

Progress in Integrated Assessment Modelling in Sweden

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Disposition

- Intro
- Current policy-related activities
- Comparisons with the EC-emission scenario for Sweden / Lessons from the bilateral consultation with IIASA
- Current research activities
- Food for thought? – The future of road transport?

Intro

- Integrated Assessment Modelling in Sweden is performed with the GAINS model
- Activities relates to both policy-related as well as research activities

Current policy-related activities

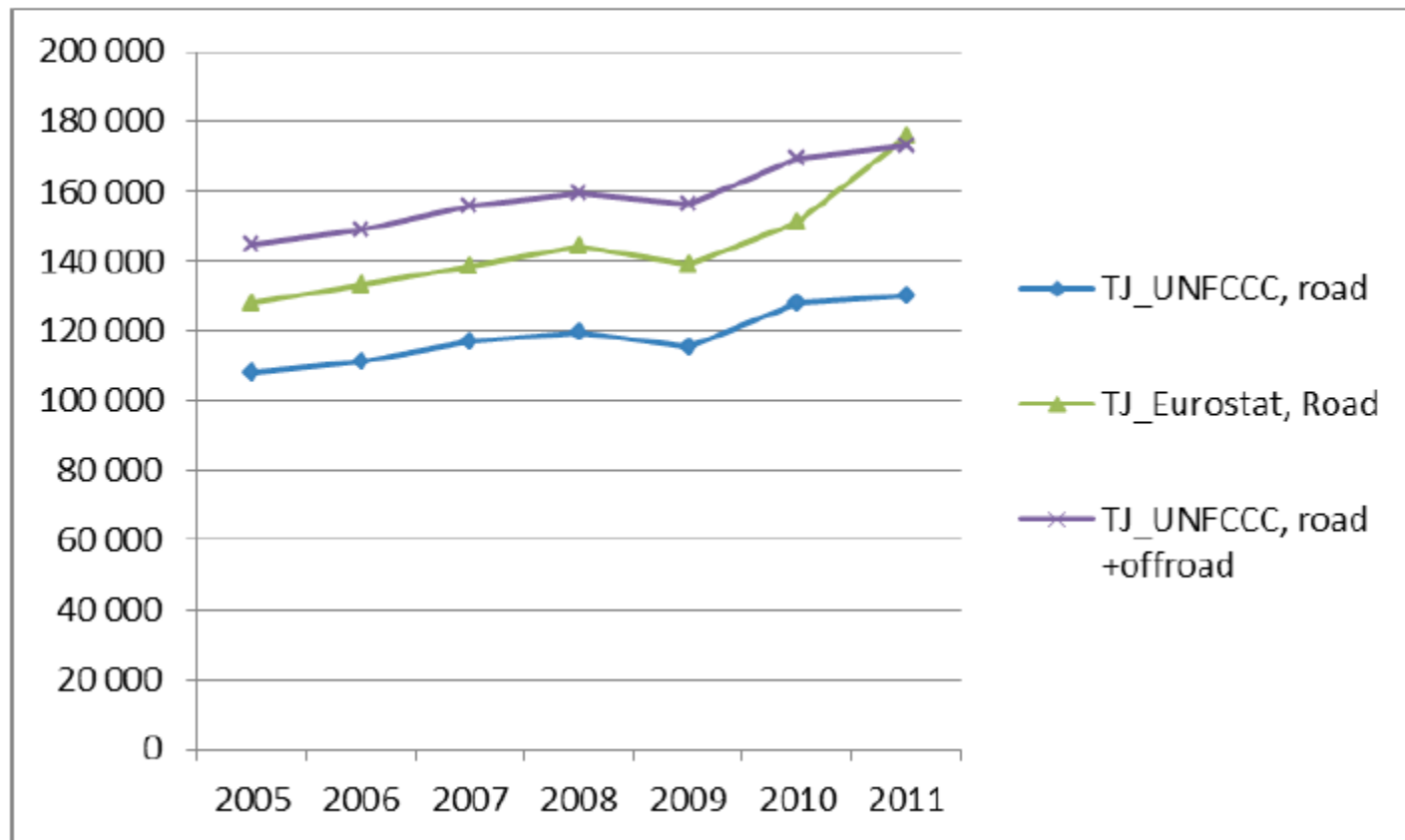
- Comparisons of Swedish emission inventories & projections with EC/IIASA emission scenarios
 - Activity data
 - Emission factors
- Inventory of current use of emission control technologies
 - LCP-plants – based on the European Pollutant Release and Transfer Register
 - Mobile sources – based on HBEFA modelling and other Swedish models
- Analysis of emission abatement potentials in Sweden

