41st TFIAM-meeting

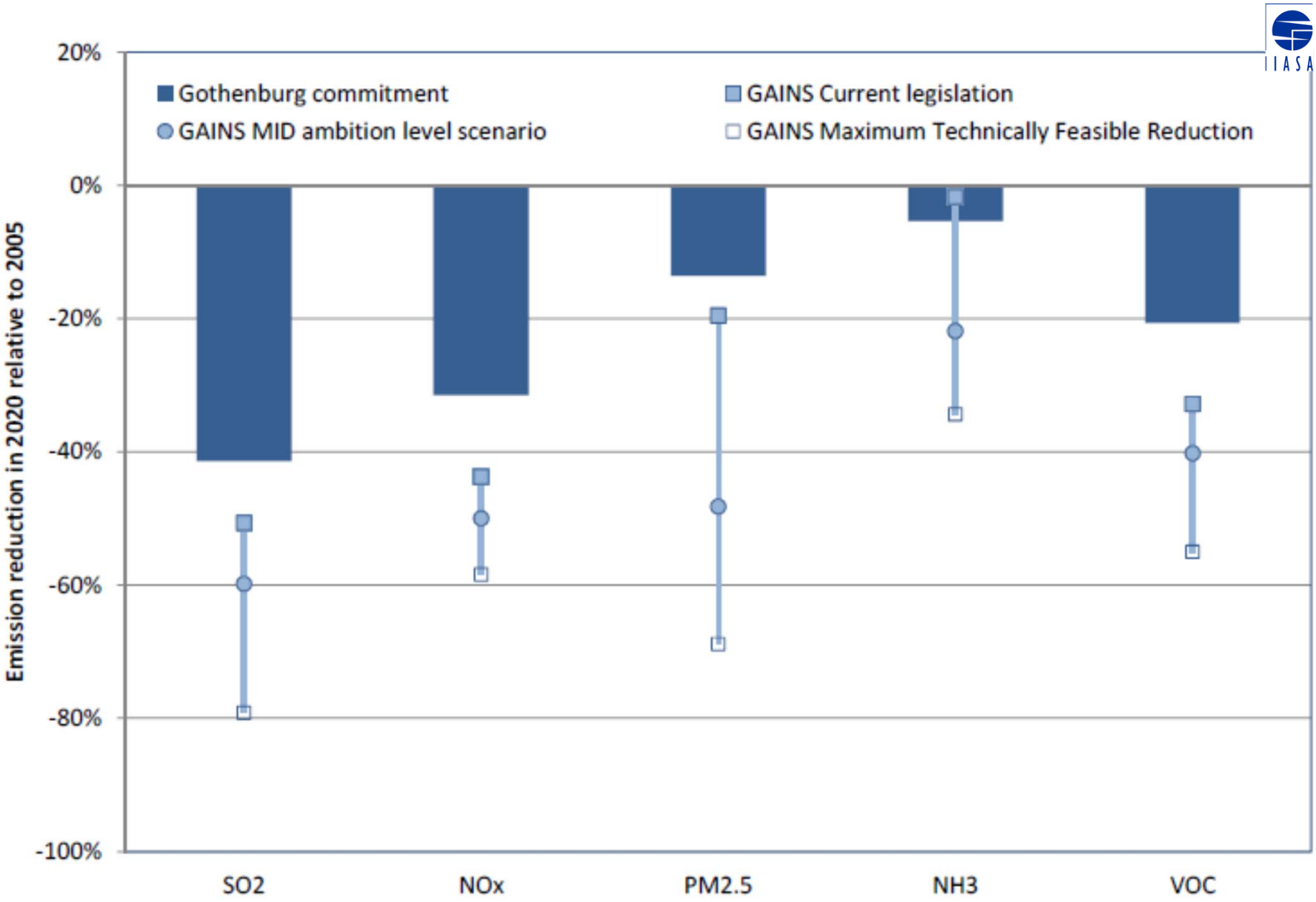
7-9 May 2012

Bilthoven, Netherlands

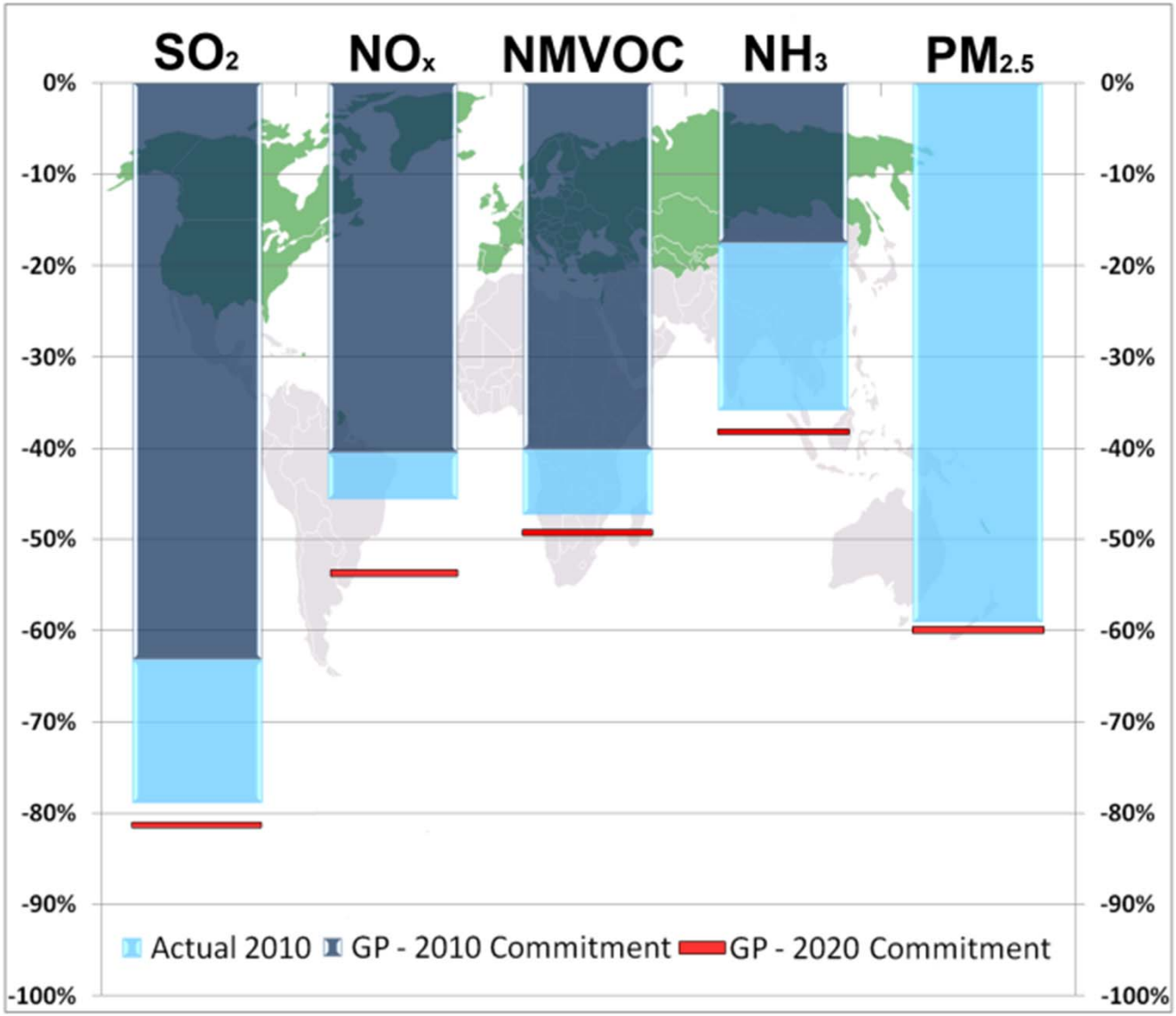
Part 1

Evaluation of the Revised Gothenburg Protocol

