



# Workshop 21 November 2011

Place: Rica Nidelven, Trondheim





## Participants GAZ Workshop Rica Nidelven 21 November 2011

<b>Tilman Bracher</b>	Deutsches Institut Für Urbanistik, Berlin
<b>Kelly Pitera</b>	University of Washington, Seattle
<b>Pål Rosland</b>	SVV
<b>Tomas Levin</b>	SINTEF Transportforskning
<b>Trond Foss</b>	SINTEF Transportforskning
<b>Terje Tretvik</b>	SINTEF Transportforskning
<b>Øystein Strandli</b>	Forskningsrådet
<b>Ivar Christiansen</b>	SVV
<b>Gunnar Eiterjord</b>	Rogaland fylkeskommune
<b>Anders Godal Holt</b>	SVV
<b>Erik Olsen</b>	SVV
<b>Roar Norvik</b>	SINTEF Transportforskning
<b>Marianne Elvsaa Nordtømme</b>	SINTEF Transportforskning
<b>Kristin Ystmark Bjerkan</b>	SINTEF Transportforskning
<b>Astrid Bjørgen Sund</b>	SINTEF Transportforskning
<b>Isabelle Roche-Cerasi</b>	SINTEF Transportforskning
<b>An-Magritt Kummeneje</b>	SINTEF Transportforskning

# Why GAZ?



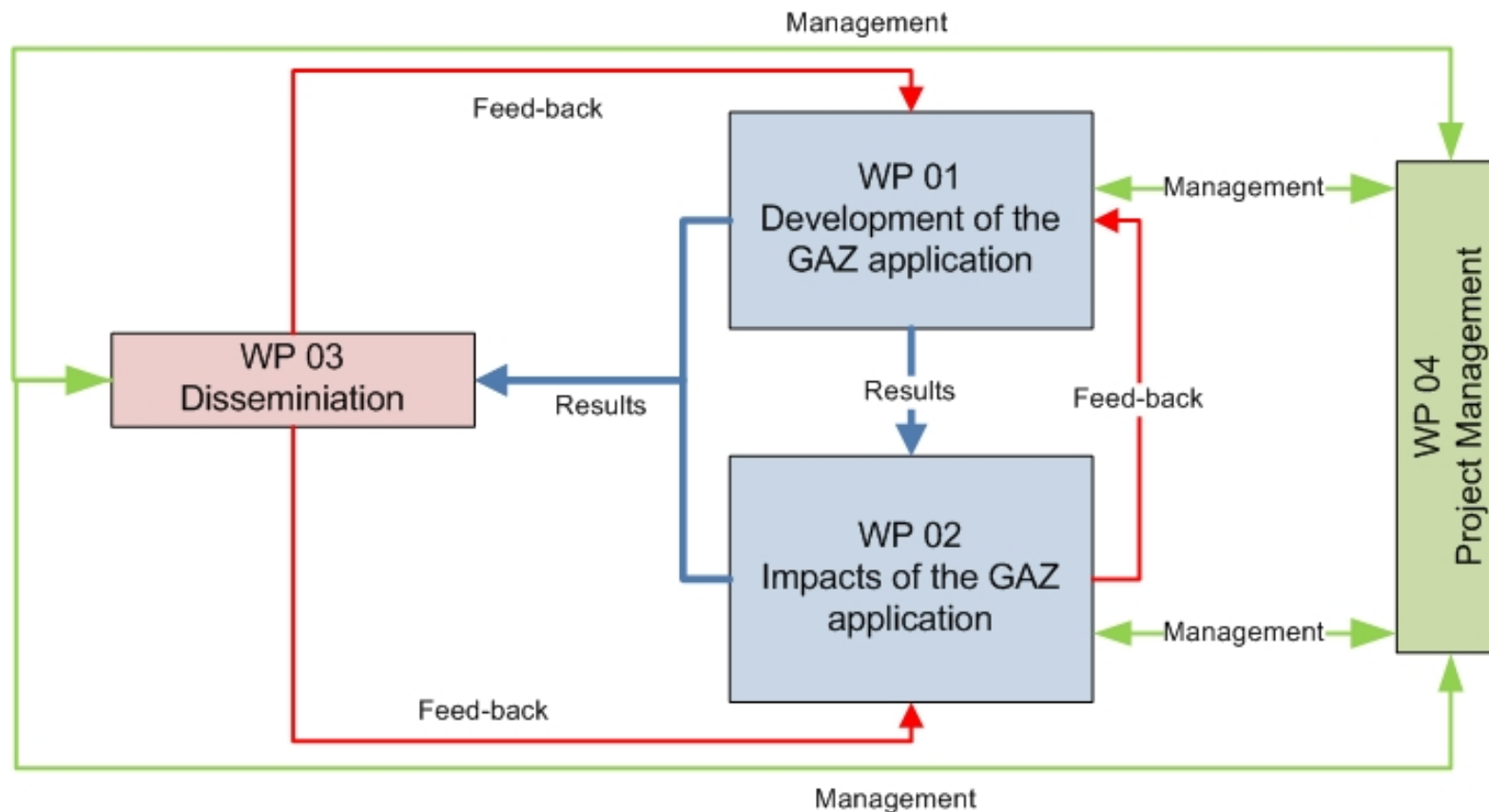
- Cities in Europe have been introducing green zones (low emission zones). It was attempted in Norway, but failed
- Main purpose of LEZ is to improve the local environment for residents and travellers
- A major reason is EU Directive 1999/30/EC
- Current access restriction schemes are in general simple in nature, and do not give precise incentives to environmental friendly adaptation
- The GAZ idea is to use charging based on the vehicle's real activity inside the zone

