



Accelerating Mass Adoption: Pricing Models

Amit Yudan / Europe Business Development / e-mobility NSR / October 2011

“How do you make the world a better place by 2020?”



End dependence on oil...

Accelerate the transformation to a sustainable electric automotive solution





Membership benefits

charge spots

- Personal charge spots installed for members
- Unlimited access to charge spots installed in public
- Standards compliant
- Networked and intelligent
- User-friendly design



Membership benefits

batteries & battery switch

Unlimited access to batteries
(no fee per switch)

Instant range extension for
long-distance trips

Optimal thermal management
to prolong battery life

Membership benefits

driver support system

Energy management
(accessible via in-car unit,
web, mobile)

Intelligent, always-online
navigation & route planning

State-of-the-art multimedia
display

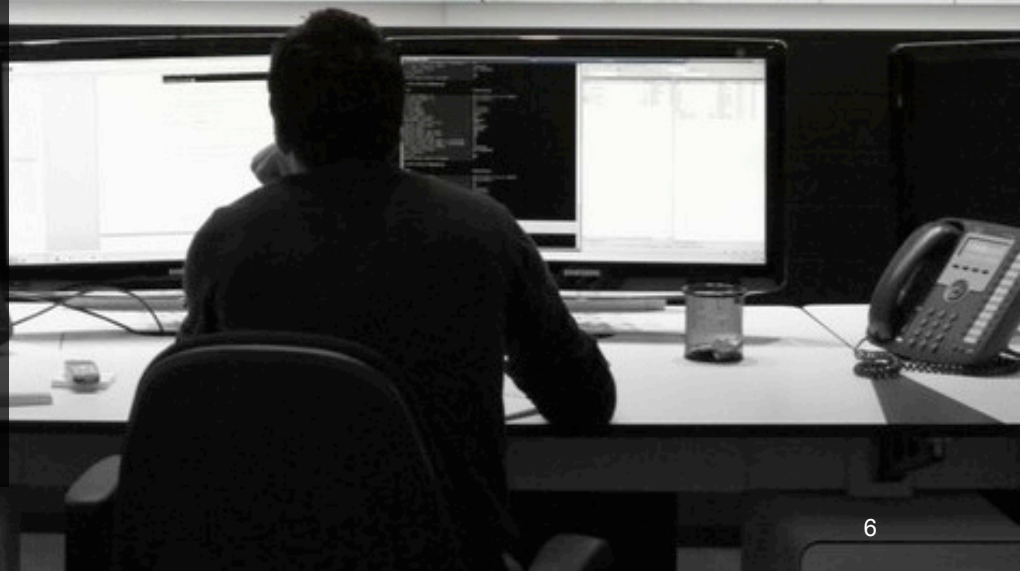
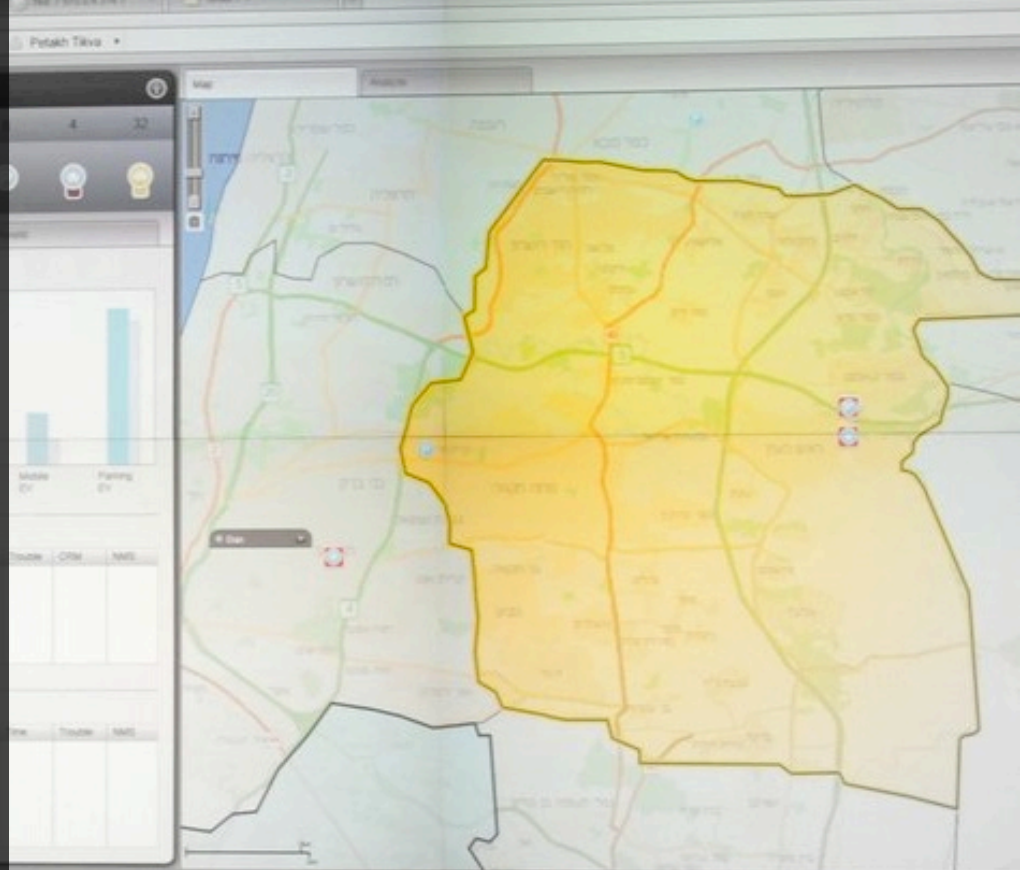
Intelligent Network Management

