Smart Energy Demand Coalition

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Demand Response 2011 – CEER

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Smart Energy Demand Coalition (SEDC)

The SEDC is an representative industry group dedicated to promoting the **active participation** of the **demand side** in European electricity markets – to guard consumer benefits, increase security of supply and reduce carbon emissions

The SEDC **focus** is to promote Demand Side programs such as, peak clipping and shifting, energy usage feedback and information, smart home, in-home and in-building automation, electric vehicle charging management, and all other programs related to making demand a **smart**, interactive part of the energy value.

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SEDC 3 Focus Areas:

1. Present a "united voice" on the behalf of the SEDC members toward policy makers and regulators concerning the requirements of Demand Side Programs

2. Intelligence and information gathering and networking for SEDC Members

3. Working with trade, financial and general media to raise awareness of Demand Side programs

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SEDC Members

BPL Global Capgemini Cinterion Digi International

EDF Electro Ljubila eMeter Enel Enernoc

Entelios ESMIG Instituto Tecnológico de la Energía

Johnson Controls Inc Jouleassets Landis+Gyr

NOERR Orange PLMA Prolan Siemens

Silver Spring Networks Smart Power Grid Poland

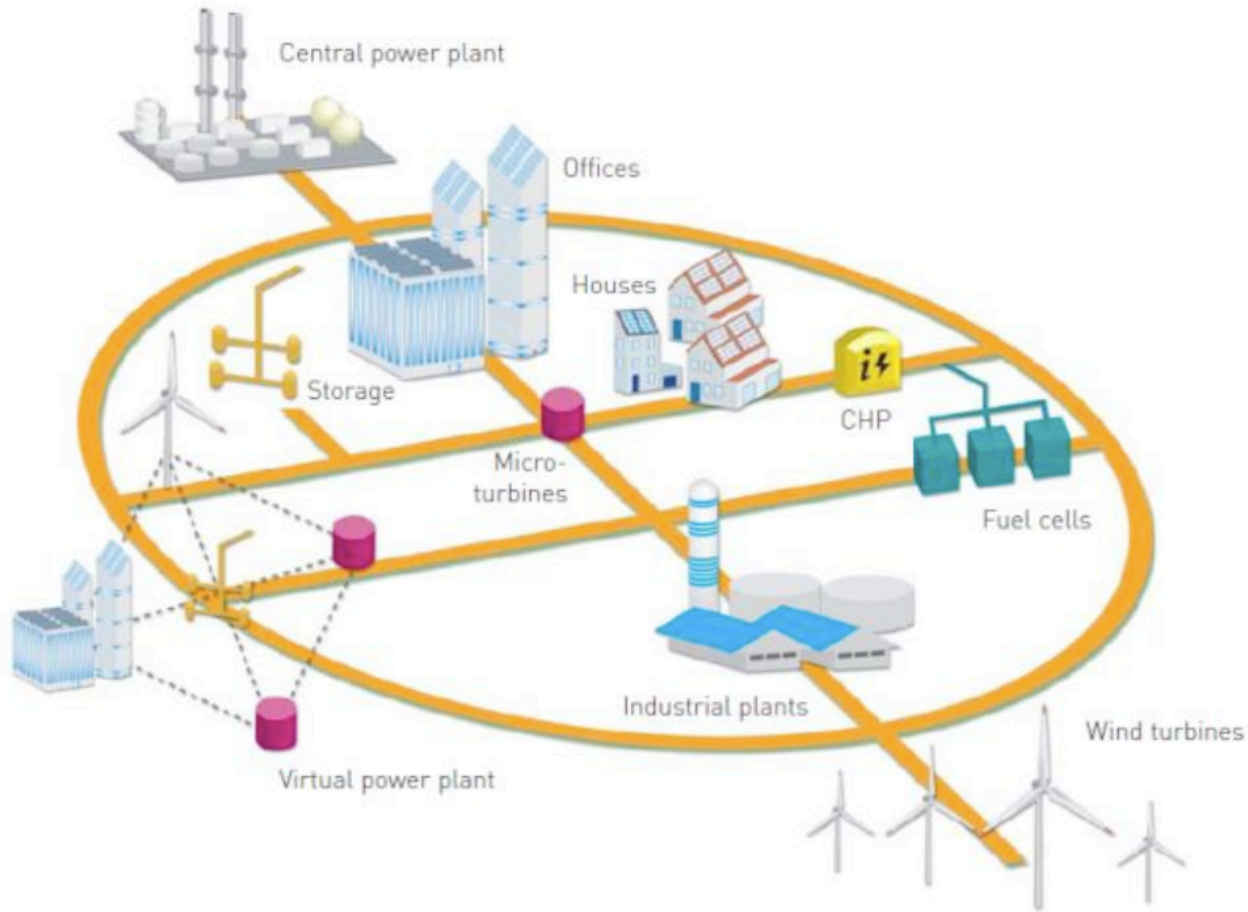
Sustainability First The Climate Corporation The