# Why GAZ?

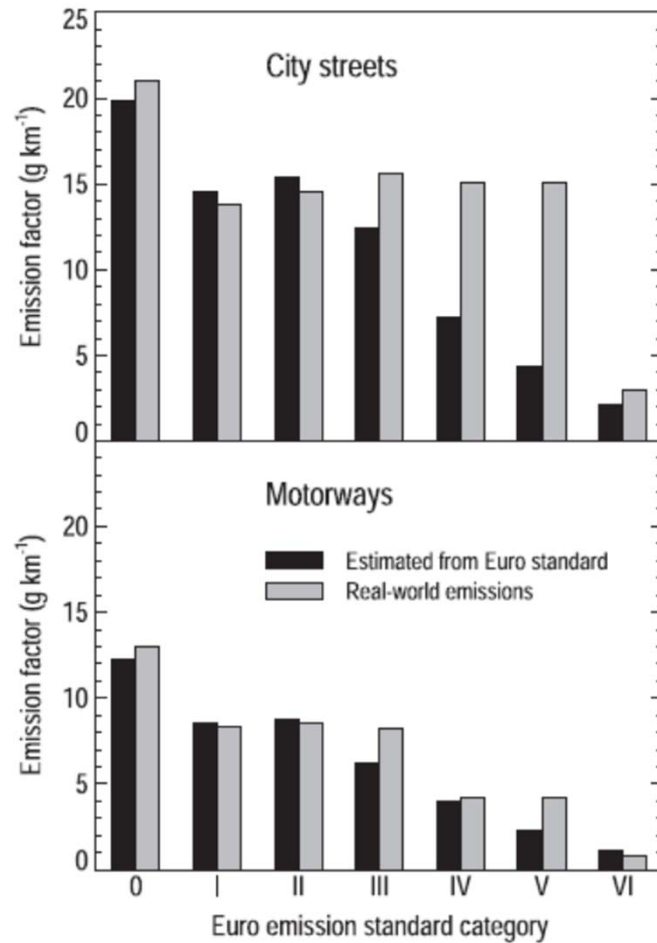


- The amount to be charged is to be based on continuous measurements of emissions from the vehicle
- Thus, GAZ is focusing on incentives to change behaviour. Detailed measurements and analyses will enable actors to view the effects of their actions
- GAZ is a "KMB" project financed mainly by the Norwegian Research Council and co-financed by the Public Roads Administration and Rogaland County
- The duration is 2010-2012

