Martijn van der Steen



E-Mobility NSR Conference "Policy, Practice and Profitability"













Emergent Strategies for an Emergent Technology

A comparative analysis of EV-policies by government in NSR-participating countries

Dr. M. (Martijn) van der Steen

Haarlem, October 10 2013

European Union









ASCP model.





ASCP-model





ASCP model.



Country	Ambitions
Germany	 2.200 EV's in 2012, 1 million EV's in 2020, 6 million EV's in 2030 No ambitions found for charging infrastructure
Norway	 200.000 EV's in 2020 In the realization phase (2015) Norway plans to have 5000 charging stations
Sweden	 18.000 EV's in 2020 All cars replaced by EV's in 2030 No ambitions found for charging infrastructure
Denmark	2020: 80.000 EV'sNo ambitions found for charging infrastructure
Netherlands	 20.000 EV's in 2015, 200.000 EV's in 2020, 1 million EV's in 2025 10.000 public charging stations (50 rapid charging stations)
United Kingdom	• 5% of the total UK car fleet and 16% of all new cars consist of EV's and PHEV's.
California	 1.5 million zero-emission vehicles by 2025 No ambition found for charging infrastructure

Conduct – ASCP



- 1. Value chains: Grid and/or EV value chain.
- 2. Tools of government: Legal, Financial, Communication and Organization.
- 3. Government levels: National, Regional and Local.









Most countries focus on **organizational** and **financial** instruments



Government level

Policy measures are mostly conceived at the **National** Level.







Focus on vehicles: Germany: <u>tax exemption for</u> <u>BEV's (10 years)</u>. Sweden: EV's exempt from congestions –charging scheme (tax charged during times of traffic congestion).

Less focus on Grid:

Not every country with financial schemes for vehicles also has a financial scheme for charging stations.









Conduct: Summary



- NSR countries focus on financial and organizational tools to facilitate and support e-mobility.
 - Similar financial policies.
 - Also local financial policies (cash or kind): free parking, free charging, no congestion charge, etc.
- Most policy measures are conceived by the National governments. However, the few large projects of the national government are divided in many regional and local projects.
- Policy is mainly focused on vehicles. However, we also found many *network* initiatives: demonstration projects, temporary project organizations and initiatives to intensify contacts between different stakeholders and the e-mobility eco system
- Policies on grid seem te follow EV-policies, but is less customer focused than EV-policies.



Performance: Summary : e-mobility NSR

EV-performance (2012)

- **EV penetration:** in Germany (0,011%) and the UK (0,009%) is relatively low compared to other NSR-countries .
- Sales share: most NSR countries see an uptake of EV sales share. In all countries EV sales share is higher than current EV penetration. Norway has the highest sales share (3.1%) of EV's. Nissan Leaf was the 8th best selling car in Norway in 2012. This sales share is likely to rise. In 2013 the Nissan Leaf sold very well in Norway, in April it was the second best selling car in Norway after the VW Golf).
- Italy has the lowest sale share (0,04%). Sales share in the Germany is 0,13% and scores below average compared to other NSR-countries.

Infrastructure-performance (2012)

European Union

- The Netherlands (5.000 installed in homes and offices, almost 4.000 installed in public places) has the highest number of charging stations. Germany has 1.324 (semi-)public charging stations and 613 private. Therefore it scores below average (2012).
- UK has the highest number of fast charging stations installed. Numbers of Germany are unknown.
- In the Netherlands, England and Belgium the carbon intensity of the electricity used to charge EV's is very high. Germany is below average with 11%.









The European Regional Development Fund

Seite 11

Economy or Psychology?



Policies look the same, but are essentially different

Cognitive limitations and Cognitive biases

Possible impact-enhancement:

- Behavorial economics: psychology of choice
- Policy implications: Choice architecture, **Design**
- Political implication: **Ethics** and Boundaries

Rethink of the design of policy (apart from the policy itself)

Methods: default option, framing, timing, peer pressure, casting.





Action or strategy?



Many action plans, (too) little deliberate strategizing?

- Focus on EV's *or* on the grid and the charging network?
- Focus within a value chain: R&D, production, consumers, services?
- Limited resources (financial), time and attention requires (strategic) choice: intended or emergent strategy?
- Who's problem (and solution) is it: local, regional, national? Or private?
- Consumer oriented or industry oriented; hardly on services although they may be crucial; intermediaries?
- Interaction of structure and conduct: localize policy-strategy to optimize local (structural) conditions.





National or Local?



Government Level: multi-level strategies, or one level in the lead?

- Currently: mostly national policies, with local extras
- Or: national policies that are decentralized to local government for implementation
- Sometimes very aggressive and effective local policies: *the local in the lead*
- And often: not so very clear who is in the lead, 'creative competition'

Emergent outcome of processes of deliberate and strategic choice? Or just the way it played out...?





Large or small?.



Possible change of perspective: Less is More? Small is big?

California has aggressive regulatory and financial policies for introducing EV's. But regulatory barriers are hard to overcome. Big programs can get stuck in details and red tape...

The Netherlands has far less far reaching targets and incentives, but has many informal platforms for dealing with technical regulatory issues, red tape and open communication between sector, stakeholders and government

Perhaps introducing EV's is about solving local, practical and therefore very specific problems and barriers that occur along the way. "All policy is local"





Strategy as deliberately emergent e-mobility NSR

Big bazooka versus Patchwork policy

The Big Bazooka

EV policy that strikes big (enough) blows to cover the entire potential field of EV's and charging infrastructure? Requires proactive design and a precize analysis of *the* problem.

Patchwork Policy, Bricolage

European Union

Or is it about combining a wide array of individual, small and experimental policies that deal woth specific niches or problems? Requires the ability to adapt to changing circumstances, notice problems and developments early, and 'manage' a diversity of unrelated policies at different levels – and nobody is entirely in control.







Thanks!

Dr. Martijn van der Steen Netherlands School of Public Administration Lange Voorhout 17 The Hague The Netherlands www.nsob.nl/EN <u>steen@nsob.nl</u> @martijnvdsteen



