

The Wednesday Quiz

UK final energy demand ...

2004 - 173 mtoe

2009 - ??

Delta Energy & Environment Ltd
Registered in Scotland: No SC259964
Registered Office: 15 Great Stuart Street, Edinburgh, EH3 7TS, UK



Business models for smart home deployment

Michael Brown - Director

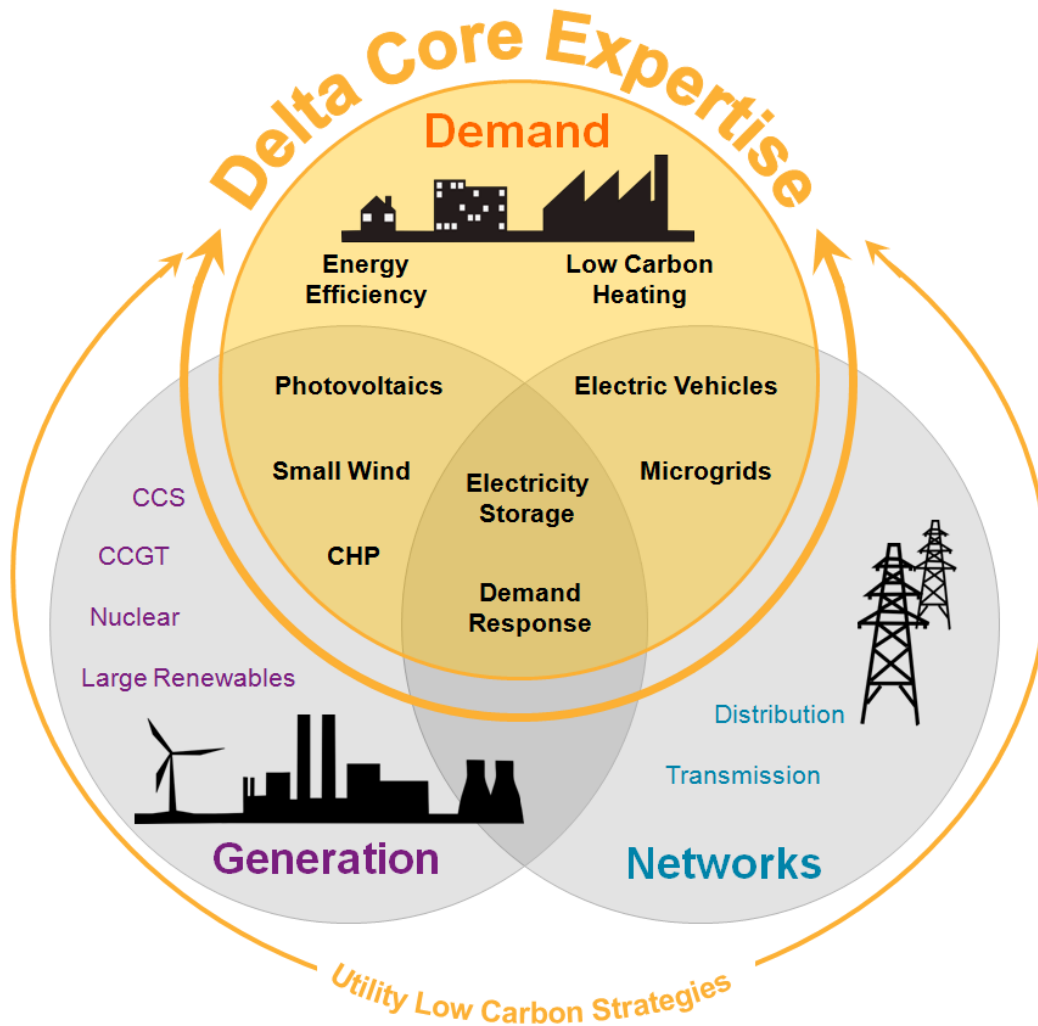
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5 October 2011