Smart Charging

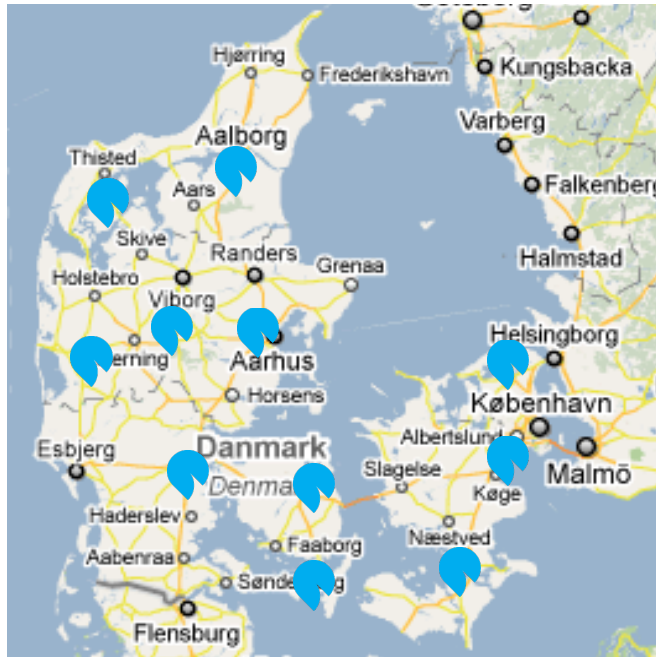
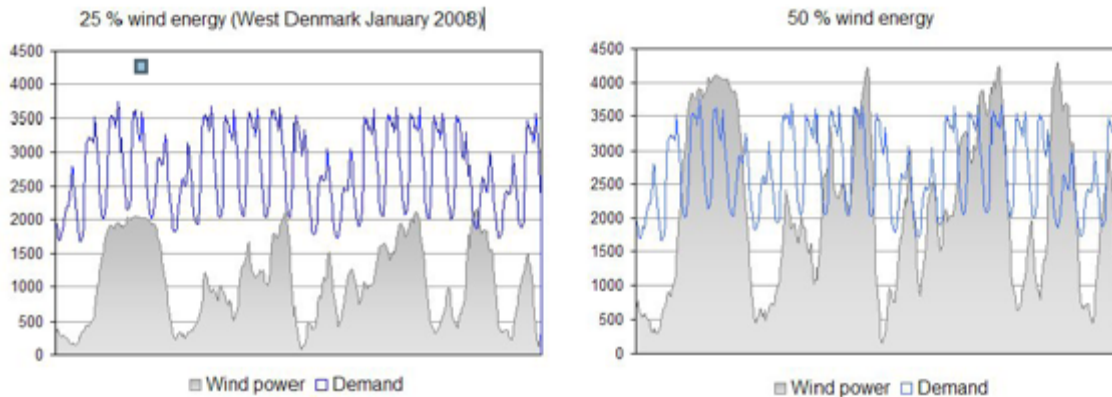
Interfaces to utilities / energy
providers

Optimisation between user
needs and network capacity

Demandside management,
renewable energy and
distributed storage



Battery Switch Station Network as Distributed Storage



*Illustration only of a BSS network

Renewable Energy raise new challenges for the electric grid

BSS network can serve for two purposes:

- Extend range of Vehicles
- Distributed Storage at marginal costs

How does it work for the driver?

Buy car (battery not included).
Choose one of various fixed-price membership packages based on miles:

Battery with guaranteed service level, unlimited network access (charging and switch), in-car driver support system, 24x7 customer service, roadside assistance.

