Development of a National Air Quality Plan in Sweden

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NATUR VÅRDS VERKET

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Disposition

- Background
- Identified gaps
- Available measures
  - Potential co-benefits with climate policy
  - Other measures
- Work plan

Background

- Amended EU NEC Directive decided in 2016
- Sweden needs to reduce emissions of some pollutants more than previously planned after 2020

Identified gaps

Ambition for emission reductions compared to 2005 emissions

	NO_X	SO_2	NMVOC	NH_3	$PM_{2.5}$
2020	36%	22%	25%	15%	19%
2025	-	-	-	-	-
2030	66%	22%	36%	17%	19%

Emission reductions requiring implementation of additional measures

	NO_X	SO_2	NMVOC	NH_3	$PM_{2.5}$
2020				**2 kt**	
2025				***1 kt***	
2030	**13 kt**			**1 kt**	

Available measures

- End-of-pipe and climate measures have been analysed
- Some structural measures are also considered
- The new Swedish Climate Law opens up for co-benefits between climate and air pollution
- Analysis made as scenario analysis comparing baseline emissions and technology use with alternative pathways

Available measures – climate policy co-benefits potential in 2030

Sector	Measure	CO_2 reduction	NO_x reduction
		[Mtonne]	[ktonne]
Electricity & Heat (non EU-ETS)	More renewable and/or Energy efficiency	0.0 – 0.5	-0.1 – 0.2
Industrial processes (non EU-ETS)	More renewable and/or Energy efficiency	0.5 – 1.5	0.1 – 1.0
Road transport, currently considered policies	Electrification, Fuel efficiency, Public transport, More biofuels	2.8 – 3.0	1.5 – 1.6
Road transport, if reaching climate policy targets	*As above, but more far reaching*	*8.1 – 8.9*	*4.0 – 4.6*

Estimated variation dependent on how policies are implemented, and how much emphasis there is on biofuels.

Åström, 2018, IVL report C270

Available measures – NOx other measures

Sector	Measure	NO_x reduction
Transport (Air quality)	*Renewal passenger cars and heavy duty*	< 2.8 kt
Non-road machinery	*Renewal, increased share of hybrids*	< 1.1 kt
Industry	*Optimising combustion, SNCR/SCR*	≤ 15 kt

Potential – NOx (All sectors)

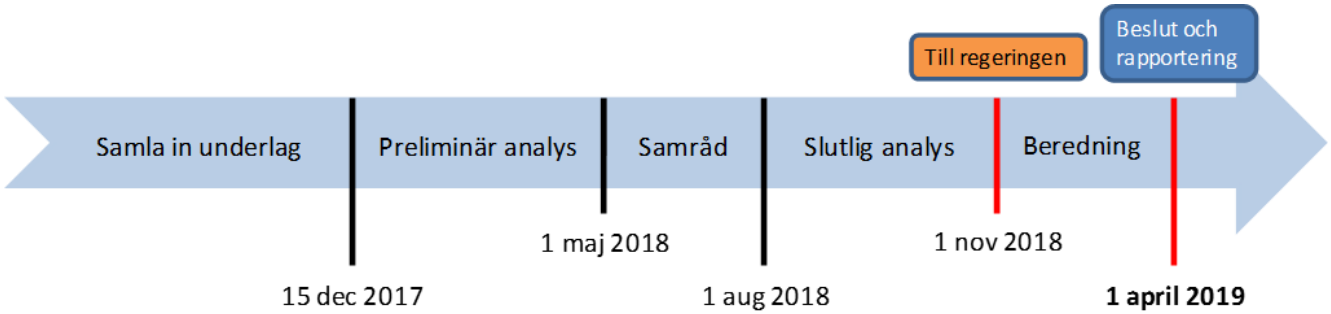
2030

Sector		Estimated potential
Transport (Air quality)	*Renewal passenger cars and heavy duty*	< 2.8 kt
Transport (Climate)	*Reduced traffic, increased efficiency for passenger cars and heavy duty*	< 4.5 kt
Non-road machinery	*Renewal, increased share of hybrids*	< 1.1 kt
Industry	*Optimising combustion, SNCR/SCR*	≤ 15 kt
Sum potential		**< 23.4 kt**

Potential – NH_3 (Agricultural sector) 2020

	Estimated potential
Incorporation same day	< 0.5 kt
Incorporation within 4 hours	< 0.3 kt
Slurry band spreading	< 0.6 kt
Covered storage	< 0.6 kt
Sum potential	**< 2.0 kt**

Workplan



- Identify objectives
- Selection of most cost-effective package of technical measures
- Coordination with relevant agencies
- Strategic environmental assessment
- Evaluation and selection of policy measures
- Proposal delivered 1 Nov 2018
- Processing between ministries
- Possible update due to processing and new projection for emissions

Thank you

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