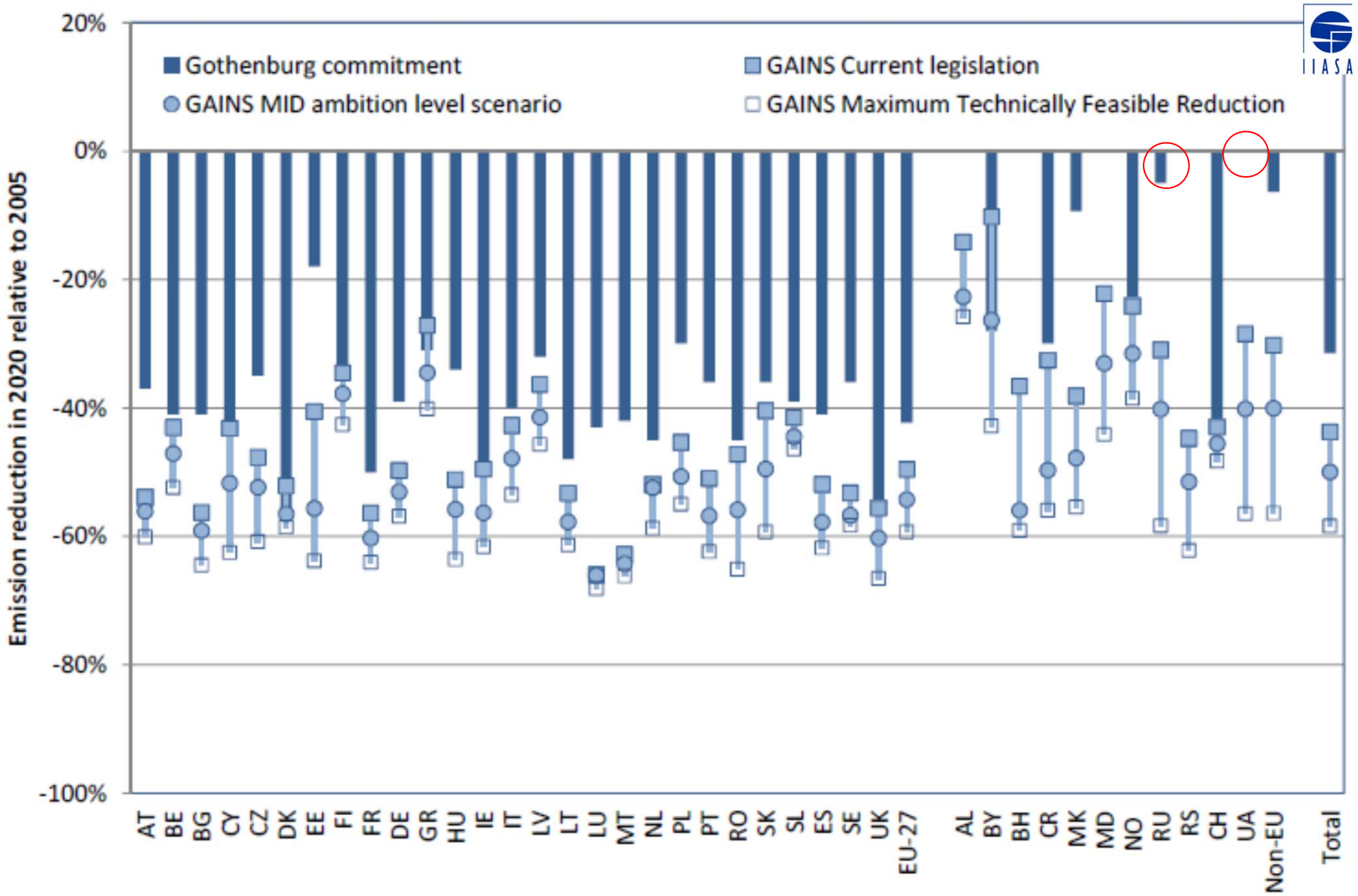
Emission reductions EMEP-domain, 2005-2020



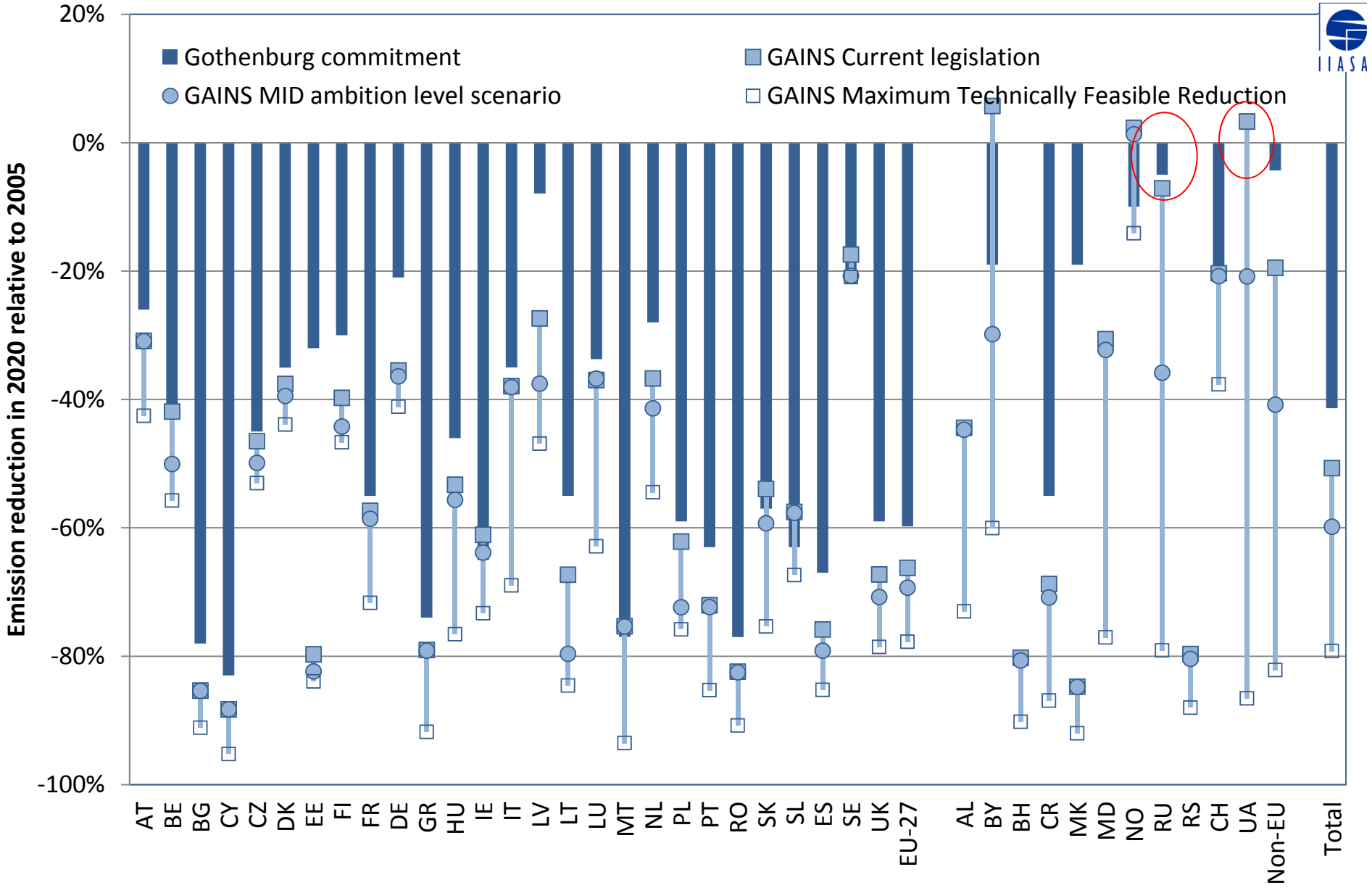
Emission reduction targets for 2010 of the original Gothenburg Protocol compared to new 2020 commitments



