



# The Swedish National EV procurement approach!

[www.elbilsupphandling.se](http://www.elbilsupphandling.se)

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# Elbilsupphandlingens aktörer



# Why a national Swedish EV procurement?

- Make sure that EVs come to Sweden fast
  - Push the development towards a cleaner and more quiet vehicle fleet
- Make it possible to buy/lease EVs and PHEVs under the best conditions
  - Simple and secure way to buy/lease EVs and PHEVs
  - For public organisations: save time and money since the process is done coordinated instead on individually
- Funding for the extra cost of the EV/PHEV
  - Support from the Swedish Energy Agency
- Goals:
  - 150 org. & 6 000 vehicles
  - At least 8 offers from the car industry



# 400 buyers took part in the procurement!

- 400 organisations are partners/buyers
  - 340 public
  - 60 private
- Ca 1250 vehicles/year
  - Ca 850 to public sector
    - 550 cars
    - 300 vans
  - Ca 400 till private sector
    - 250 cars
    - 150 vans
- GOAL: 150 org. & 6000 vehicles



# Phase 1, 14 Producers applied for participation

## Last day to sign on: 2011.02.01

1. Chevrolet Sverige AB
2. Citroën Sverige AB
3. Ford Motor Company AB
4. IVECO Sweden AB
5. K.W. Bruun Autoimport AB (Peugeot)
6. Mercedes-Benz Sverige AB
7. Mitsubishi Motor Sales Sweden AB
8. Nissan Nordic Europe Oy
9. Opel Sverige AB
10. Renault Nordic AB
11. SAAB Automobile AB
12. Tesla Motors Denmark
13. Think Global AS
14. Vantage/Avancee HB

# Evaluation - Phase 1

1. Chevrolet Sverige AB
2. Citroën Sverige AB
3. Ford Motor Company AB
4. IVECO Sweden AB
5. K.W. Bruun Autoimport AB (Peugeot)
6. Mercedes-Benz Sverige AB
7. Mitsubishi Motor Sales Sweden AB
8. Nissan Nordic Europe Oy
9. Opel Sverige AB
10. Renault Nordic AB
11. SAAB Automobile AB
12. ~~Tesla Motors Denmark~~
13. ~~Think Global AS~~
14. Vantage/Avancee HB

- Tesla – incomplete application
- Think – lack of financial stability

Did not apply for participation:

- Volvo
- Toyota
- EV Adapt
- Hybricon

# Phase 2: Excepted applicants receive the call for tender incl. the vehicle specification 2011.03.18

## Last day to send in the tender: 2011.04.28

10 tenders were received:

- Goal: At least 8 tenders

1. Chevrolet Sverige AB
2. Citroën Sverige AB
3. IVECO Sweden AB
4. K.W. Bruun Autoimport AB (Peugeot)
5. Mercedes-Benz Sverige AB
6. Mitsubishi Motor Sales Sweden AB
7. Opel Sverige AB
8. Renault Nordic AB
9. SAAB Automobile AB
10. Vantage/Avancee HB

# Evaluation - Phase 2

1. Chevrolet Sverige AB
2. Citroën Sverige AB
3. ~~Iveco Sweden AB~~
4. ~~K.W. Bruun Autoimport AB  
(Peugeot)~~
5. ~~Mercedes-Benz Sverige AB~~
6. Mitsubishi Motor Sales Sweden AB
7. ~~Opel Sverige AB~~
8. Renault Nordic AB
9. SAAB Automobile AB
10. Vantage/Avancee HB

- Iveco – top speed only 70 km/h
- Peugeot – missing information on cost of service
- Mercedes – top speed only 80 km/h
- Opel – missing information on cost of service

Did not send in a tender:

- Ford
- Nissan



# RESULT:

6 vehicle suppliers: 6 passenger cars and 3 transport vehicles

## Passenger cars

- **Chevrolet Volt (PHEV)**
- **Citroën C Zero**
- **Mitsubishi iMiEV**
- **Renault Fluence**
- **Saab 9-3 ePower**
- **Vantage SUV**



## Transport vehicles

- **Renault Kangoo Express ZE**
- **Vantage Minivan**
- **Vantage Pick-up**



The suppliers may include new models later on

# RESULT:

4 vehicle suppliers: 6 passenger cars and 3 transport vehicles

## Passenger cars

- ~~Chevrolet Volt (PHEV)~~
- Citroën C Zero
- Mitsubishi iMiEV + Outlander
- Renault Zoe
- ~~Saab 9-3 ePower~~
- ~~Vantage SUV~~