European Demand Response Research Center United

Technologies Research Center Ireland VaasaETT

Vodafone ZigBee Alliance

.... Why is this important?



Smart Demand = Key Unifying Tool within the Smart Grid

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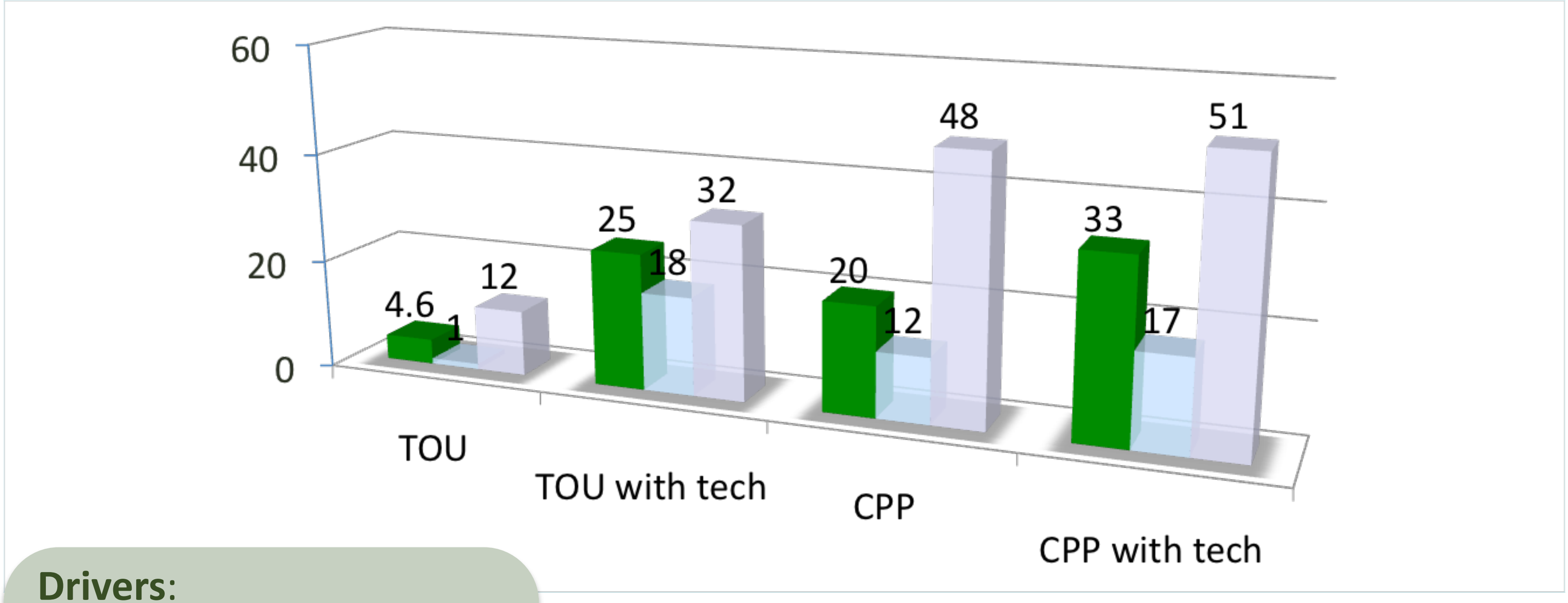
Successful Pilots - Pricing Programs Peak Clipping



Drivers:
Low Capacity Margins
High Peaks in consumption
Wind generation
Retail market competition

What is at Stake?

