



CLEVER[®]

Strøm til din elbil

Introducing Test-an-EV

Aalborg, November 14. 2012

Alexander Schou Nielsen, Program Manager - asn@clever.dk - +45 52190839

Please visit us at www.clever.dk , or facebook.com/clever

Who am I?

Projektansvarlig

Alexander Schou Nielsen

Tlf. +45 5219 0839

E-mail: asn@clever.dk

LinkedIn – Alexander Schou Nielsen

Prince2 project manager – Economy and finance

Program Manager at CLEVER A/S since September 2010

First Test-an-EV project started in December 2010

Last project will end in Mai 2014

Responsible for other projects at CLEVER A/S

Teammanager for TEAM Projects at CLEVER, 3 Coordinators and 1 student helper



Introducing the EMO



CLEVER A/S

- Who are we?



- CLEVER was established October 2009
- CLEVER is owned by SE (Syd Energi) & SEAS-NVE – who are Denmark's 2nd and 3rd largest utility companies.
- CLEVER today has 30 employees in the HQ in Copenhagen, as well as employees in Jutland
- We are the largest operator in Denmark, supporting more than 400 cars
- Behind the largest research project of its kind in Northern Europe 'test-an-ev'
- Opened a nationwide network of charging points on June 1. 2012
- Working with all car manufacturers

OUR MISSION:

We make it easy,
reliable and safe to
drive the EV!



What do we do?



INTELLIGENT
Charging
B2B, B2G, B2C



YOUR OWN
GASSTATION



Nationwide
NETWORK &
services



Training,
collaboration
with, and
motivation of
EV distribution
channel



"House CAR"



"Work CAR"



EV Projects

Our public network

- is growing every day

- CLEVER app
- RFID payment
- By end 2012
 - 60 Quick Charge
 - 400 Normal Charge
 - Find our APP in app. store



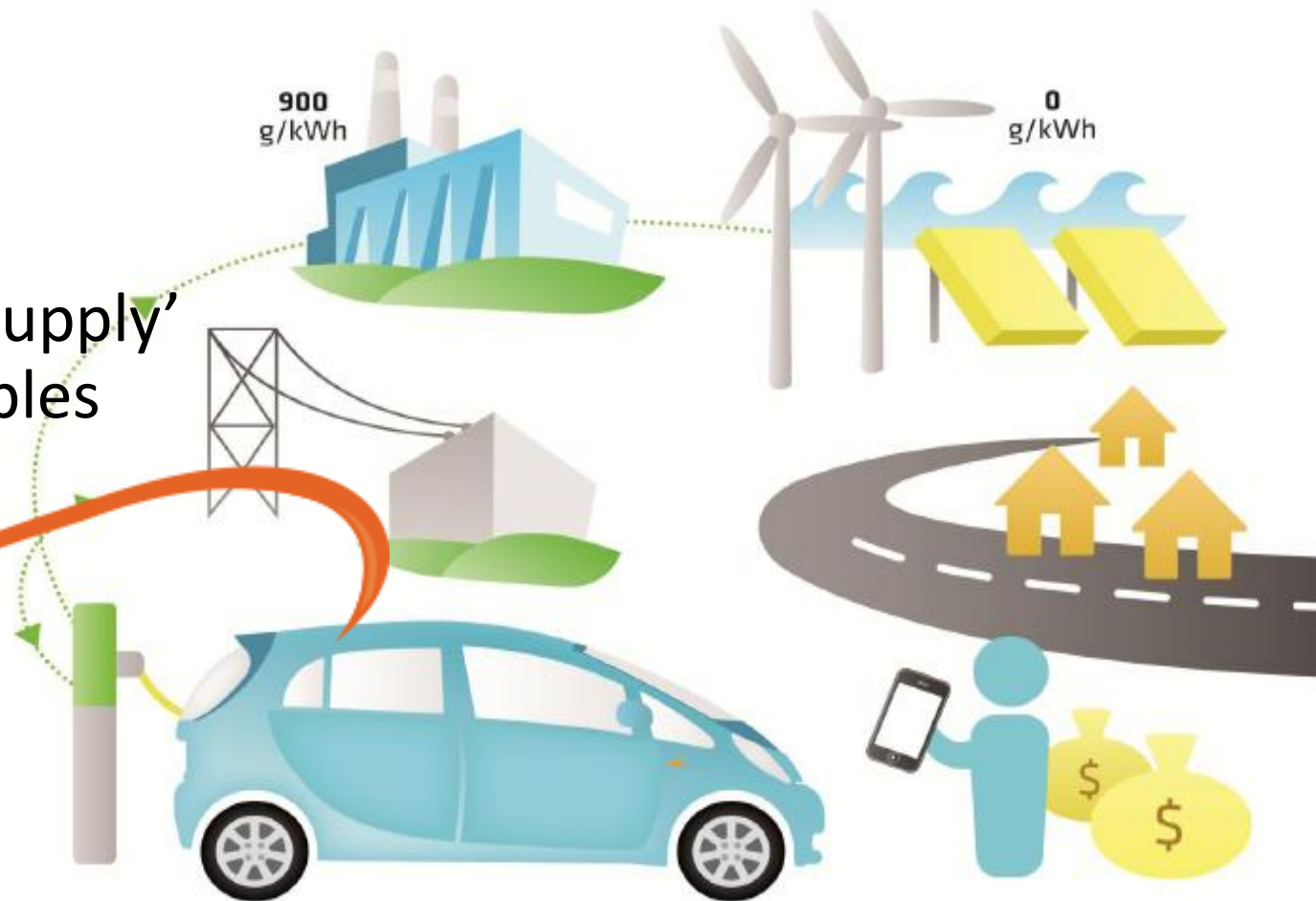
What is Test-an-EV?