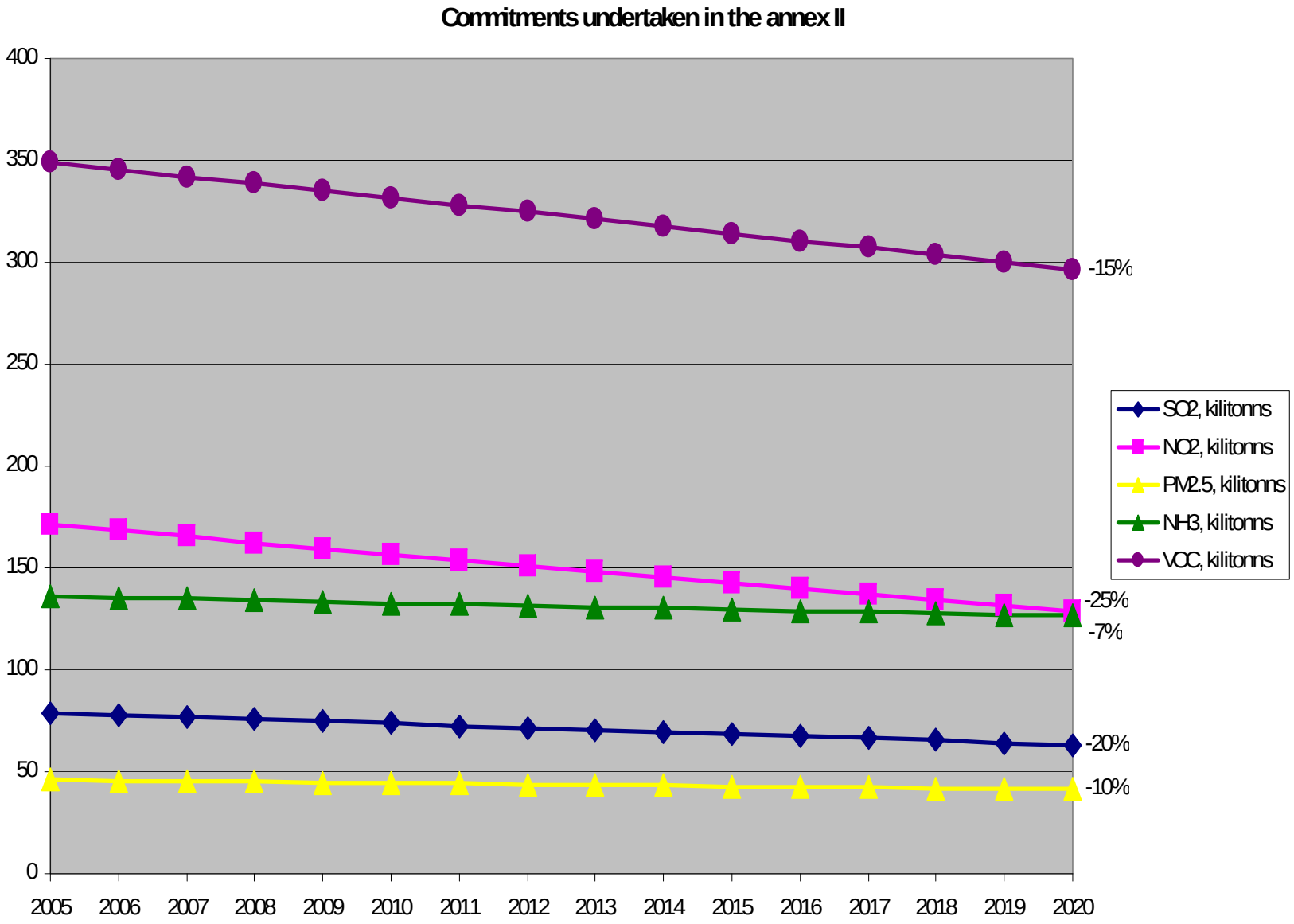
Emission reductions for NO_x 2005-2020



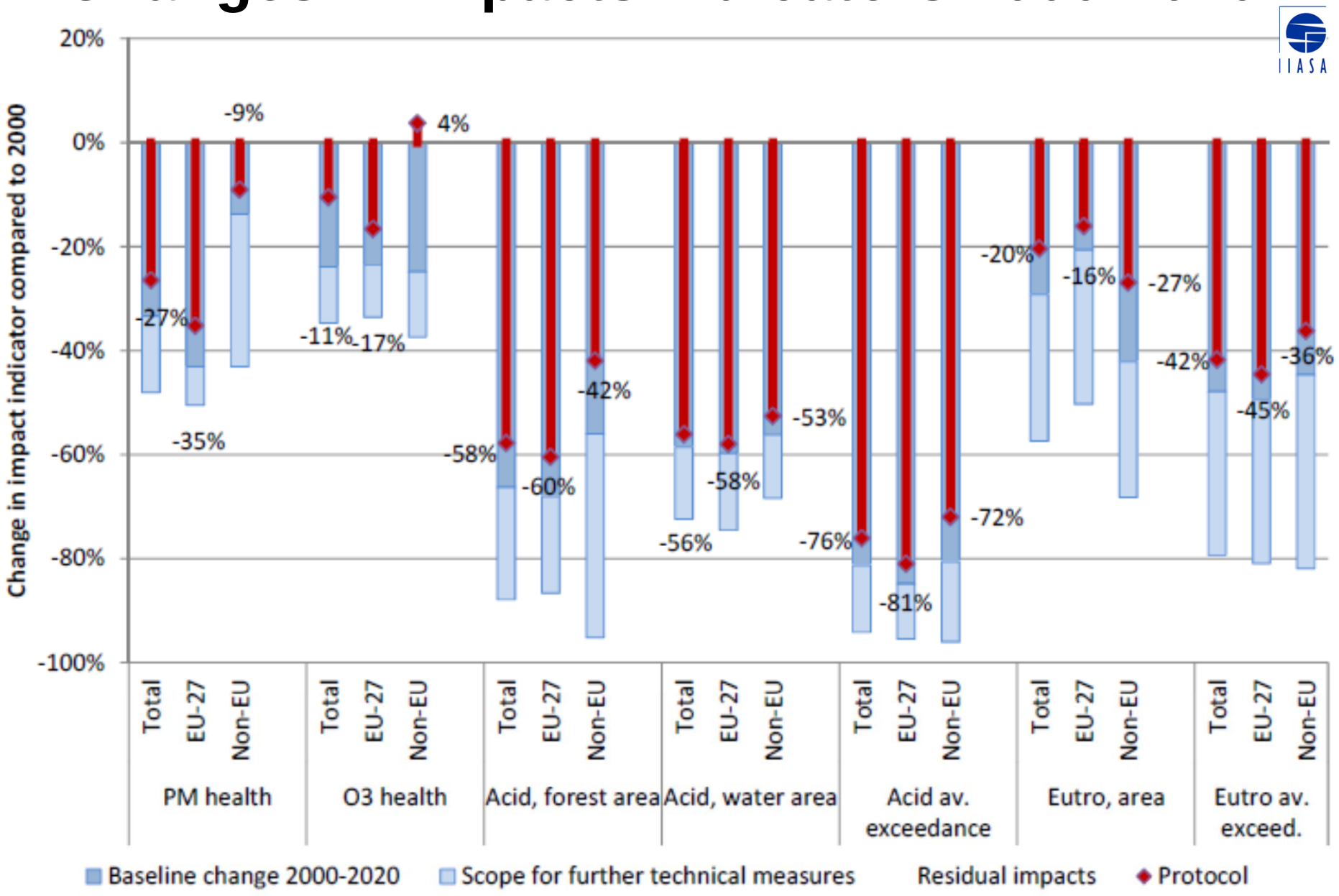
Emission reductions SO_2 2005-2020



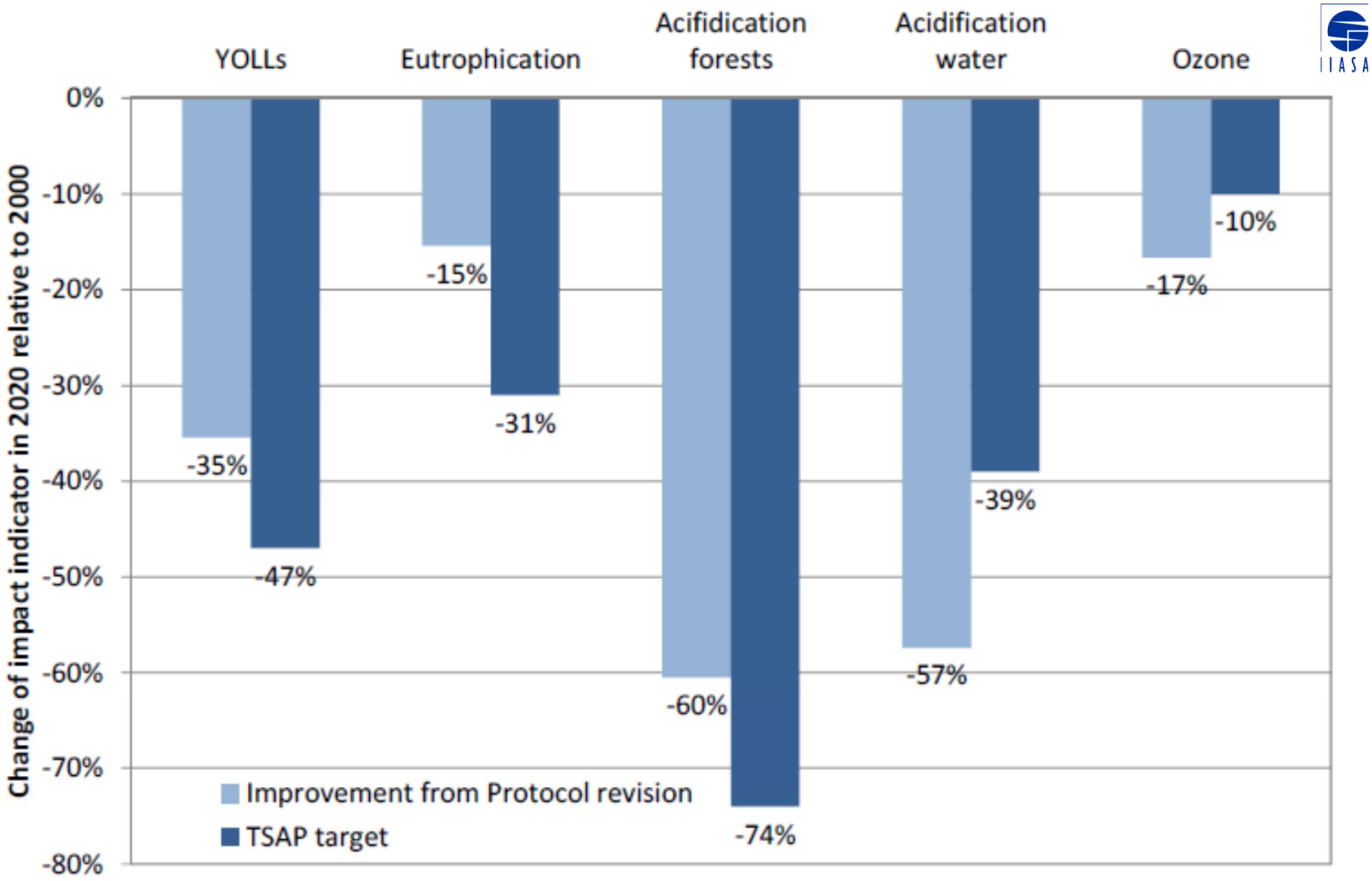