	Moderate Scenario	Dynamic Scenario	Dynamic % of EU 2020 Targets
Energy Savings	59 TWh	202 TWh	50%
CO2 Emissions reduction	30 Mt	100 Mt	25% (50% of electricity industry share of obligation)
Peak Generation Capacity Avoided	28 GW	72 GW	
Avoided Investment	€ 20 billion	€50 billion*	

Notes:
* Based on an average cost of 400M€ per GW of thermal plant, plus taking into account an average difference between demand and gross generation of 15%, plus 50% additional savings for T&D infrastructure (taken as a conservative estimate). This amounts to 700 M€ per GW avoided.

VaasaETT, Capgemini, Enerdata (2008)

The Potential of Residential and Commercial DR and Feedback Programs in the EU 15 Member States

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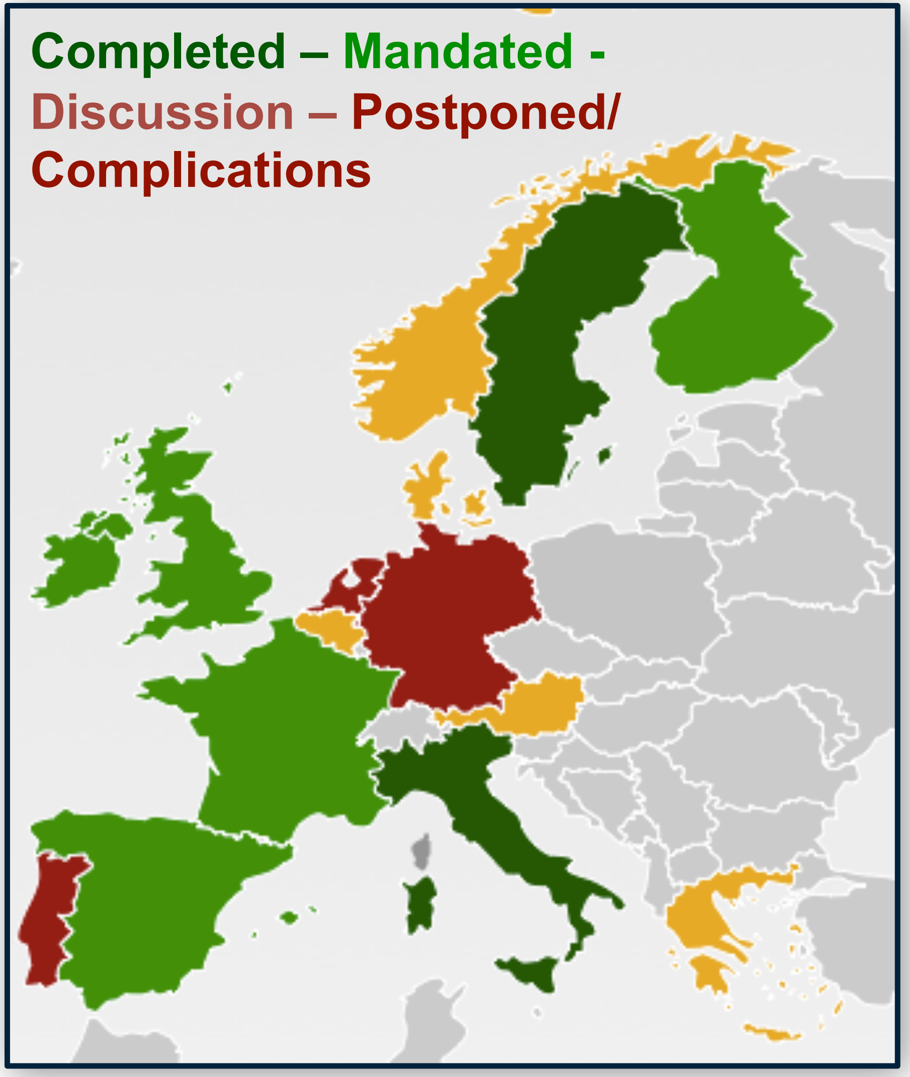
1. Technological ability
Residential market