Israel: first market



- Solution working for 2011 commercial launch
 - Operating network of 1,000 charge points and several battery switch stations – total of 40 switch stations planned for launch
 - Operations Center and 24/7 Call Center online
- Experience Center hosted 75,000+ in 18 months and nearly 20,000 signed interest list — 10% of cars sold annually
 - Drivers save up to 20% vs. petrol
- 300+ companies, including Cisco, FedEx, Intel, IBM, Microsoft, have signed to convert their employee fleets to Better Place
 - These companies represent 80,000+ cars

Israel: Network charging infrastructure nationwide



- Partnerships with the 3 major gas station operators to deploy Battery Switch Stations
- 400 agreements with parking lot owners to deploy Charge Spots
- 27 agreements with municipalities to deploy Charge Spots in central locations



Denmark: first European market



- Commercial launch just after Israel
- Experience Center opened in March
 - 4,000+ have visited
 - 90% express interest in buying an electric car
- Hundreds of visitors have pre-ordered switchable Renault Fluence Z.E. and membership packages based on km to save up to 20% vs. petrol
- Using Better Place Center and Renault dealer channel

Denmark: renewable energy as transportation fuel



- Electric cars powered by excess wind generation at night – enabling Denmark to scale from 20% to 40% wind
- Battery switch stations increase ability to provide energy storage for renewables and manage demand

Europe's first Switch Station in Gladsaxe, outside Copenhagen – unveiled by Danish Minister of the Environment (top right)



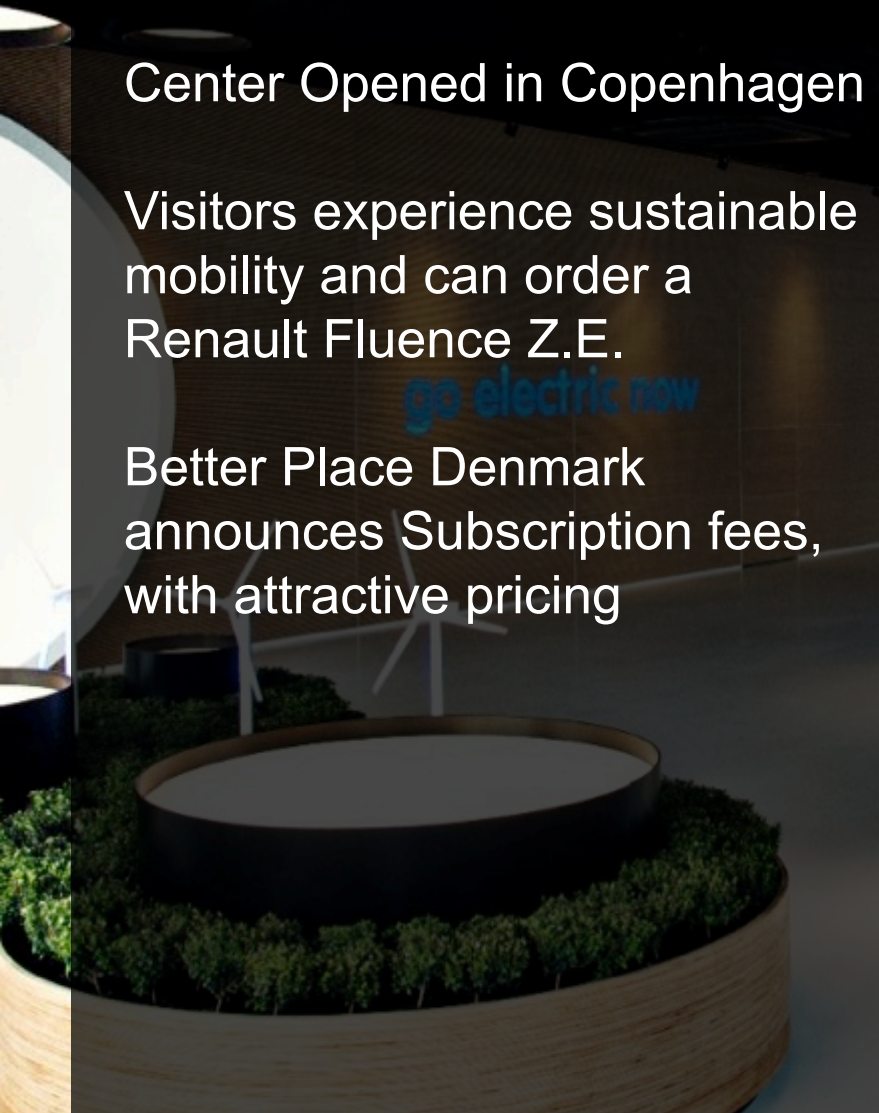
Marh 2011: Better Place Center Opened in DK

