

INFRASTRUCTURE

FUELS

VEHICLES

LOGISTICS

RESEARCH



# On the Road to Climate Neutral Freight Transportation



## Freight transportation – for better or worse

Freight transportation by road:

- a necessary condition for growth
- represents 60% of freight transportation in Sweden
- major source of CO<sub>2</sub> emissions



## Efficiency at every level

We want to demonstrate how climate impact from freight transportation by road in Sweden can be reduced by:

- increasing efficiency of transportation logistics
- increasing fuel production efficiency
- increasing vehicle efficiency
- increasing use of renewable fuels



Our vision

*Climate neutral freight transportation  
by road in Sweden*



## Opportunities

- Climate impact from the average Swedish long-distance freight transportation can be cut in half from 2005 to 2025
- Total greenhouse gas pollution from freight transportation by road can be cut by up to 15% in this period, despite increase in traffic
- Historic trend of increased emissions with increased traffic can be reversed

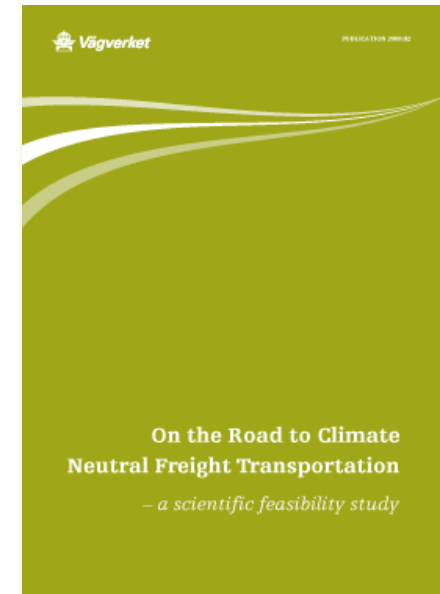


## Our Target

*Reduce emissions from average Swedish long-distance freight transportation by half already by 2020 (relative to 2005 levels)*

## Work based on scientific facts

- Study conducted by Chalmers University of Technology – challenges and opportunities





*The road forward*

## Increasing transportation logistics efficiency

- Employ optimal transportation modes in each situation
- Improve use of existing freight capacity
- Expand eco-driving





*The road forward*

## Increasing fuel production efficiency

- Fuels with high lifecycle energy efficiency
- High energy density fuels
- Energy-efficient fuel production with low CO<sub>2</sub> emissions



*The road forward*

## Increasing vehicle efficiency


- Vehicles with lower total energy consumption/  
higher energy efficiency
- Additional potential for diesel energy technology  
improvements
- Develop new technology, including hybrids



*The road forward*

## Increase use of renewable fuels

- Finite resource – demands resource efficiency from “well to wheel”
- Increase low-blending is most rapid deployment method
- Second generation renewable fuels by 2015



In order to succeed  
we need to work together

Expand collaboration among the following parties:

- Separate entities in the transportation sector
- Other market sectors
- Government at all levels
- Research institutions



## Commitments from each partner

### Concrete commitments:

- Create schedule
- Deliver reports on actions
- Follow up

## Partners

- Center for Environment and Sustainability, Chalmers and Gothenburg University, GMV
- FordonsGas
- ICA Sverige AB Logistik
- OKQ8
- Posten Logistik
- Preem AB
- Ragn-Sells
- Renova
- Schenker AB
- Stora Enso Logistics
- Sveriges Åkeriföretag
- Swedish Transport Administration
- Volvo Logistics
- Volvo Trucks

# On the road to climate neutral freight transportation



**NOVEMBER 2006**

The partnership commences. "Vision, target, opportunities, possible commitments?"

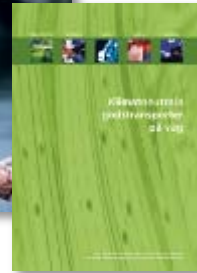
**SPRING 2007**

Scientific study by Chalmers.



**NOVEMBER 7, 2007**

Joint final report is presented at Rosenbad in Stockholm.



**NOVEMBER 15, 2007**

Insert i Dagens Industri calling for additional partners to join.



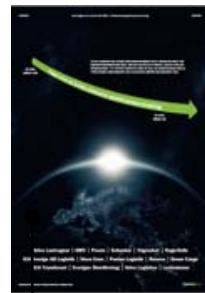
**JANUARY 2008**

Seminar in conjunction with Klimatgalan (climate gala) in Gothenburg, attracting close to 400 participants.

# On the road to climate neutral freight transportation



**SEPTEMBER 18, 2008**  
The partnership is introduced at the European Transport Forum in Brussels.



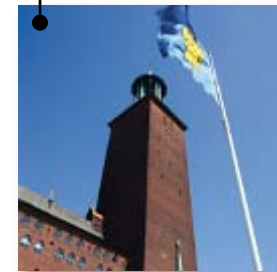
**FEBRUARY 2009**  
Annual climate conference in Stockholm.



**MAY 20–22, 2008**  
Logistik & Transport in Gothenburg (annual logistics and transportation convention). KNEG presents new partners and commitments.



**JANUARY 2009**  
Insert in Dagens Industri.



**MAY 2009**  
Results are presented at Logistik & Transport





# On the road to climate neutral freight transportation



**SEPTEMBER 8-9 ,2009**

Nordic Climate Solutions in Copenhagen. KNEG attends Northern Europe's largest arena for energy, transport and trade with focus on the environment.

**MAY 4-6, 2010**

Logistik & Transport. KNEG presents new members and results from 2009.



**MAY 2010**

Insert in Dagens Industri.