Country	Status
Denmark	Discussion
Sweden	Completed
Finland	80% 2014
Norway	2015 (approx)
Netherlands	Postponed
France	2012-2017 (approx)
Germany	Postponed
Italy	Completed
Portugal	Postponed
Spain	2018
Austria	Discussion
Belgium	Discussion
UK	Mandated
Greece	Postponed

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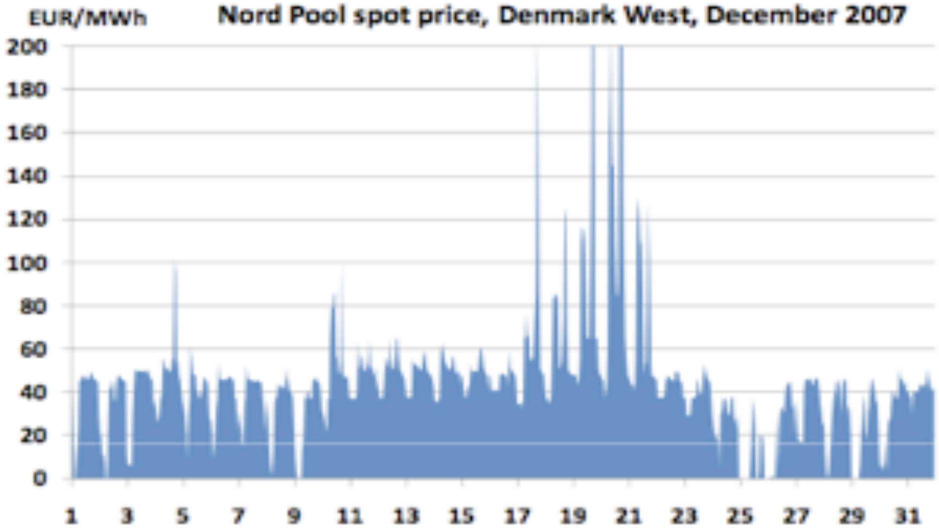
Wind Generation

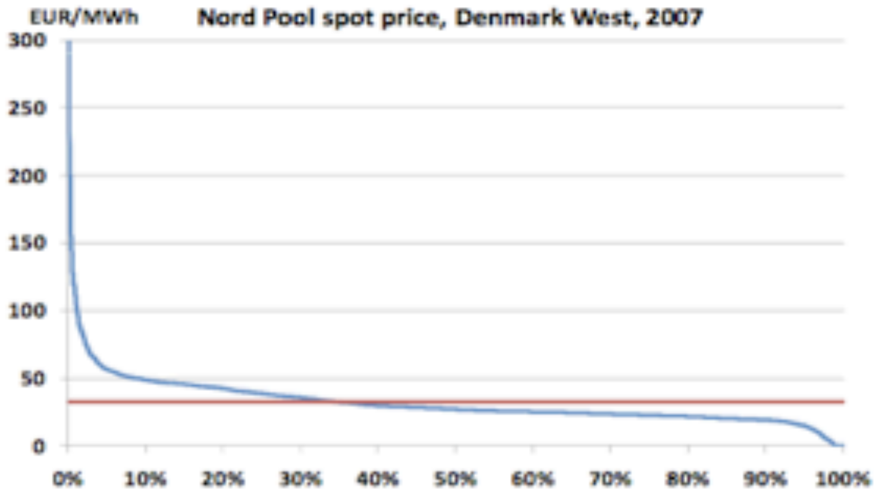
Market forces put a price on flexibility



- Price peak at 500 EUR/MWh on 20 December
- Several hours with zero during the Christmas brake