## Transport vehicles

- Renault Kangoo Express ZE + Maxi 2 and 5
- ~~Vantage Minivan~~
- ~~Vantage Pick-up~~
- Citroen Berlingo Electric



# About the contracts

Start of the contracts : October 1, 2011

Time frame of the contracts: 2 + 1 + 1 year

How to purchase/lease the vehicles:

**Public organisations:**

- Ask all contracted suppliers for an offer (5 kap. 7 § LOU)
- Instructions available

**Private organisations**

- May chose to buy/lease directly for any of the contracted suppliers

# Lessons from the procurement

- More simple and easy to buy and lease EVs
  - Many smaller municipalities had not done their own procurement
  - Good to cooperate with others
- The two step approach turned out right
  - For the vehicles suppliers it was good with a first qualification step
- First frame work agreement for vehicle with a renewed qualification at the purchase moment
  - Turned out more simple than expected due to good guidelines
- Difficult for the car industry to follow the tendering process
  - Many disqualified bids due to poor knowledge
  - The information could have been even better
  - Some of the criteria's could have been more flexible
- Safety is important for the buyers





# EVs and PHEVs are now in operation all over Sweden!



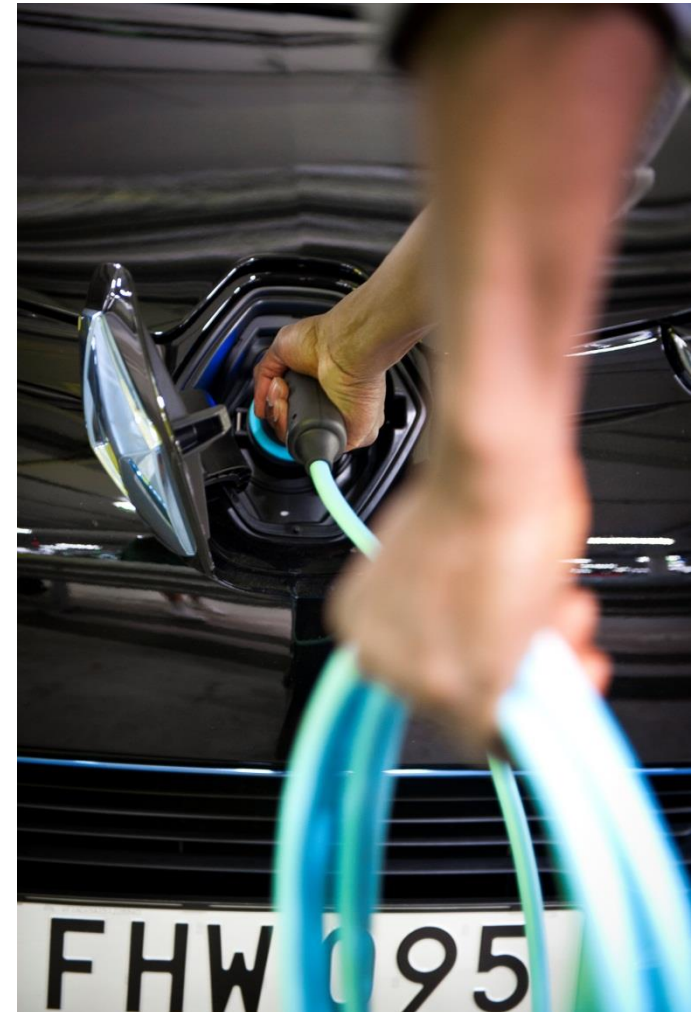
# Results from the procurement

- In total almost 1 000 vehicles delivered
  - 50 EVs in a test fleet
  - 850 vehicles delivered in nov 2014
- 616 vehicles received funding from the project (7 – 10 000 €/vehicle)
- Almost 500 vehicles have participated in the evaluation
- During the first two years (until 2014) the procured vehicles had driven 2,7 million electric km in total