Center Opened in Copenhagen

Visitors experience sustainable mobility and can order a Renault Fluence Z.E.

go electric now

Better Place Denmark announces Subscription fees, with attractive pricing



priser til den private elbilist



køb dit
medlemskab
der hvor du
køber din elbil

Bemærk: køb og vedligehold af din elbil er ikke indeholdt i nedenstående priser

10.000 km. pr. år	15.000 km. pr. år	20.000 km. pr. år	30.000 km. pr. år	Ubegrænset km. pr. år
1.495 KR./MD.	1.695 KR./MD.	1.895 KR./MD.	2.495 KR./MD.	2.995 KR./MD.
Ladestander (inkl. drift og vedligehold)	Ladestander (inkl. drift og vedligehold)	Ladestander (inkl. drift og vedligehold)	Ladestander (inkl. drift og vedligehold)	Ladestander (inkl. drift og vedligehold)
Ubegrænset strøm	Ubegrænset strøm	Ubegrænset strøm	Ubegrænset strøm	Ubegrænset strøm
Leje af batteri	Leje af batteri	Leje af batteri	Leje af batteri	Leje af batteri
Ubegrænset antal batteriskift på vores batteriskiftestationer	Ubegrænset antal batteriskift på vores batteriskiftestationer	Ubegrænset antal batteriskift på vores batteriskiftestationer	Ubegrænset antal batteriskift på vores batteriskiftestationer	Ubegrænset antal batteriskift på vores batteriskiftestationer

facts

Udregnet for en 4-årig periode

20.000 km pr. år

Rentesats: 8%

100% finansiering

Låneomkostninger: 3,5%

Brændstofpris: 9,70 DKK/liter

	Renault Fluence Z.E. Prime time	Tilsvarende diesel sedan
Vejl. pris bil	208.680	370.000
Afskrivninger	123.000	180.000
Better Place abonnement eller brændstof	90.960	40.000
Oprettelse	9.995	-
Finansieringsomkostninger	42.500	70.000
Vedligeholdelsesomkostninger	39.000	50.000
Forsikring	21.000	35.000
Grønne afgifter	-	15.000
Totalomkostninger pr km	4,10 DKK/km	4,88 DKK/km

Typisk besparelse i forhold til en konventionel bil

10-20%

Australia: large suburban country proving ground



- Network to be 100% powered by clean energy based on largest-ever, power-purchase deal of its kind in Australia (AU\$60M PPA)
- Renault to begin delivering switchable Fluence Z.E. in middle of 2012
- Better Place providing EV infrastructure for federal government's "Smart Grid Smart Cities" initiative
- Partnership with General Electric for first fleet of 1000 vehicles
- EV Engineering building switchable-battery based on GM Holden's Commodore, the top-selling car for 15+ years



Japan: demonstrating the commercial grade of switch



- Switch is the only viable solution to electrify taxis, which drive the most, consume the most fuel, and generate the most emissions
 - Taxis are 2% of Tokyo passenger vehicle fleet but 20% of emissions
- Partnership with Tokyo's largest taxi operator with funding from the Japanese government
- Results:
 - 60,000 km traveled
 - 3,500 automated battery switches
 - Average switch time: 59 seconds

Bay Area Program is seed for commercial network



Objectives

- Prove battery switch as “instant charge” option for unlimited range driving in U.S.
- Demonstrate public-private partnership for regional roll out of EV infrastructure
- Attract OEMs to build switchable EVs for North America
- Lay groundwork for commercial network for consumers

Program highlights

- Expected to touch over 1M consumers in largest North American car market
- Projected to reduce greenhouse-gas emissions by 700,000 tons annually
- High-profile site across from waterfront
- Network of 4 Battery Switch Stations and 60 electric cars



- Flagship site near Embarcadero
- Maximum exposure
- America's Cup 2013



European Commission-backed projects



- Easybat: R&D program to develop standard interfaces for switchable batteries in EV platforms
- Green eMotion: 42-partners from Europe to demonstrate EV including Battery Switch
- TEN-T: Pan European network planning for Battery Switch Stations + pilots in Denmark and Netherlands



European Commission-backed projects



European Commission-backed projects



China Southern Grid partnership to further advance switchable EVs in China



- Engaging carmakers and other stakeholders, supported by Guangzhou government
- Developing joint experience center and China's first automated Battery Switch Station
 - Slated to open before year end in Guangzhou
 - EVs for VIPs and consumers to drive
- Exploring joint commercial operation based on Better Place model
 - CSG services areas cover 230M people



r 1.0



„Old“

vs.



“New”

Bertha-Carl Benz Award

Mannheim July 2011



Reality: Denmark



Reality: Israel



From Vision to Reality



better place 