What Delta does



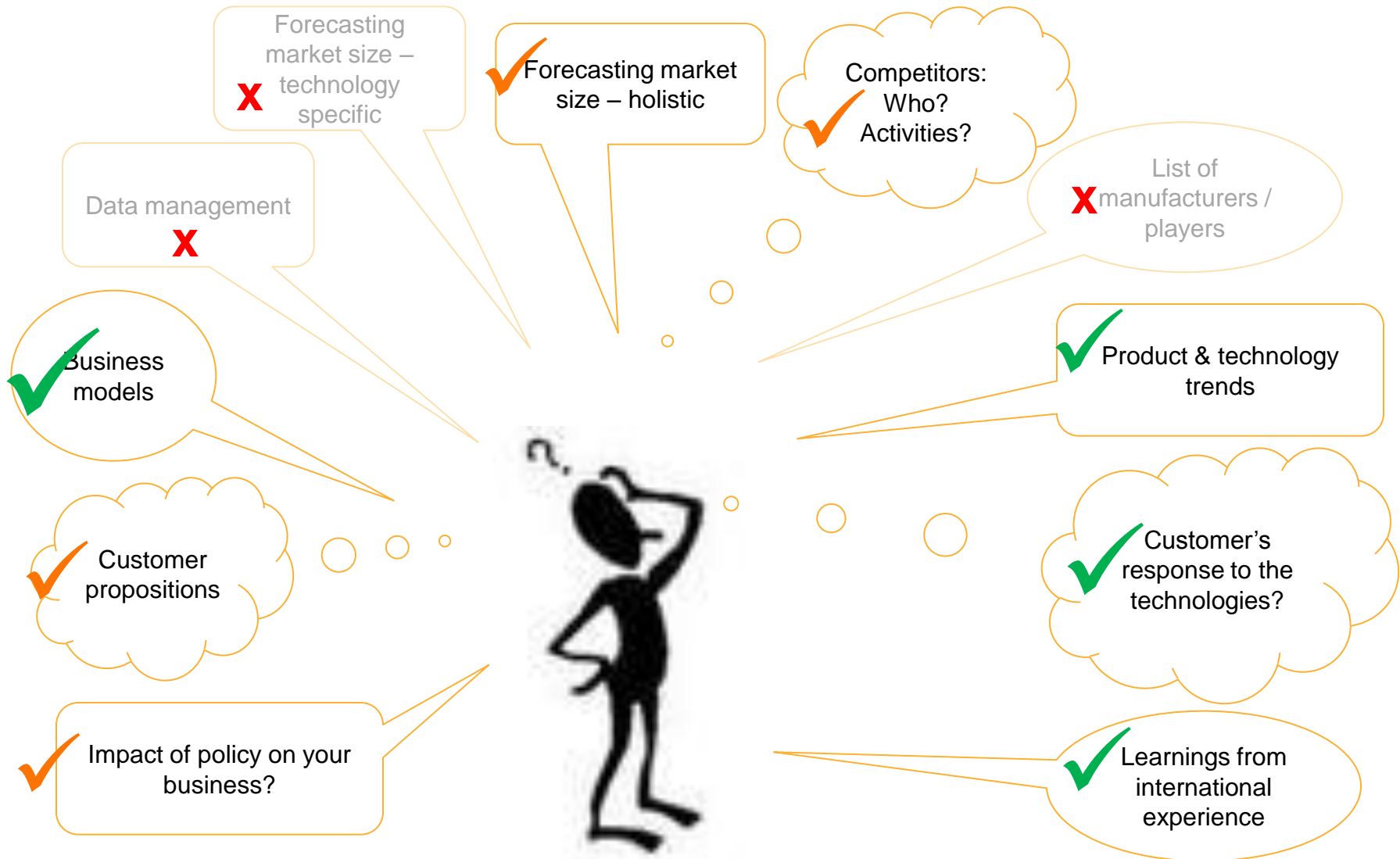
Market analysis

Market sizing and forecasting