Commitments Belarus 2005-2020



Changes in impacts indicators 2000-2020

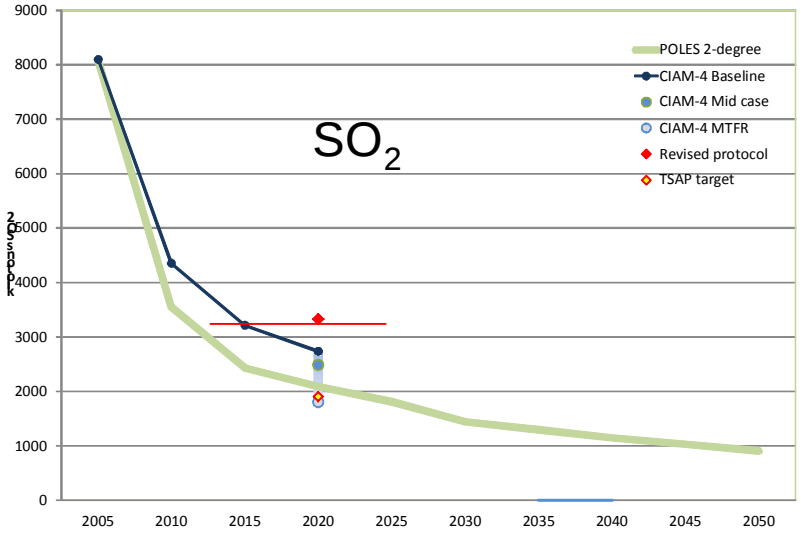


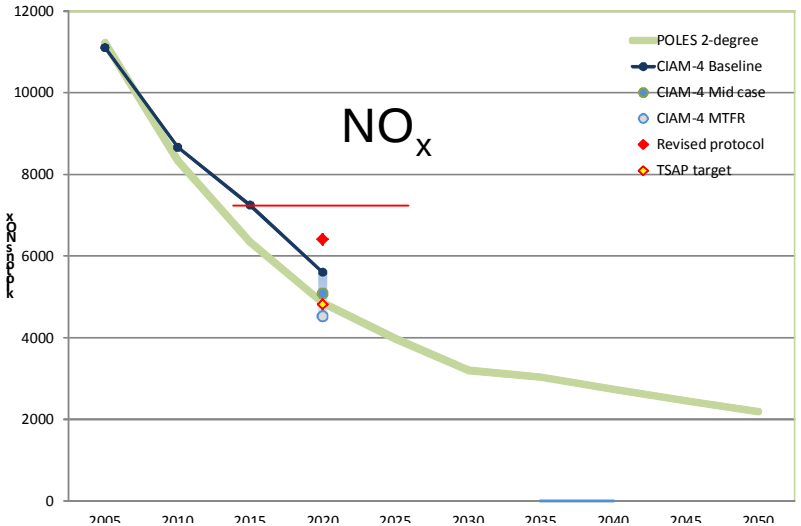
