

# **NTM**

**Network for Transport and Environment**

*NTM progress with regard to performance assessment*

- Methodologies*
- Data*
- Tools*

*Magnus Swahn*



# The origin of NTM - 1993



Fotox Peter Nordahl

## Konferens för miljön

– Det är dags att vi lyfter oss ur symboldiskussionernas träsck och ägnar oss åt de faktiska miljöproblemen, sa kommunikationsminister Mats Odell på en konferens med temat "Gods-transporter och miljö" som ägde rum tisdagen den 23 november.

Konferensen anordnades gemen-

*Åsa Lindell, Bilspedition, Mats Odell, kommunikationsminister och Magnus Swahn, ASG AB är överens om att miljöfrågorna är viktiga för transportsektorn.*

samt av ASG, Bilspedition, Sveriges Speditörförbund, Svenska Åkeriförbundet, Sveriges Redareförening, SJ Gods och SAS Cargo. Under dagen belystes de olika transportslagens syn på miljöfrågorna samt även Kommunikationsdepartementets, Miljödepartementets och Det Naturliga Stegets åsikter om transporter och miljö. Som avslutning enades man om att skapa ett nätverk för transportsektorn på miljöområdet.

Anna Granholm

# Performance assessment

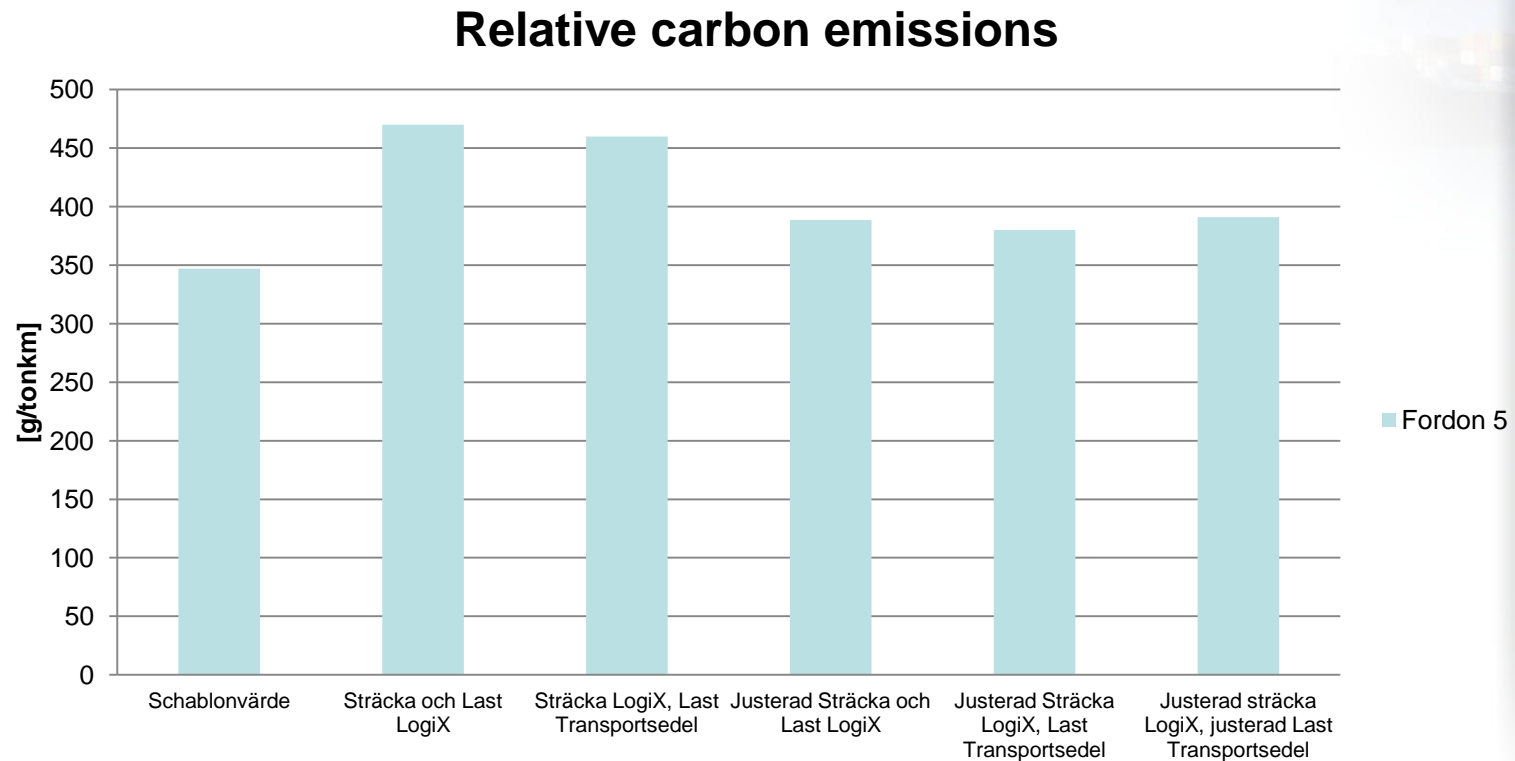
Methodology	Standards	Freight	Travel
	CEN	Goods	Passengers
	ISO 14 025	Road	Road
	PCR/EPD	Rail	Rail
	GHG protocol	Sea	Sea
	Legal	Air	Air
		Fuels	Fuels
		Infrastructure	Infrastructure
		Vehicle/vessel	Vehicle/vessel