Comparisons with the EC-emission scenario for Sweden / Lessons from the bilateral consultation with IIASA

- For Sweden, the largest discrepancies of concern are NO_x and NMVOC emissions
- Sector-wise, differences in the transport sector (road & NRMM) causes the largest differences
- Different reporting systems cause additional modelling stress...

Which data should IASA choose?

Figure 7. Diesel consumption in road transportation and offroad vehicles



Gerner et al., 2013

Swedish emissions in 2005 and 2030?

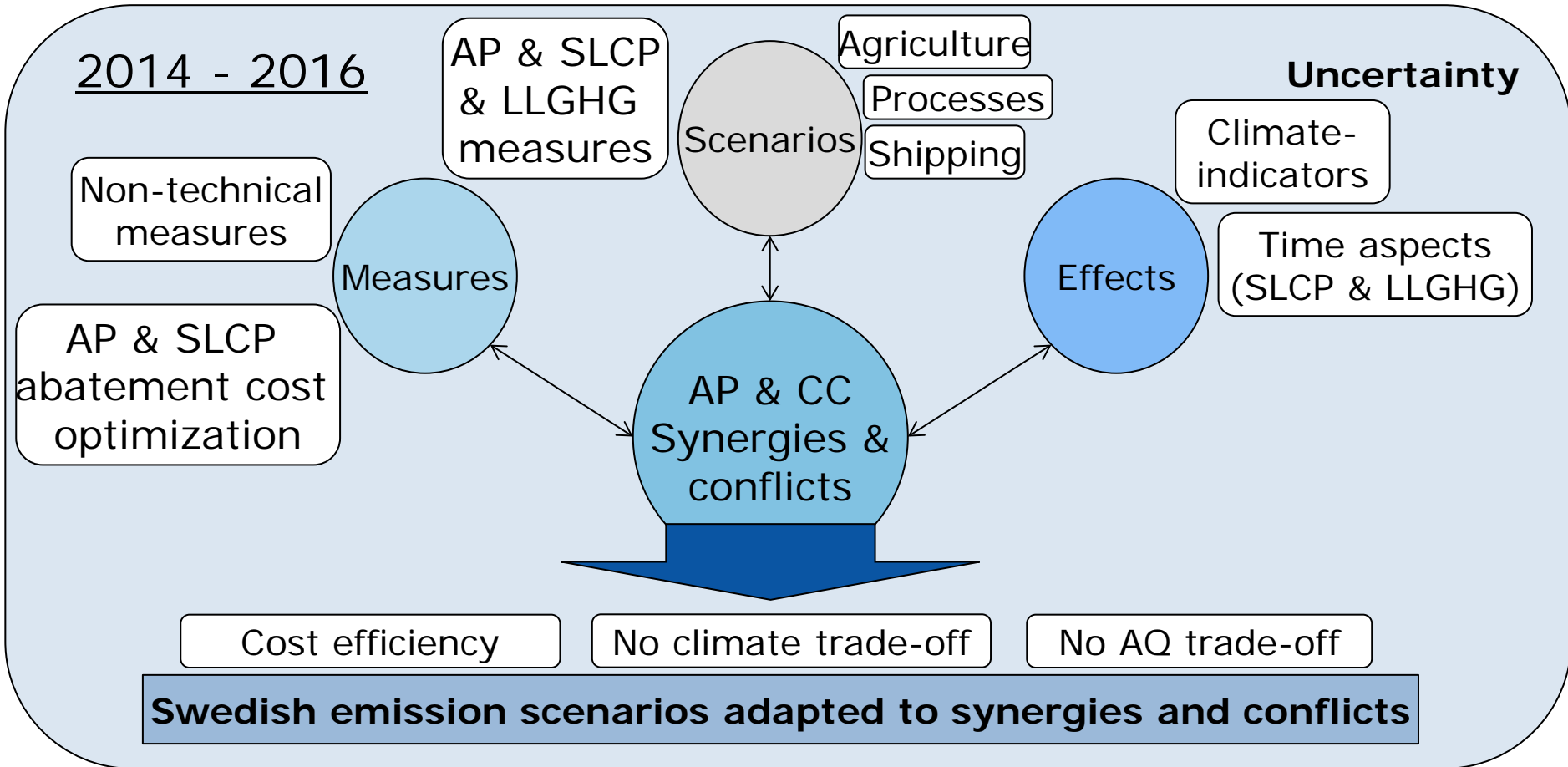
Source	Pollutant	2005	2030
IIASA TSAP #11	SO2	38.0	32.0
SWE Subm. 2014/2013	SO2	35.9	28.8
SWE Subm. 2012	SO2	-	
CIAM #4/2011	SO2	35.0	
SWE Subm. 2011	SO2	35.9	
SWE Subm. 07	SO2	39.7	
IIASA TSAP #11	NOx	215.7	75.5
SWE Subm. 2014/2013	NOx	174.7	81.6
SWE Subm. 2012	NOx	180.5	
CIAM #4/2011	NOx	206.0	
SWE Subm. 2011	NOx	173.6	
SWE Subm. 07	NOx	204.9	