Changes in impact indicators in the EU compared to the TSAP targets (2000-2020)

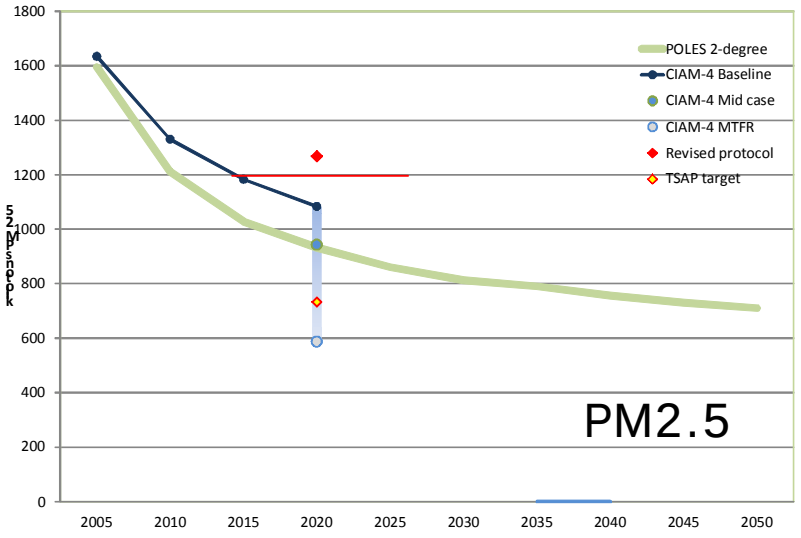


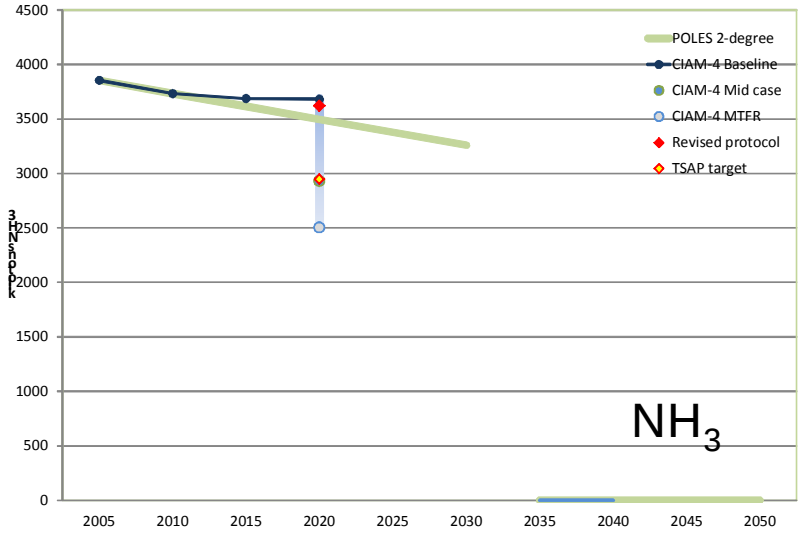
A long-term perspective on EU-27 emissions