Price duration curve for 2007

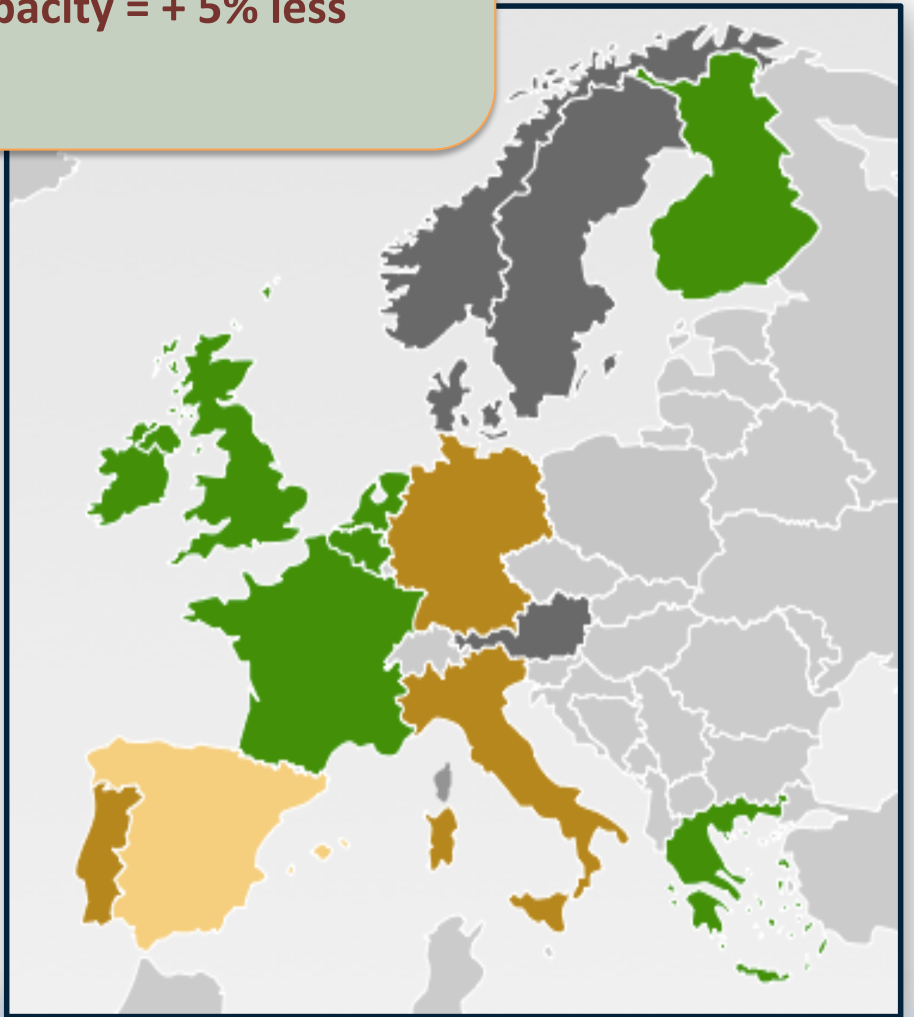
- Price peak at 943 EUR/MWh
- 86 hours with zero during



