

Attainability of ambition levels - Norway

Roar Gammelsæter

Key points

- National projections and GAINS scenarios are only in part corresponding.
- The reasons are not clear.
- The ambition level "Mid" seems to be attainable for PM_{2,5} and SO₂.
- We need further assessments to conclude on the attainability for NOx, ammonia and VOC.



National projections vs GAINS BL (PRIMES)

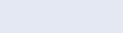
	National emissions 2009	National projection 2020	GAINS national scenario BL	GAINS PRIMES scenario BL	
Kt			2020	2020	
VOC	141	143	88	86	-40% (-57 kt)
NOx	178	159* (<i>148</i>)	148	136	-14% (-23 kt)
NH3	23	23	23	22	- 4% (-1 kt)
PM2,5	42	Х	42	31	X
SO2	16	21	24	24	+14% (3 kt)

* adjusted by Klif in February 2011



Possible reasons for differences in emissions?

- Emission factors?
- Removal efficiencies?



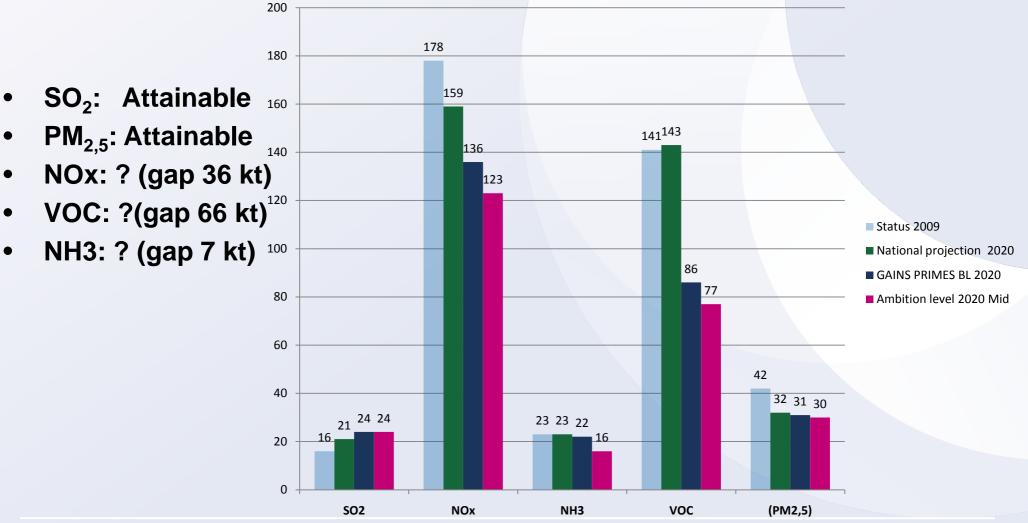


Examples of differences for specific sources

•	VO	С	GAINS
	_	Offshore loading (oil ind):	14 kt lower
	_	Light duty vehicles (gasoline):	16 kt lower
	_	Use of solvents:	20 kt lower
		SUM:	50 kt lower
•	NO	X	GAINS
	_	Ships:	8 kt <u>higher</u>
	_	Heavy duty vehicles:	6 kt lower
	_	Off-road machinery:	5 kt lower
	_	Off-shore gas turbines:	8 kt lower
	_	Process industry:	3 kt lower
		SUM:	14 kt lower



Are the "Mid" ambition levels attainable?



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