The protocol vs TSAP targets vs a 2050 2-degree scenarios



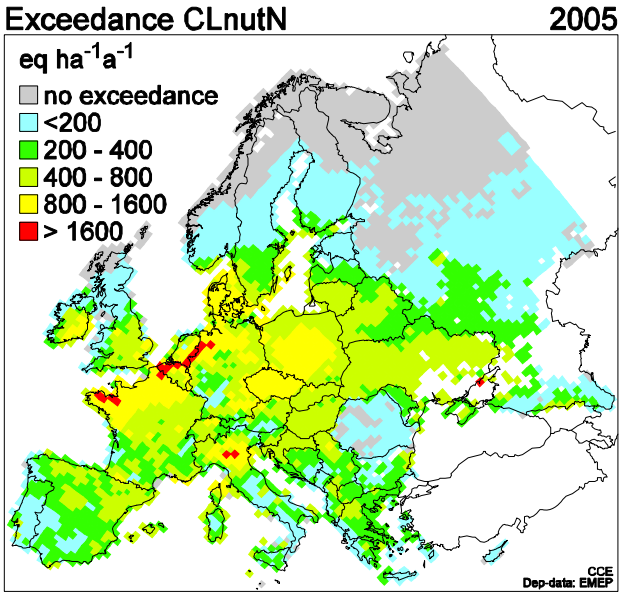




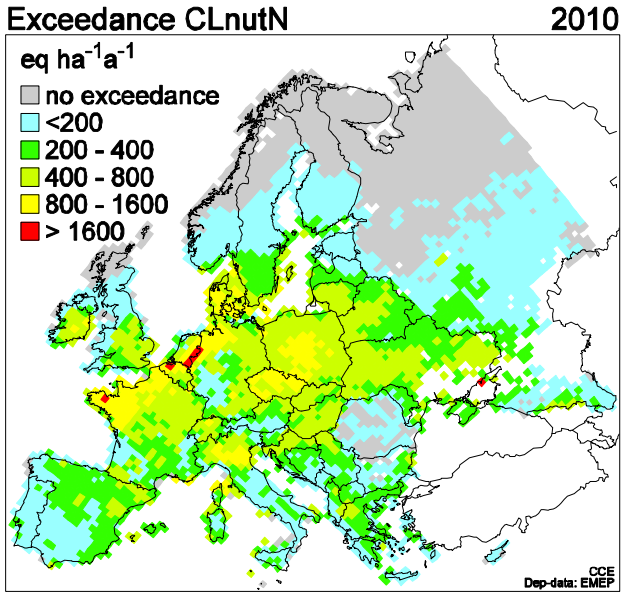


Exceedance (AAE) of Eutrophication Critical Loads

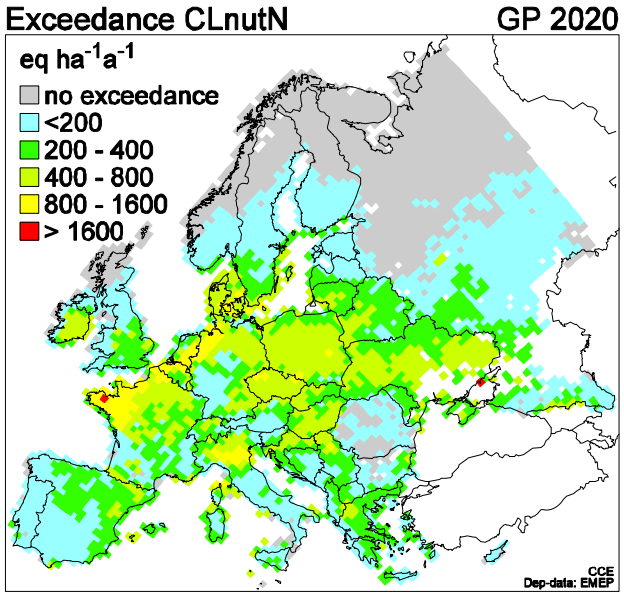
2005



2010



GP 2020



Ecosystem area exceeded:

51 (EU27: 73) %
[2000: 54 (75) %]

45 (68) %

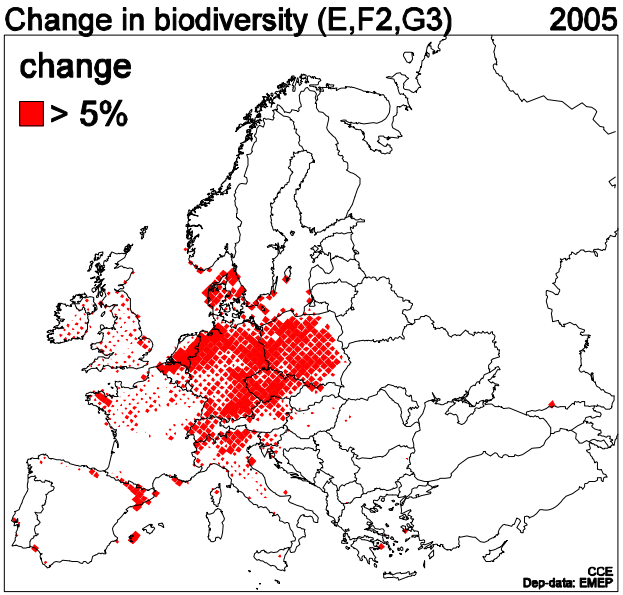
42 (62) %

Preliminary & tentative!

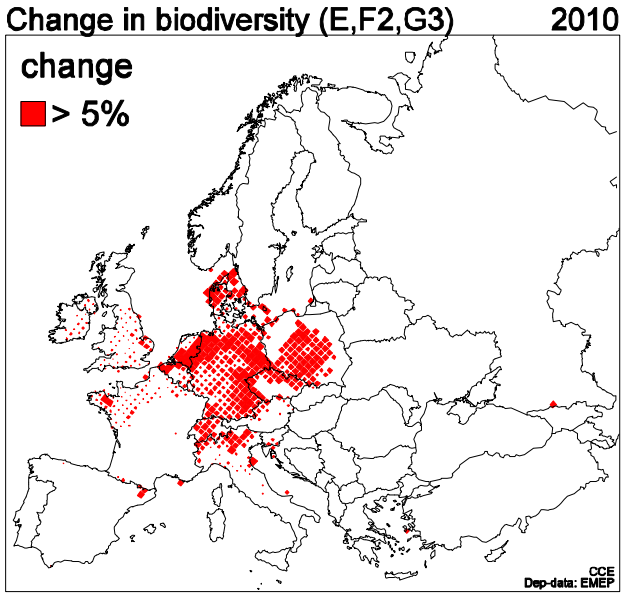
Change in biodiversity (> 5%) in EUNIS classes E, F2, G3

ca. 2 mill km^2 (**about half of total**)
E=grasslands,G2=sub-alpine scrub, G3=coniferous boreal woodland