CLEVER.

Why EV's in Denmark?

- *Impact on society*

- Independence 'secure supply'
- Integrate more renewables
- Create jobs
- Reduce noise
- Reduce particles



Test-an-EV

“Two year” project, 1600 families, 200 EVs

Recognized by a number of **governmental institutions**



**3 million
kilometers**

In collaboration with a number of **research institutions**



Supported by companies throughout the value chain

SIEMENS



Falck

alka



seasonve

fotex

And, many many more

Why Test-an-EV

1. More EV's on the road - generating driver and charging experience
2. Normal everyday people drive the EVs, not Scientific or technical staff
3. Having an everyday dialog on up- and downsides about the EVs
4. Gather information about the EV's role in the power grid
5. Information about how the EV fits the normal Danish family
6. Political awareness and support to implement the EV in Denmark
7. Social acceptance – Thinking about the environment is CLEVER
8. Securing Denmark as leading in Charging infrastructure
9. Spreading the WORD – Everyone enjoys driving and EV!



How do we do it?

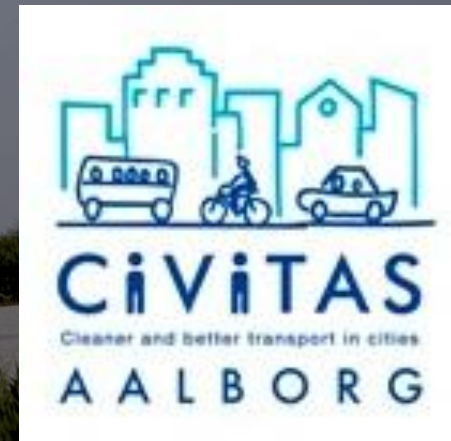
1. 1600 families
2. 24 municipalities
3. 8 companies
4. 200 EV's
5. Families get instructions from CLEVER
6. Families drive the EV for 3 months
7. Every car has a data logger/GPS that generates data
8. After 3 months the deliver the car back to CLEVER
9. A new family drive the car for 3 months
10. The project ends after 8 rounds / 2 years

Requirements

1. Every family have to BLOG min. 1 time each week
2. Every family have to answer questionnaires
3. The families are responsible for the car (damage, data, cleaning)
4. Everyone can apply to the project, Need to have drivers license and a car
5. We have all kinds of test drivers with all kind of background



Test-an-EV in Aalborg



Test-an-EV Aalborg

- Start: 05.03.2011
- End: 18.03.2013
- First Projekt with OEM
(Original Equipment manufacturer)
(2nd project overall to start)
- 10 EV's
 - 4 Mitsubishi Imiev
 - 2 Peugeot Ion
 - 3 Citroën C-Zero
 - 1 Nissan Leaf
- Over 1.600 applicants in Aalborg
- Over 25.000 applicants in DK



Events are held at:

- Utzon Center
- Aalborg municipality
Technical division
- Student House (AAL)
- Parking area I Aalborg
- Friis Shopping center
- Aalborg Harbour

Test-an-EV Aalborg STATS

Over 150.000 km after round 6

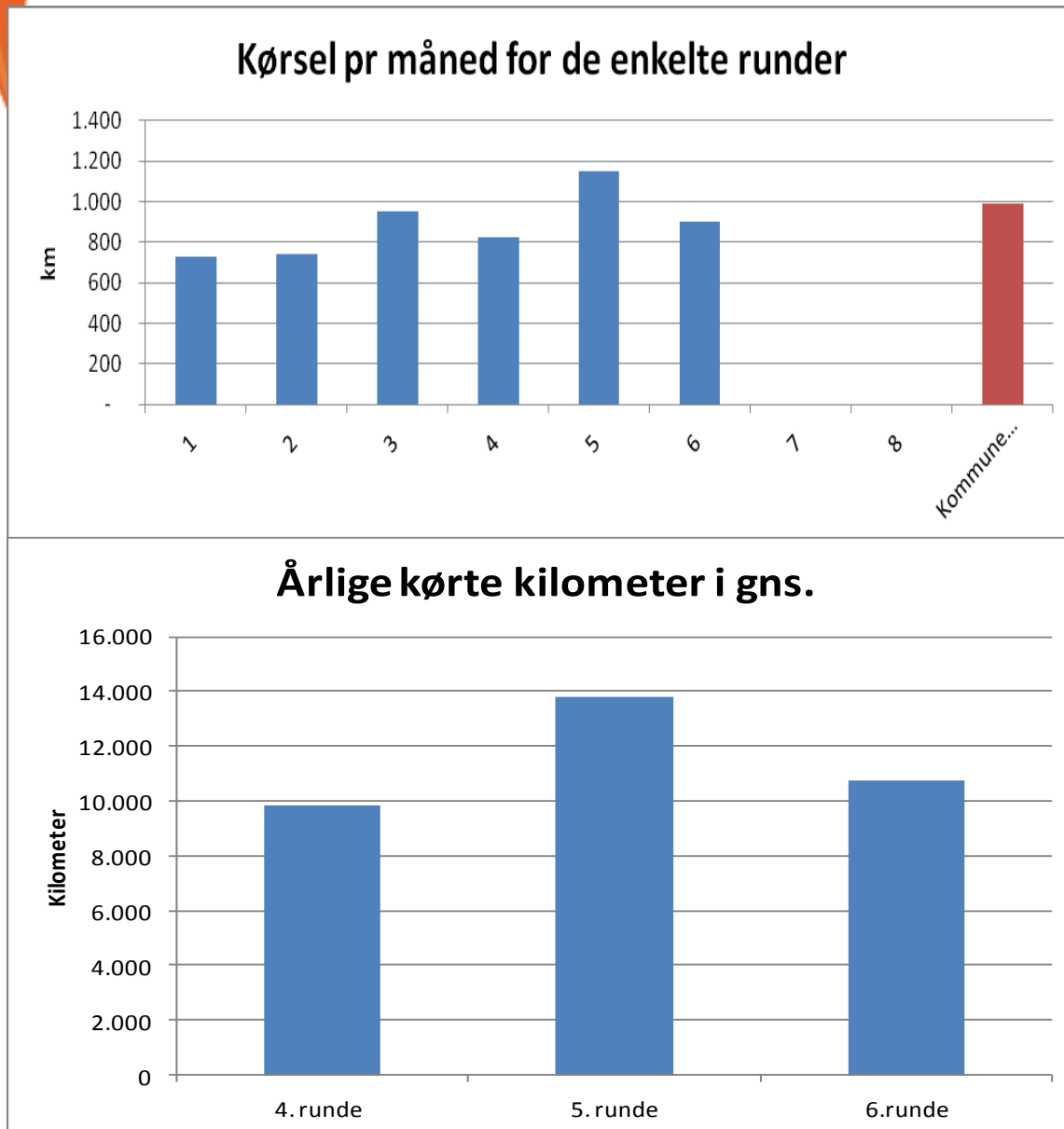
11,5 tons CO2 saved



Kørte km: Bil	Sparet CO2 (tons)	Antal biler	I alt
1. runde	1,69	10	22.221
2. runde	1,67	10	22.061
3. runde	2,18	10	29.105
4. runde	1,76	10	23.490
5. runde	2,49	10	33.251
6. runde	1,73	10	23.116
7. runde	Afventer	10	Afventer
8. runde	Afventer	10	Afventer
I alt	11,54	10	153.884