[More](#)

# Performance assessment data

<b>Data</b>	<b>"Model data"</b>	<b>"Real data"</b>
Traffic & transport		
Nodes handling		
Fuel & electricity		

# Result – pilot study



# NTM performance tools

<b>NTM Tools</b>	<b>Option</b>	<b>Capabilities</b>
<i>NTMCalc Freight/Travel</i>	Basic	Fixed assumptions
<i>NTMCalc Freight/Travel</i>	Professional	Flexible assumptions
		Standard API
		Web services/database service

NTM Calc - Microsoft Internet Explorer

Arkiv Redigera Visa Favoriter Verktyg Hjälp

← Bakåt → → Sök Favoriter Tidigare

Adress http://www.ntm.a.se/ntmcalc/Main.asp

[1. Start here!](#) [FAQ](#) [Background data](#) [Send suggestions](#) [About NTMCalc](#) [Help](#)

Check FAQ before you mail suggestions

Choose transport mode: Lorry

Describe transport step here: Basel to Zurich

Add to my transport chain

Finalise your transport chain

Determine the size of the shipment

2. Selected transport chain. Click on step to set data.

Step 1	<a href="#">Lorry ?</a>	Stockholm to Gothenburg	<a href="#">Not done! ?</a>	<a href="#">Move down ?</a>	<a href="#">Delete ?</a>
Step 2	<a href="#">Train, electric ?</a>	Gothenburg to Basel	<a href="#">Not done! ?</a>	<a href="#">Move up ?</a>	<a href="#">Move down ?</a>
Step 3	<a href="#">Lorry ?</a>	Basel to Zurich	<a href="#">Not done! ?</a>	<a href="#">Move up ?</a>	<a href="#">Delete ?</a>

Total weight of goods

In this shipment:  tonne [?](#)

Include data from fuel/electricity production (LCI) [?](#)

Present results

per tonne [?](#)

Report format

Table easy to read [?](#)

[Estimate](#) [Clear](#) [?](#)

Determine the technical level of each transport mode

3. Set parameters and click 'Save!' [Save ?](#)

Step 1 Lorry, Description: Stockholm to Gothenburg [?](#)

Vehicle type: Heavy duty lorry with trailer (40 tonne max load) [?](#) Load factor: 70 % [?](#)

Engine and fuel type: Euro 0, Mk 1 [?](#) Fuel consumption: 4.9 l/10 km (WARNING! Make sure that comma (,) is used, NOT a period sign (.) [?](#)

Distance: 1 km, whereof in urban area 0 km [?](#) Exhaust after-treatment: Data missing [?](#)

## Basic Freight Calculator

Choose means of transport and state the travelled distance, emissions are then calculated per vehicle and route.

Click on the category to get more information.

Shipment weight [ton]:

Group

Vehicle

Distance [km]

Sea

RoRo 2000 Lanemeter

Vehicle type	Shipment weight [ton]	Distance [km]	Transport work [tkm]	CO <sub>2</sub> [kg]	NO <sub>x</sub> [g]	HC [g]	CO [g]	PM [g]	
Tractor + semitrailer	20.0	100,00	2000,00	126,00	1020,00	40,00	200,00	20,00	Delete
RoRo 2000 Lanemeter	20.0	150,00	3000,00	113,10	4230,00	60,00	390,00	120,00	Delete
<b>SUM</b>		250,00	5000,00	239,10	5250,00	100,00	590,00	140,00	Delete all

[Distance help](#)

[Road transp](#)

[Sea transp](#)

[Air transpor](#)

[Rail transp](#)

[Methods](#)

The environmental performance of transports is determined by several factors. In the Freight Calculator, only a few of those factors are used. The calculation is based on scientific data for default vehicles and load factors. How much emissions occur is even influenced by the weather, driving style, vehicle maintenance, type of motor etc. Therefore, results of these calculations have to be seen as an indicator of the magnitude of the environmental impact of freight transports and not as an exact information.



**Transport Chain Links**

Hamburg to Verona

Up Down Edit Delete Add

**Hamburg to Verona**

**Parameters**

distance 200 km

CargoType Mass [ton]

