percent.

- In addition, major health improvements would result from a phase-out of solid fuels in households