# GAZ Work packages



# Maybe LEZ based on Euro classification wasn't such a good idea?



## Type approval of new truck engines:

- Euro-VI : Jan 2013
- Euro-V : Oct 2008
- Euro-IV : Oct 2005
- Euro-III : Oct 2000

## Source:

Velders, Geilenkirchen and de Lange: "Higher than expected NO<sub>x</sub> emission from trucks may affect attainability of NO<sub>2</sub> limit values in the Netherlands". *Atmospheric Environment* 45 (2011) 3025-3033.

# What have we achieved so far?



Commercial vehicle

# Project deliverables



Nr	Type	Tittel	Forfatter(e)	Status	Dato
1.1	Prosjektnotat	Brukerkrav	Astrid B. Sund m.fl.	Ferdig	2011-06-03
1.2	Prosjektnotat	GAZ i Arktrans rammeverk	Trond Foss	Ferdig	2011-01-07
1.3	Prosjektnotat	GAZ Use cases	Isabell Roche- Cerasi	Ferdig	2011-01-14
2.1	Prosjektnotat	Lavutslippssoner og adgangskontroll i Europa	Kristin Ystmark Bjerkan	Ferdig	2011-08-23
2.2	Prosjektnotat	Bruk av avgifter for tunge kjøretøy til å forbedre luftkvalitet i de store byene	Erik Gran	Ferdig	2011-05-18
1.4	Prosjektnotat	Teknologi	Astrid B. Sund	Under arbeid	2011-05-06
1.5	Memo	GAZ application, technologies – ideas - algorithms	Tomas Levin	Under arbeid	2011-11-01
2.3	Prosjektnotat	Spørreundersøkelse	Marianne E. Nordtømme	Under arbeid	2011-10-04



# Scientific papers



Konferanse/tidsskrift	Type	Tittel	Forfatter(e)	Status
Trafikdage Ålborg 2010	Paper	A methodology for inexpensive GPS data storage and analysis	Tomas Levin	Presentert aug. 2010
European Transport Conference 2011, Glasgow	Paper	Evaluations of time savings for freight transport in urban areas	Terje Tretvik og Thomas Engen	Presentert okt. 2011
METRANS Conference <i>National Urban Freight</i> , Long Beach, CA	Paper	Green Activity Zones (GAZ)	Trond Foss	Presentert okt. 2011
ITS World Congress 2011, Orlando	Paper	Road User Charging in Green Activity Zones (GAZ)	Trond Foss	Presentert okt. 2011
Workshop <i>Innovation in Urban Freight</i> , University of Washington, February 2012	Abstract	The GAZ project: Achieving more energy efficient and environmental friendly freight transport in cities	Tomas Levin, Trond Foss og Terje Tretvik	Levert nov. 2011

# Program



Time	Theme	Speaker
09:15-09:30	Welcome. Status of the GAZ project	Terje Tretvik
09:30-10:00	GAZ: Objectives, roles, functional architecture and user acceptance	Trond Foss
10:00-10:30	Development of the GAZ application	Tomas Levin
10:30-10:45	Discussion	
10:45-11:15	Break (Healthy bites and sweet temptations)	
11:15-11:45	Reducing Emissions in Urban Delivery Systems	Kelly Pitera
11:45-12:45	Mobility charging i Germany and Europe	Tilman Bracher
12:45-13:00	Discussion	
13:00-14:00	Lunch buffet (The best in town)	
14:00-14:45	Current thinking about environmental regulation and charging in Norway. State of knowledge NO <sub>2</sub> emissions	Ivar Christiansen
14:15-15:00	Discussion	