Km overall	153.884
Times around the world	3,8
Saved ton CO2	11,5
Number of families	60 (70 incl. round 7)
EV days (excl. breaks)	541

Test-an-EV Aalborg STATS



- Average km in DK: 14000-16000 pr. Year
- Aalborg is the 3rd biggest city in DK
- Aalborg km lower than the average?
- Shows us we get drivers from all over the municipality

What do the families say?

“Perfect for commuting”

“Everyone wants to have a go”

“People we don’t know suddenly talk to us about the EV”

“Charging is not a problem”

“Home charging is perfect”

“EVs are the future!”

“Driving with good conscience”



And the children:

“Why do all the other cars make so much noise?”

“Imagine our city only had EVs driving in it”

Test-an-EV

Learnings

Trying - radically changes perception

Range anxiety... is not a problem

Standards (plugs), is not an issue

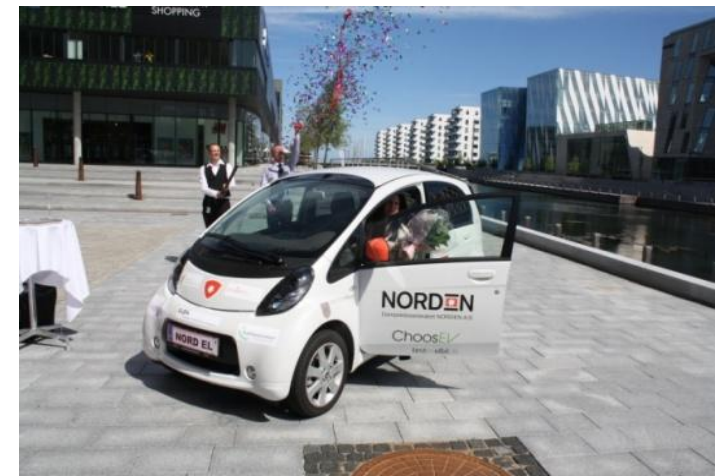
EV users fall in love with their electricity

Charging must be simple and integrated

Weather is a problem

City Car – no!