# Results from the vehicles in operation

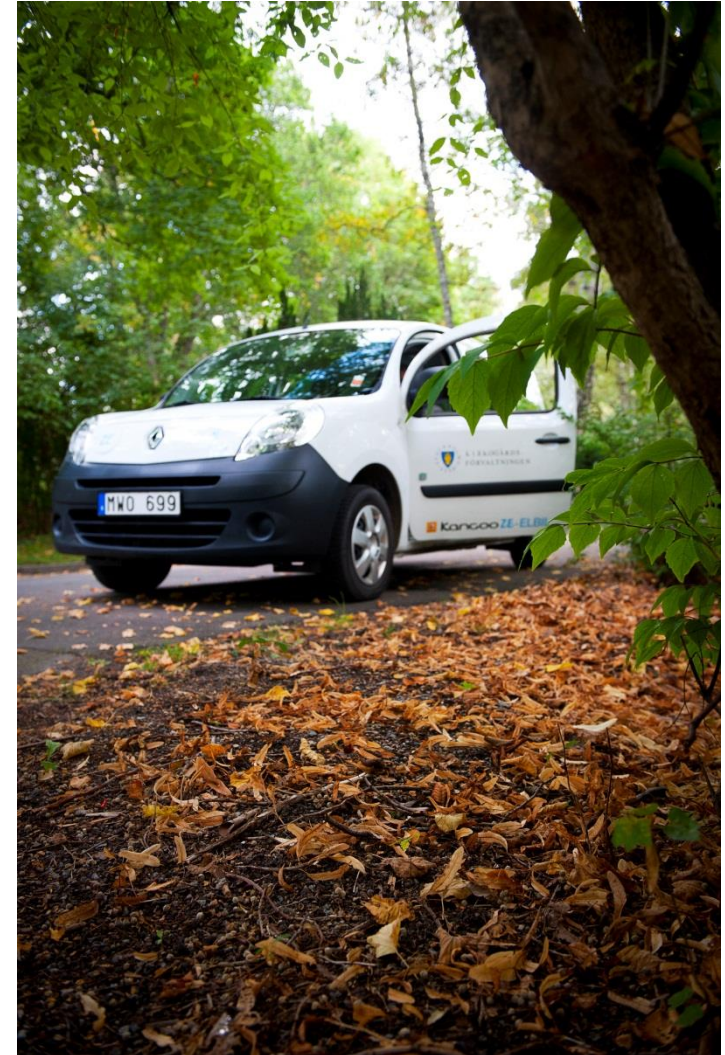
- Very pleased drivers who recommend others to operate EVs as well
- Most journeys are less than 70 km:
  - EV drivers charge long before the batteries are close to empty. The battery capacity is not fully used
- Less range in cold weather and heat was insufficient in some of the models
- The vehicles are very quiet when driving at low speed. Pedestrians and cyclists do not always understand that the vehicles are coming. Drivers need to pay attention!





# Results and experiences

- EV drivers tends to drive more eco-friendly to save energy. The keep the right speed and compete with colleagues and themselves to drive energy efficient and gain longer range
  - It is not necessary to stress on the road anymore!
- EV drivers think that more public charging is necessary to attract more EVs
- The EV procurement made sure EVs and PHEVs came to Sweden much earlier
- The vehicles in the procurement have inspired participating organisations to further EV actions





# How to cure range anxiety!

- Drive an EV!
  - Test driving is important
- Charging infrastructure!
- Place the vehicle with the right user!
- Wise introduction and correct information!
- In sever cases of range anxiety – use a PHEV!



# Freddy Lundgren, EV-driver and service provider, Beans AB

- Freddy Lundgren at Beans AB drives one of the company's seven electric cars to office buildings in central Stockholm, where he services, cleans and refills coffee machines. He clocks up more than 1000 kilometres per month, or around 50-70 kilometres a day. Beans' goal is to retain the same level of carbon dioxide emission in 2015 as in 2007, despite doubling its turnover and staffing.
- *"The silence of an electric vehicle is what I appreciate most. The car is comfortable to drive, and it feels as if I'm gliding through the traffic! In winter, the range is reduced from around 110 to just over 80 km, but that's not a problem. I charge the car at my terraced house in Haninge, where I park at night."*



# READ MORE:

## Joint Procurement of EVs and PHEVs in Sweden

### - Case Study

- [http://www.clean-fleets.eu/fileadmin/files/CF\\_case\\_study\\_sweden\\_04.pdf](http://www.clean-fleets.eu/fileadmin/files/CF_case_study_sweden_04.pdf)
- [www.elbilsupphandling.se](http://www.elbilsupphandling.se)



## Joint Procurement of EVs and PHEVs in Sweden

### Clean Fleets case study

- Buyers' group of 296 organisations
- Energy consumption < 0.37 kWh/km and emissions < 50g CO<sub>2</sub>/km
- 34 tonnes CO<sub>2</sub> saved in first 1.5 years (95% reduction)



### Contract tendered

- Framework contract for passenger cars and transport vehicles (light duty vans)
- Led by the City of Stockholm and covering 296 organisations (260 public and 36 private bodies). Each organisation committed to a minimum number of purchases.
- 2-year contract with possible 2-year extension, starting Oct 2011
- Estimated purchase volume of 1,250 vehicles per year – 5,000 over 4 years



# THANKS!

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