Source	Pollutant	2005	2030
IIASA TSAP #11	PM2.5	31.2	25.2
SWE Subm. 2014/2013	PM2.5	29.9	22.3
SWE Subm. 2012	PM2.5	-	
CIAM #4/2011	PM2.5	29.0	
SWE Subm. 2011	PM2.5	29.4	
SWE Subm. 07	PM2.5	32.9	
IIASA TSAP #11	NH3	53.5	48.7
SWE Subm. 2014/2013	NH3	55.6	47.9
IIASA TSAP #11	NMVOC	209.6	131.6
SWE Subm. 2014/2013	NMVOC	197.7	135.5
SWE Subm. 2012	NMVOC	-	
CIAM #4/2011	NMVOC	199.0	
SWE Subm. 2011	NMVOC	183.8	
SWE Subm. 07	NMVOC	198.8	

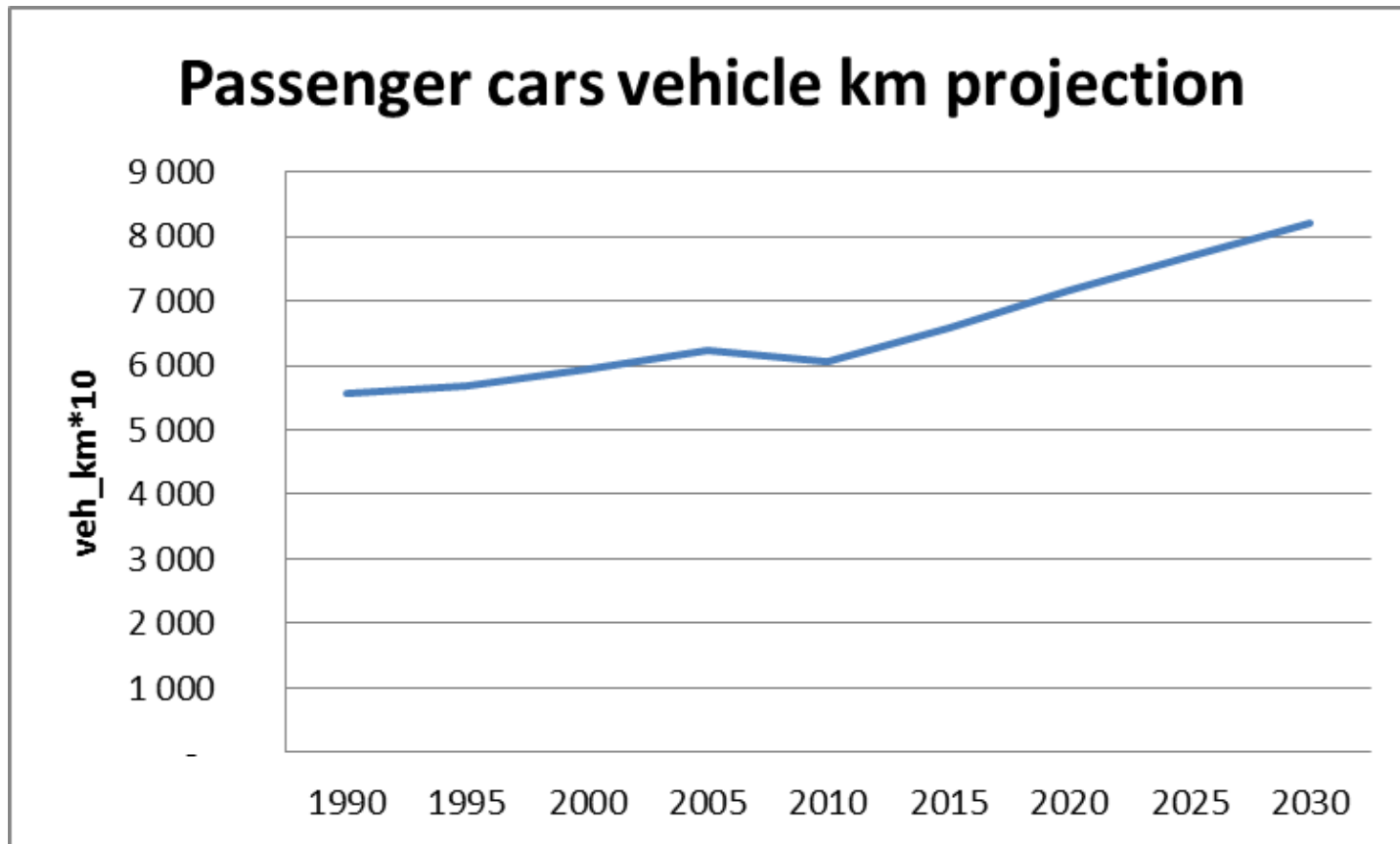
Current research activities

- Research currently performed within the research programmes SCAC and CLEO
 - www.scac.se
 - www.cleoresearch.se

Current research activities – a topic overview



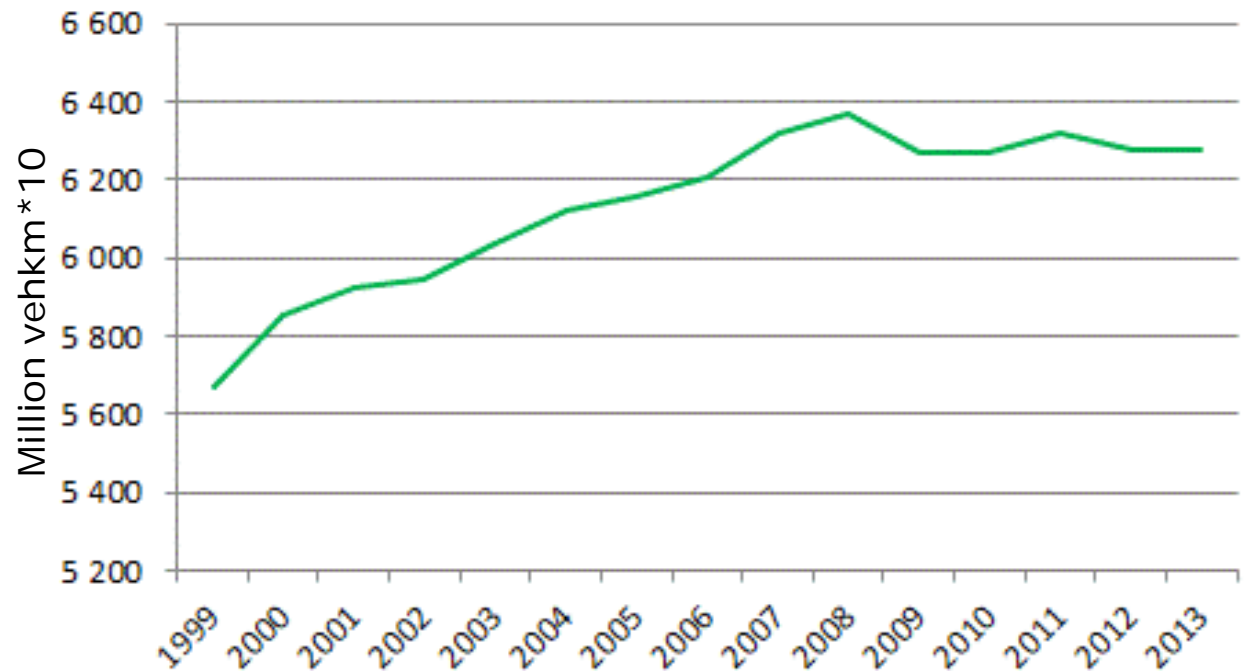
The future of road transport? - Projected traffic work in Sweden