Transport mode Shared

Fuel Diesel B5 - EU

Road type Average Road - Swe

EuroClass Euro4 - EGR

Gradient ±2%

Cargo weight 5 ton

Cargo carrier capacity 14 ton

Cargo load factor 50 %weight

Fuel consumption 0.223 l

**Results**

	CO2 total	CO2 fossil	CO2 biogen	CO2 equivalent	SO2	CO	HC	CH4	NOx	N2O	PM	Diesel B5 - EU	Energy
Truck with Trailer 14-20t - Hamburg to Verona, distance 200 [km]													
Vessel (tank to wheel)	0.08 ton	0.08 ton	4 kg	0.08 ton	0.5 g	0.08 kg	5 g	0.1 g	0.5 kg	2 g	4 g	0.03 m3	
Fuel (well to tank)	7 kg	7 kg	0.00 g	8 kg	0.02 kg	7 g	0.06 kg	0.04 kg	0.02 kg	1 g	1 g		1E+3 MJ
<b>Sub total</b>	<b>0.09 ton</b>	<b>0.08 ton</b>	<b>4 kg</b>	<b>0.09 ton</b>	<b>0.02 kg</b>	<b>0.08 kg</b>	<b>0.07 kg</b>	<b>0.04 kg</b>	<b>0.5 kg</b>	<b>3 g</b>	<b>5 g</b>	<b>0.03 m3</b>	<b>1E+3 MJ</b>

# Future business plan

- Cooperate with CLOSER
- Member based funding
- External funding from public research fund
- Long term maintenance and development plan
- New "services"

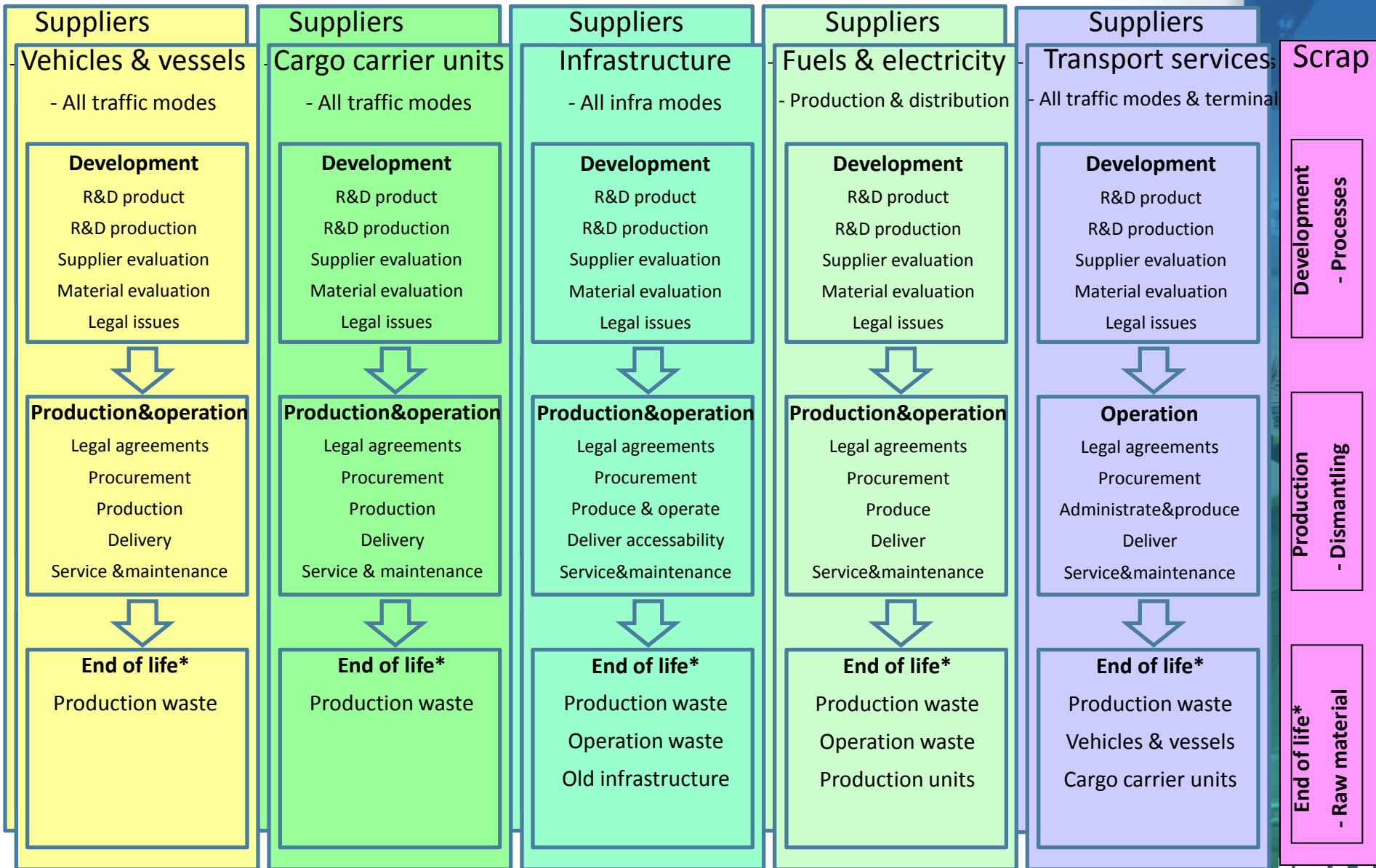
# Questions?

[info@ntmcalc.org](mailto:info@ntmcalc.org)



# 2. Establish relevant system boundaries

## - From cradle to grave



\* Includes waste delivered to scrap gate for reuse or recycle