## Commitments – examples

- Provide training in eco-driving for all vehicle operators
- Increase load relative to load capacity, to reduce transport
- More co-modal transport (road/rail)
- Optimize vehicle routes



## Commitments – examples

- Phase out all older vehicles
- Introduce hybrid technology for heavy trucks
- Increase levels in low blends in petrol and diesel
- Initiate research in sustainable transport/logistics

## Sample initiatives


- **The Environmental Class 1 diesel  
Preem ACP Evolution Diesel**  
Preem, Schenker, Posten Logistik, Volvo Trucks and Volvo Logistics
- **Larger and more flexible vehicle combinations**  
Stora Enso, Schenker, Volvo Trucks and the Swedish Transport Administration
- **Co-modal Viking Rail**  
Volvo Logistics, Volvo Lastvagnar and DB Schenker

## Sample initiatives

- **Pilot project for hybrid vehicles**  
Ragn-Sells, Renova och Volvo Lastvagnar
- **Climate smart city distribution**  
Schenker, Volvo Lastvagnar, Trafikverket, Preem, Posten Logistik, Fordonsgas, Chalmers, DHL, GLC och BRG
- **BiMeTrucks**  
Heavy long-haul vehicles powered by liquid biomethane  
AB Volvo, FordonsGas, AGA, Eon, Gasföreningen, Biogas Väst/BRG

## Result Commitments 2009

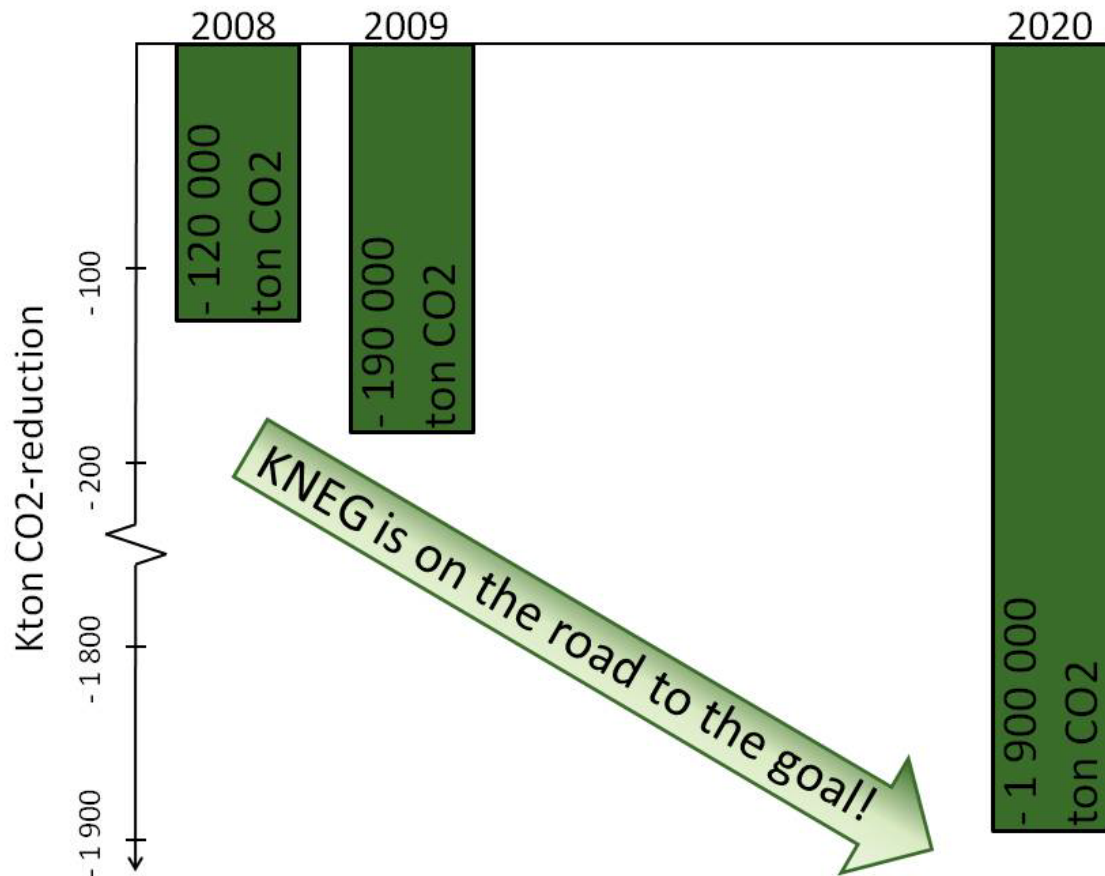
<u>Commitments per focus area</u>	<u>Emission reduction (ton CO2)</u>
More efficient vehicles	118 760
Increased use of renewable fuels	48 710
More efficient fuel production	36 560
More efficient transportation logistics	22 540
<b>KNEG in total</b>	<b>226 570</b>
<b>Impact on emissions from the freight transport sector</b>	<b>190 000</b>



190 000 ton CO<sub>2</sub> is equivalent to...

- The annual emission from 3 640 trucks
- 4 % of the total CO<sub>2</sub> emission from Swedish trucks during 2009
- The annual emission from 19 000 Swedes
- 10 % of the annual emission reduction required for KNEG to reach the target

## Result 2008 och 2009 - and the road to the goal







## Reversing the trend!

- The transport industry is facing its biggest challenge ever.
- Climate-impacting emissions from traffic must be drastically reduced from today's levels.
- And the work has to forge ahead right now. In order to succeed we need to cooperate across borders.
- **That's why we work together!**

## Success factors



- Network
- Triple-Helix
- Confidence and credibility
- Communication
- Joint initiatives
- Follow up

Thank You!

[www.kneg.org](http://www.kneg.org)