KRAPP, 2012

Development of traffic work in Sweden – is *Peak Travel* here?

- Diesel share up from 5% in 2003 to 24% in 2013
- Annual mileage seems to decline (-6% from 2009)
- Millard-Ball & Schipper, 2011 provides an explanation?



www.fores.se, as of April 2014

Relationship between travel and per capita GDP over time – selected countries

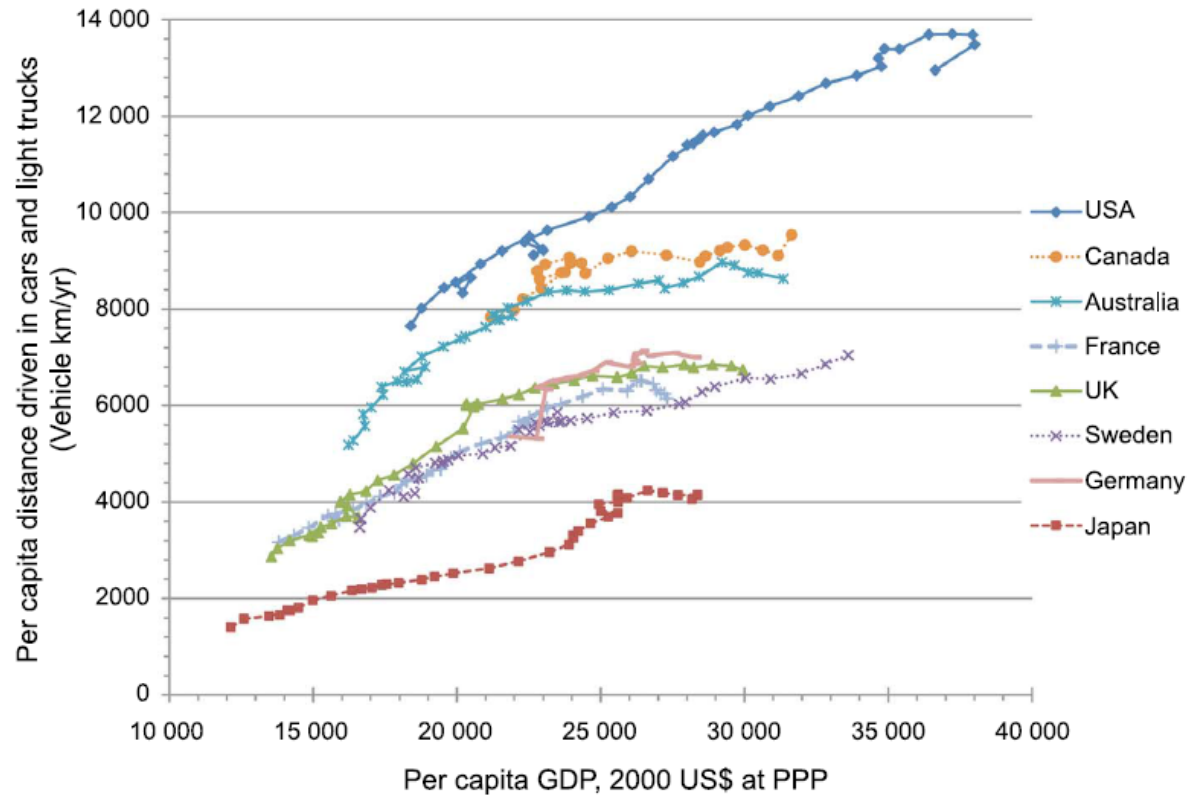


Figure 3. Distance driven in cars and light trucks 1970–2007/08.

Millard-Ball & Schipper, 2011

Thank you