DONG energy

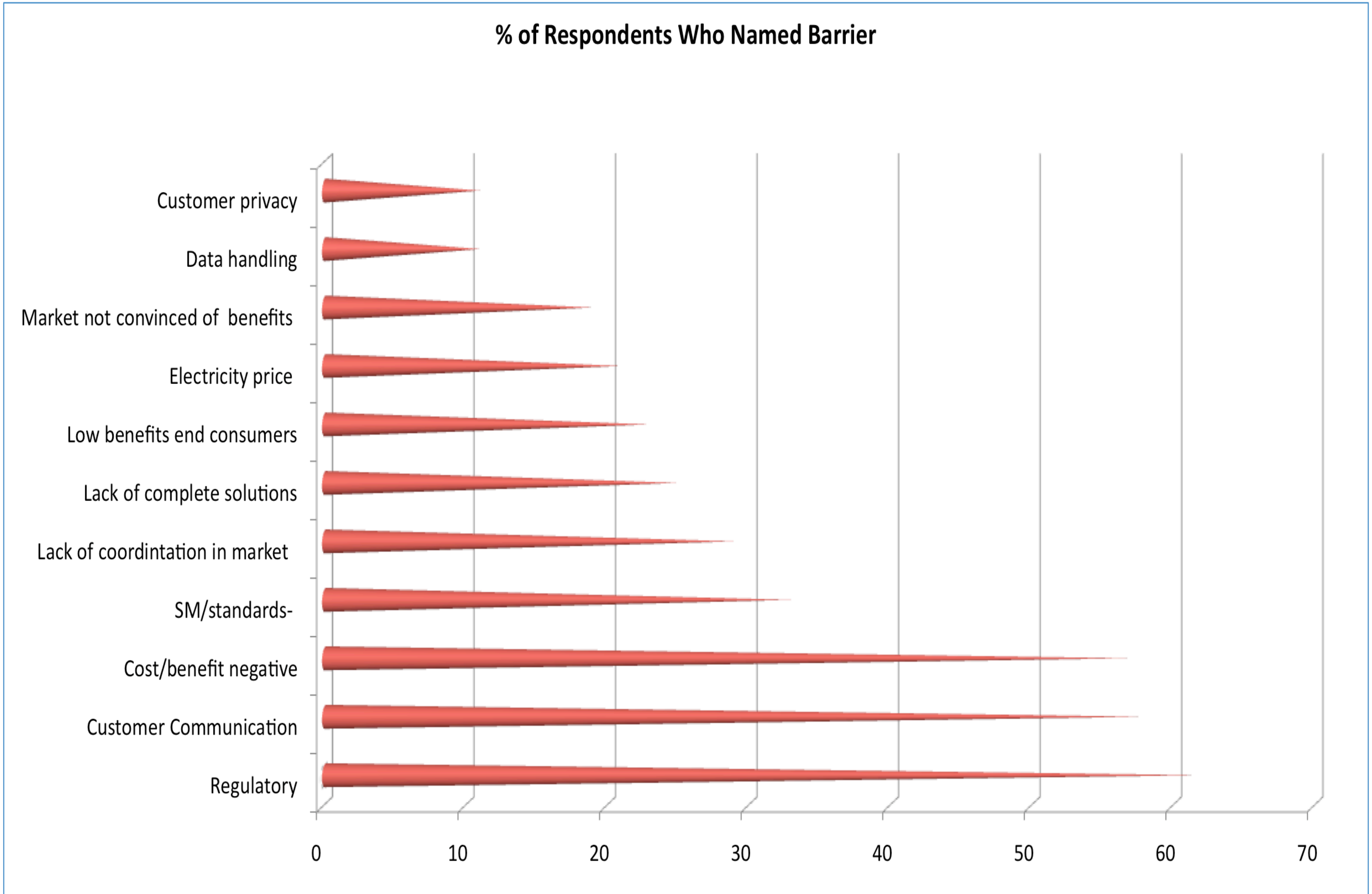
Real Capacity Margins 2008

Low Local network capacity
Real capacity margin = 0% or less
Real Capacity = + 5% less brown
None



Country	% 2008 *
Denmark	12
Sweden	17
Finland	-3
Norway	12
Netherlands	0
France	- 6
Germany	2
Italy	5
Portugal	5
Spain	8
Austria	26
Belgium	-8
UK	2
Greece	-3

Barriers to Demand Response – Industry Manager Survey
Source: VaasaETT



SEDC Policy Goals

1. Treat the demand side with the same priority as renewable resources
2. That demand side resources be allowed to participate alongside supply in local or regional wholesale markets via exchanges
3. That utilities be encouraged and supported by regulators in offering demand side programs
4. Use demand side resources as a reliability tool to support operations and renewables
5. That policymakers adopt peak load reduction targets
6. Local or regional wholesale market structures – capacity markets – and incentives should be created or modified to allow participation by the demand side

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SEDC Policy Goals

7. Provide consumers with choices
8. Ensure technology is not be a barrier to changing from one retailer to another
9. Adopt reasonable EU-wide consumer data security and privacy standards for demand side programs
10. Provide reliable, responsive, cost-effective, two-way communications and measurement at the customer site that enables demand side programs
11. Ensure that smart meter investments offer standards-based open support for demand side programs

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