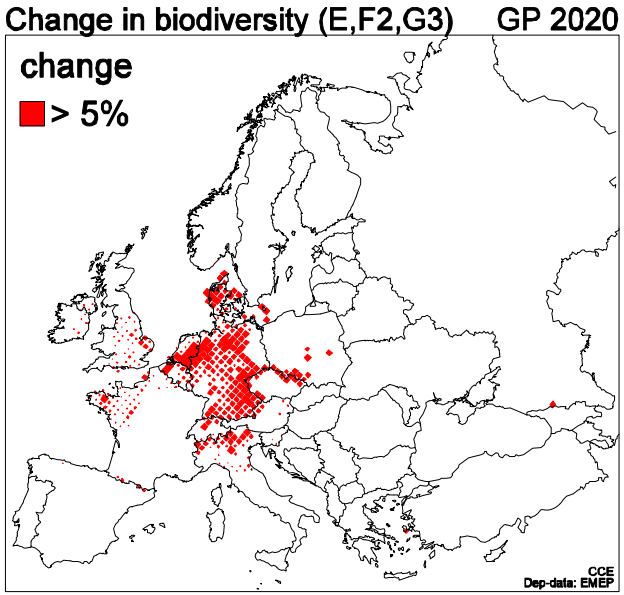
2005



2010



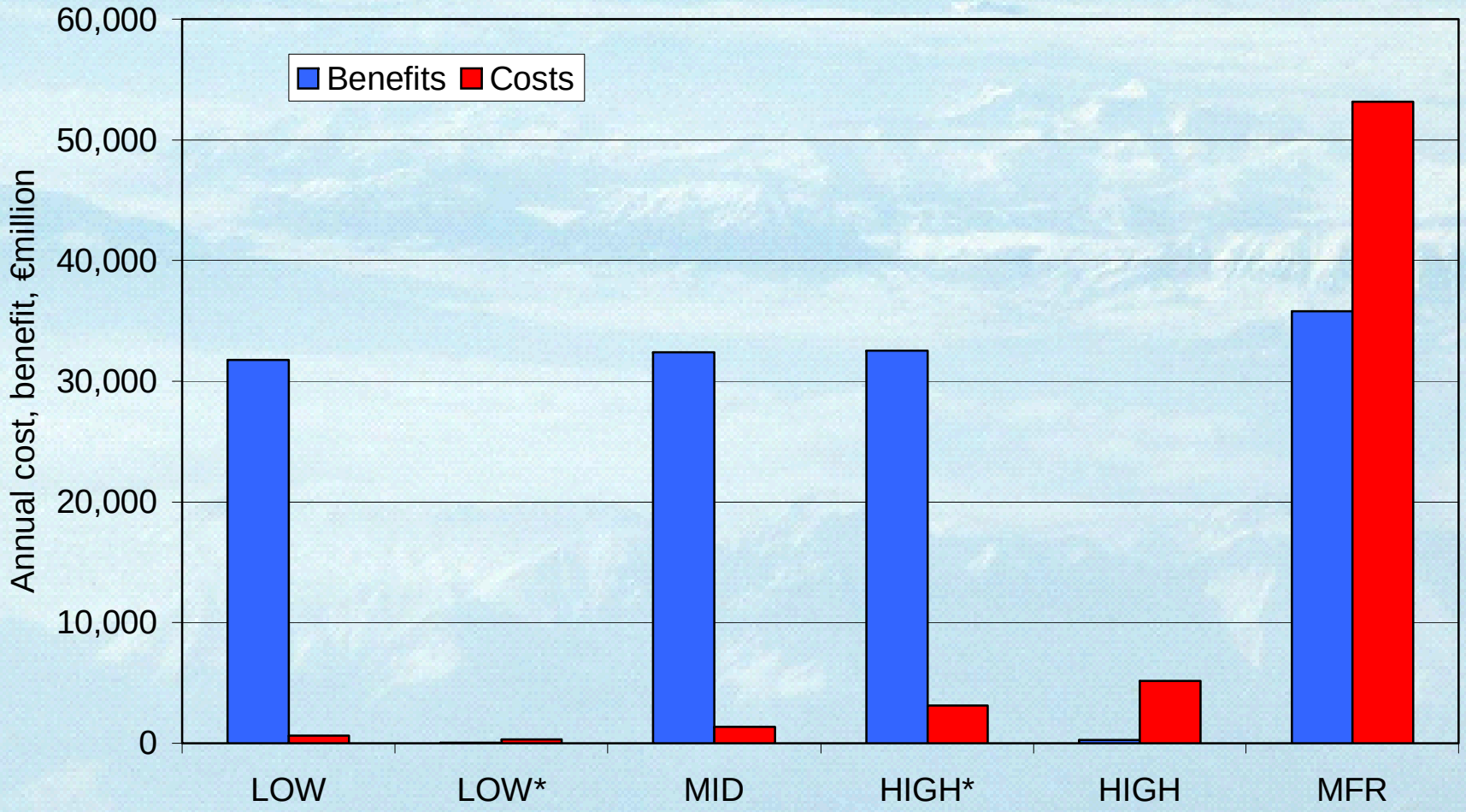
GP 2020



Ecosystem area exceeded:

2005	2010	GP 2020
8.4 (EU27: 13) %	5.6 (8.7) %	3.3 (5.3) %
[2000: 10 (16) %]		

Marginal health benefits vs costs



Conclusion

- Revision is a small step for EU-countries, but might form a breakthrough for the EECCA-region
- Problems for health and ecosystems remain
- Possibility to decrease welfare loss was not utilized
- A long term vision would prevent a lock-in (in existing technologies)

Part 2

Future work

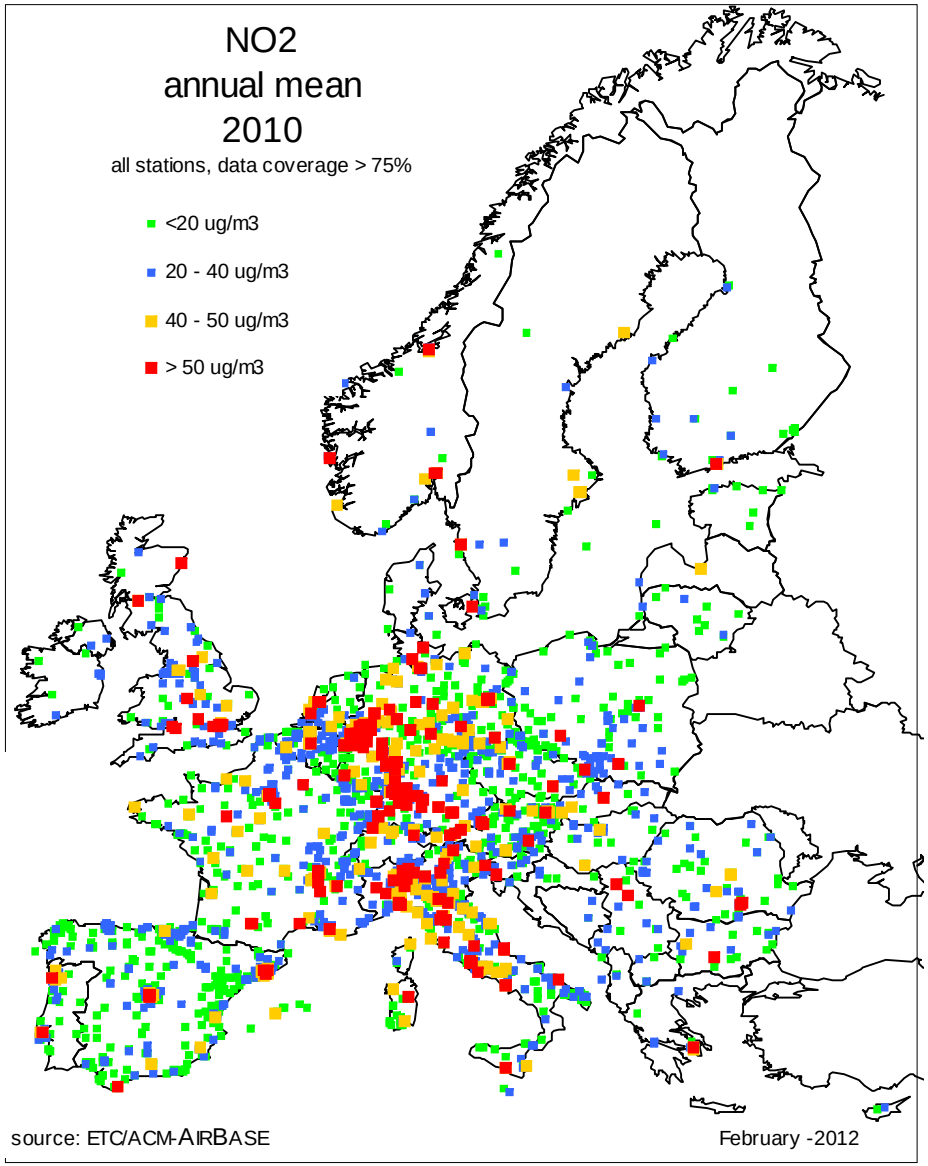
Update guidance document on health and environmental improvements

