



ROTTERDAM.**CLIMATE**.INITIATIVE

# Sustainable Mobility in Rotterdam

Lode Messemaker MSc, City of Rotterdam, 30 November 2010



Rotterdam Climate Initiative is the climate program of the City of Rotterdam, Deltalinqs, DCMR Environmental Protection Agency Rijnmond and Port of Rotterdam NV.



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# Vision



Clean Use



Clean Vehicles



Clean Fuels

# Vision

- Maintain multi-track approach including all alternatives
- Focus on EV where possible
- Stimulate innovations and economic spin-off
- Facilitate market development
- Prefer OEM over retrofit
- Run pilots in protected environments
- Choose a broad spectrum, from small scooters to heavy trucks
  
- Without pushing the market in one direction
- Without changing policy too often
  
- Remain flexible and acknowledge uncertainties!



# Early Pilots



## Hybrid/Electric Vehicles

- Umbrella program 'Stroomstoot' (Power Surge)
- Clean Vehicle Fleet
- Pilot 75-EV-RO
  - Public Private Partnership with Eneco and Stedin
  - 75 electric vehicles in Rotterdam
- Dutch Consortium for the Tender of Electric Cars (DC-TEC)
  - Consortium with public and private organizations
  - 20 electric vehicles in Rotterdam
- City Center Service ('Binnenstadservice')
- Greenwheels car sharing in the 'big 4' (Amsterdam, Rotterdam, The Hague, Utrecht)
- 'Just do it!' approach



## Hybrid/Electric Vehicles - Results

- Positive
  - All experiences show usability of EV for specific niches
  - Positive user feedback
  - New technologies are accepted
  - Better energy efficiency compared to ICE
- Neutral
  - EV's demand special care of users
- Negative
  - Availability and after sales
  - Problems and break-downs
  - High costs
  - Product improvements needed (reliability, performance)
  - Subsidies on vehicles were unsuccessful





# Hybrid/Electric Vehicles



Electric sweeper



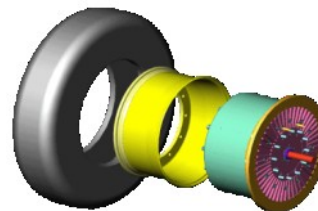
Electric 'Binkie' garbage truck



Hybrid Volvo garbage truck

# Public Transport

- Green electricity for metro and tram
- Electric shuttles
- Hybrid/electric busses