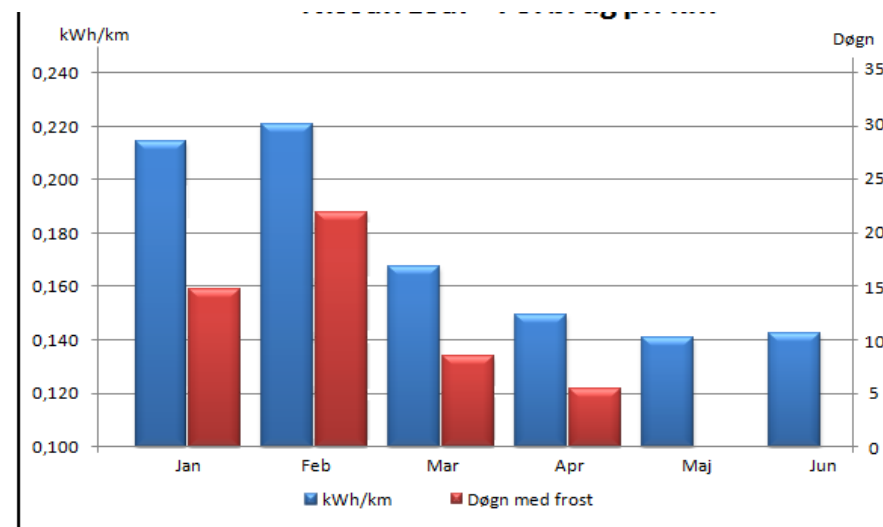
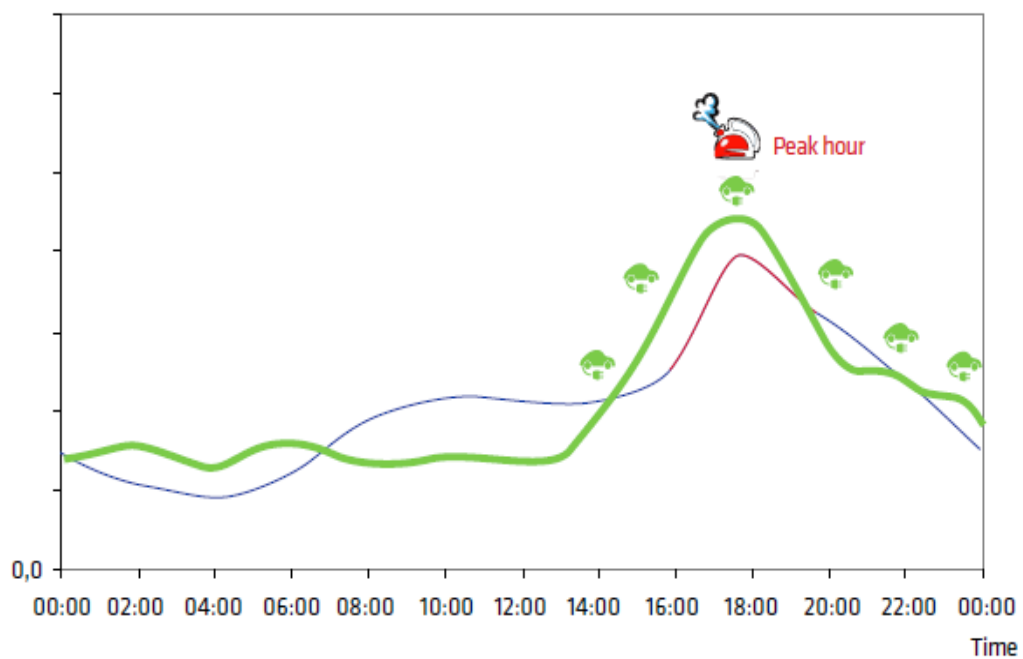
TCO of CAR



Data is key!



Power Consumption



CLEVER[®]

Strøm til din elbil

We thank our sponsors:



... and all the others

Q&A

Thank you for your time!



ANNEX

CLEVER.

Our technology choices

- Home
- @ work
- On the go

....All connected
....All intelligent....!



Partners

- we have strong partnerships across the value chain



SIEMENS

pod POINT

ABB

EL:CON

The Car Manufacturers NEED to meet customer expectations!

PRICE/FINANCING/RUNNING COSTS



TCO MUST BE TRANSPARENT

GREEN IS A DRIVER



GREEN IS A GIVEN, NOT A DRIVER

DESIGN....



DESIGN & FUNCTIONALITY

Legislation around the EV

- Denmark – too much talk, too little action!

- In place today
 - EV is tax exempt (you only pay VAT)
 - Free parking in major cities
- What we are working on
 - Subsidising electricity when charged intelligent (80øre/kwh)
 - Introduction of a compulsory number of EV's in the fleet, when public and governmental institutions and municipalities are buying cars
 - Completely different tax scheme – to ensure that its based on environmental impact, and not price of car
 - Reduced tax for company cars
 - Road pricing
 - Support to additional infrastructure
 - Nationwide campaigns
 - Subsidising first-mover on the B2B market
- Stronger legislation on EU level – so that a % of the production must be EV's

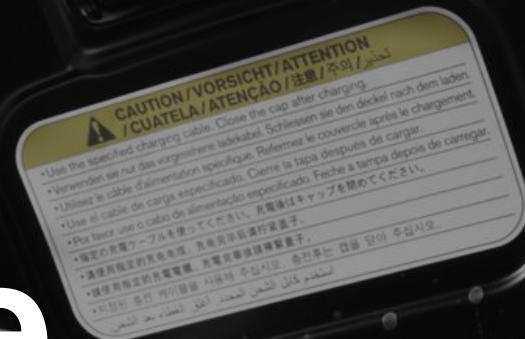
REGULATIONS must support the car-industry, in their biggest change ever!





**GOVERNMENTS
and the EU must
take their
responsibility
serious**

How do we change the game?



A photograph of an offshore wind farm with several wind turbines visible against a blue sky with light clouds. The turbines are silhouetted against the sky and the sea. The text "We must implement the EV intelligently!" is overlaid in large white font on the left side of the image.

**We must
implement the
EV intelligently!**