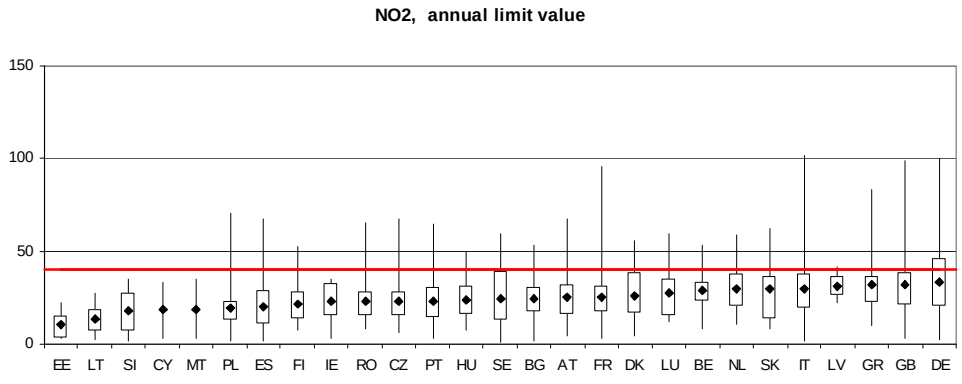
WGSR request → replace CLE by Annex-II data + stand still for others

ble I.2. *Environmental and health indicators values for the year 2020*

Party	Mortality PM (months)	Mortality Ozone (cases/y)	Morbidity PM and Ozone (cases/y)	Acidification (%)	AAE Acid. (mol H/ha.y)	Eutrophication (%)	AAE Eutro. (mol N/ha.y)	Biodiversity (%)	Wheat yield reduction Ozone (%)	Materials Corrosion (%)	Materials Soiling (%)
Austria	4	284	1502	0	0	73	133	3	9	3	0
Belgium	7	341	2893	15	108	85	410	39	14	80	80
Bulgaria	4	373	1269	0	0	59	62	0	10	5	5
Cyprus	4	26	130	0	0	66	124	0	17	0	100
Czech Rep.	5	372	1966	18	75	100	652	12	11	43	1
Denmark	4	151	816	7	15	100	603	44	6	1	39
Estonia	3	18	127	0	0	31	25	0	7	0	0
Finland	2	46	437	1	1	26	18	0	5	0	0
France	4	1859	12009	3	9	87	277	1	10	7	20
Germany	5	3013	18630	19	62	62	278	38	11	43	16
Greece	4	506	2622	0	0	98	187	0	13	3	12
Hungary	5	516	2010	4	6	99	304	0	9	11	2
Ireland	2	80	395	6	12	79	386	0	4	4	55
Italy	4	3408	13178	0	0	50	164	20	16	20	9
Latvia	4	42	310	3	4	92	148	0	6	0	0
Lithuania	4	62	399	30	79	100	376	0	7	0	0
Luxembourg	5	23	86	12	38	99	667	15	13	53	53
Malta	4	20	92						17	100	100
Netherlands	6	339	4128	75	1043	86	891	56	9	100	100

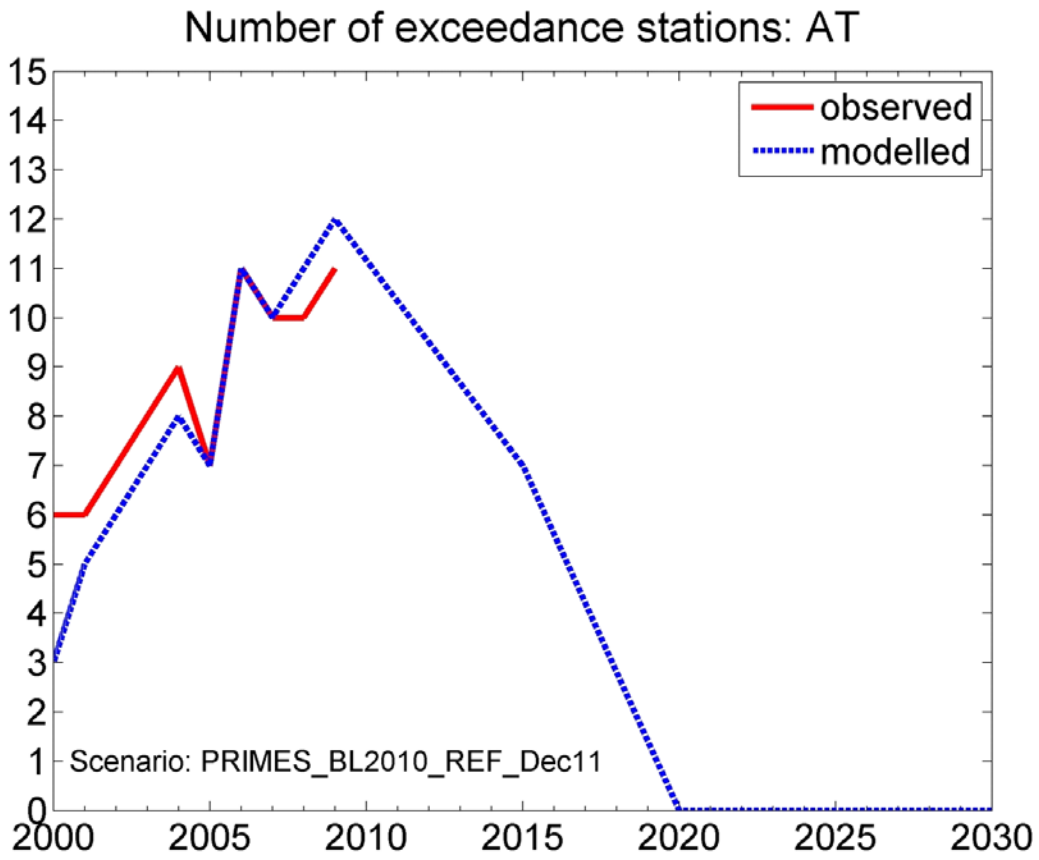
National emission ceilings to support implementation of air quality limit values





Modelling local air quality

Scenario calculations with the tuned parameters (2): Compliance



Local vs European policy

- The revised protocol is not sufficient to meet the air quality limit values of the EU everywhere.

- The revised protocol doesn’t require additional national policies, but now more additional local measures are needed.

- Is the balance between European wide and local efforts cost-effective?

WGSR decisions 14 September 2012

1 Expressed appreciation of the work of the Task Force on Integrated Assessment Modelling (TFIAM) and took note of its conclusions, in particular:
   - the need for analyses of longer term scenarios linked to climate and energy policies;
   - a wider geographical scope for the assessment of abatement options aimed at ozone and other short lived climate pollutants;
   - the identification of possible synergies with other environmental issues and energy, transport and agriculture policies;
   - the efficient distribution of costs of local and European wide measures

2 Supported the continuation of its work and further sensitivity analysis and stressed the need for a good communication between WGSR representatives and national experts in TFIAM and the support of these experts in preparing bilateral consultations on the data used in GAINS

3 Requested countries to submit data for 2030, to enable the task force to update its input data for integrated assessment modelling

WGSR decisions 14 September 2012 - ctd

4 Recommended the Executive Body to request the EMEP Steering Body to consider the inclusion of the ozone flux based approach in integrated assessment

5 Encouraged the Executive Body to invite the EMEP Steering Body and the Working Group on Effects to add elements in their work plans with regard to the contribution of European wide nitrogen abatement measures to prevent the loss of biodiversity in protected nature areas

6 Encouraged the Executive Body to invite the EMEP Steering Body to continue to address the linkages between air and climate policy as well as the effects of ozone and black carbon in integrated assessment modelling and the consideration of long-term scenarios

7 Encouraged the continuation of technical assistance to countries in Eastern Europe, the Caucasus and Central Asia and to consider the best formats possible and requested Parties to consider funding these capacity building efforts and/or to work with individual countries in that region on a bilateral basis

8 Requested Heads of delegation from countries in Eastern Europe, the Caucasus and Central Asia to nominate institutes and experts to work on national integrated assessment modelling in the coming years through technical assistance