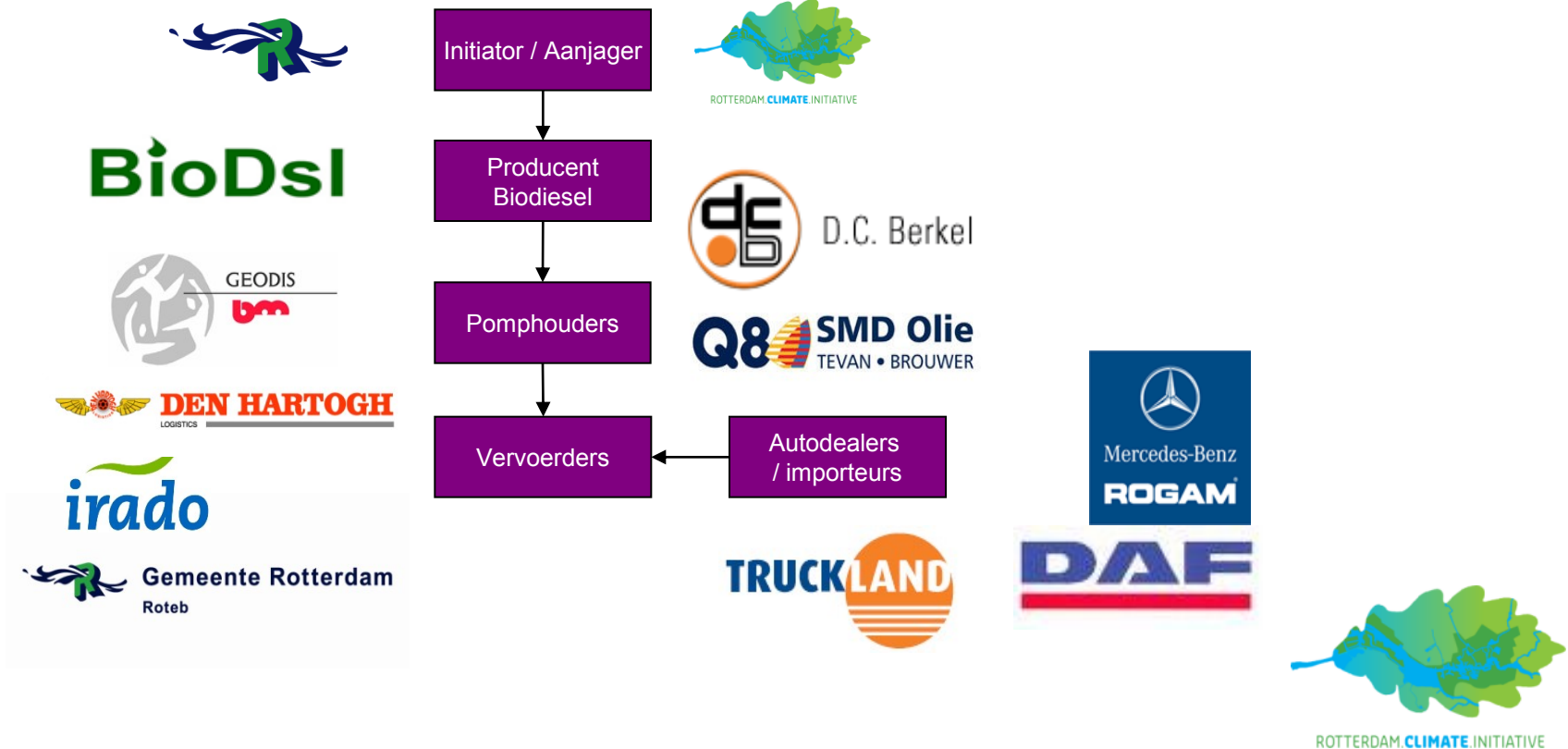


## BioDiesel (B30)

- Pilot B30 in trucks
  - High blend (30%) BioDiesel from used cooking oil
  - 50 trucks
  - 4.7 million vehicle kilometers
  - 1.6 million liters of BioDiesel
  - Intensive monitoring of:
    - Emissions
    - Truck engines
    - User experiences
    - Storage tanks at filling stations
  - Public Private Partnership
  - Results will be made public



# BioDiesel (B30) - Public Private Partnership

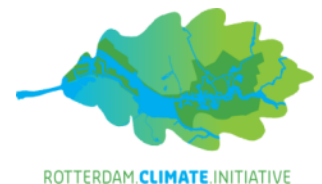


# BioEthanol (E85)

- Pilot BEST
  - High gasoline blend E85 (85%) for FFV's
  - Low gasoline blends E5, E10 & E15
  - Low diesel blends, e.g. O2 diesel
  - Introduction of BioEthanol filling stations
  - Results are public (final report)



**BIOETHANOL  
FOR SUSTAINABLE  
TRANSPORT**



## Compressed Natural Gas (CNG)

- Pilot with 5 CNG taxi's
  - Lack of filling stations due to high investment costs
- CNG as a step towards biogas
- Gas To Liquid (GTL) possibilities





## Policy Challenges

- Solid policy vs. dynamic politics (national and local level)
- Personal opinions and resistance
- Acceptance of fleet managers
- Mainstreaming sustainable alternatives
- Slow market development (programs delayed for several years)
- EV standardization (plugs, AC/DC, slow and fast charging protocols)
- Uncertainties regarding need for public EV infrastructure and road safety issues in transition phase
- High investment costs of CNG filling stations
- Well-to-wheel emissions to determine taxes/incentives





**Gemeente Rotterdam**  
Gemeentewerken

# Rotterdam Duurzaam/Wijzer

**Klimaat**

**Energie**

**Mobiliteit**

**Water**

**Materialen**

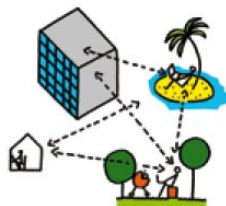
**Green**

# Mobiliteit

## Clean Use

Regio

- Het nieuwe werken
- Hoogwaardig OV
- P+R terreinen
- Carpoolen



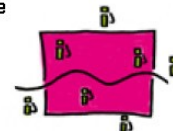
## Clean Vehicles

- Flexi-fuel voertuigen
- Schone zuinige vrachtwagens
- Schone zuinige bestelwagens
- Schoon personenvervoer



## Clean Fuels

- Regionaal dekkend netwerk schone brandstoffen
- Elektrische snellaadstations
- Elektrische laadvoorzieninge bij P+R terreinen
- Tankstations en laadpunten in navigatiesysteem



Stad

- Stille nachtdistributie
- Openbaar vervoer
- Shop don't drop
- Gedeelde kantoorruimtes



- Elektrische bus
- Parkeervoordeel nul emissie voertuigen
- Elektrische stadsdistributie
- Hybride vuilniswagen
- Schone taxi's

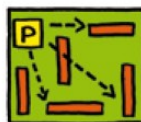


- Laden als je stopt i.p.v. stoppen om te laden
- Elektrische laadvoorzieningen in parkeer-garages en stallingen



Wijk

- Centraal parkeren
- Verbeterde fietsvoorzieningen en -infrastructuur
- Wijkvervoer
- Walkable city



- Elektrisch wijkvervoer
- Schoon en stil wijkonderhoud
- Elektrische scooter
- Fiets, step of skate



- Elektrische laadvoorzieningen op bedrijven-terreinen en in wijkparkeergarages
- Elektrische laadvoorzieningen op straat

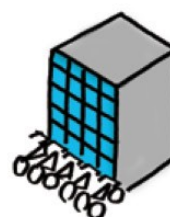


Gebouw

- Thuiswerkvoorzieningen
- Fietsenstallingen



- Faciliteren fietsgebruik
- Gereserveerde parkeer-plaats voor elektrisch voertuig



- Elektrische laadvoorzieningen in of aan gebouwen