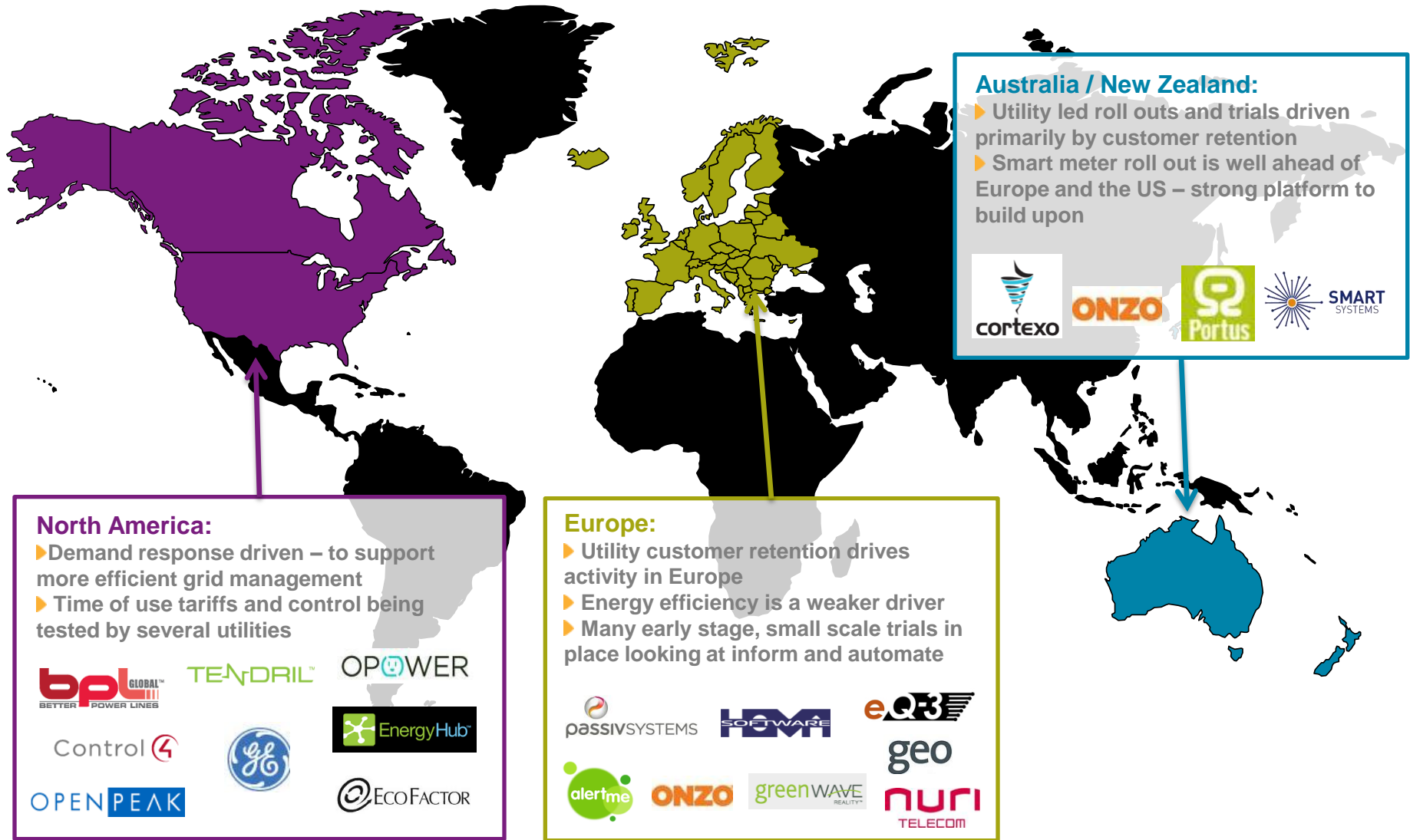
Strategy

Due diligence

HEMs – what's interesting?



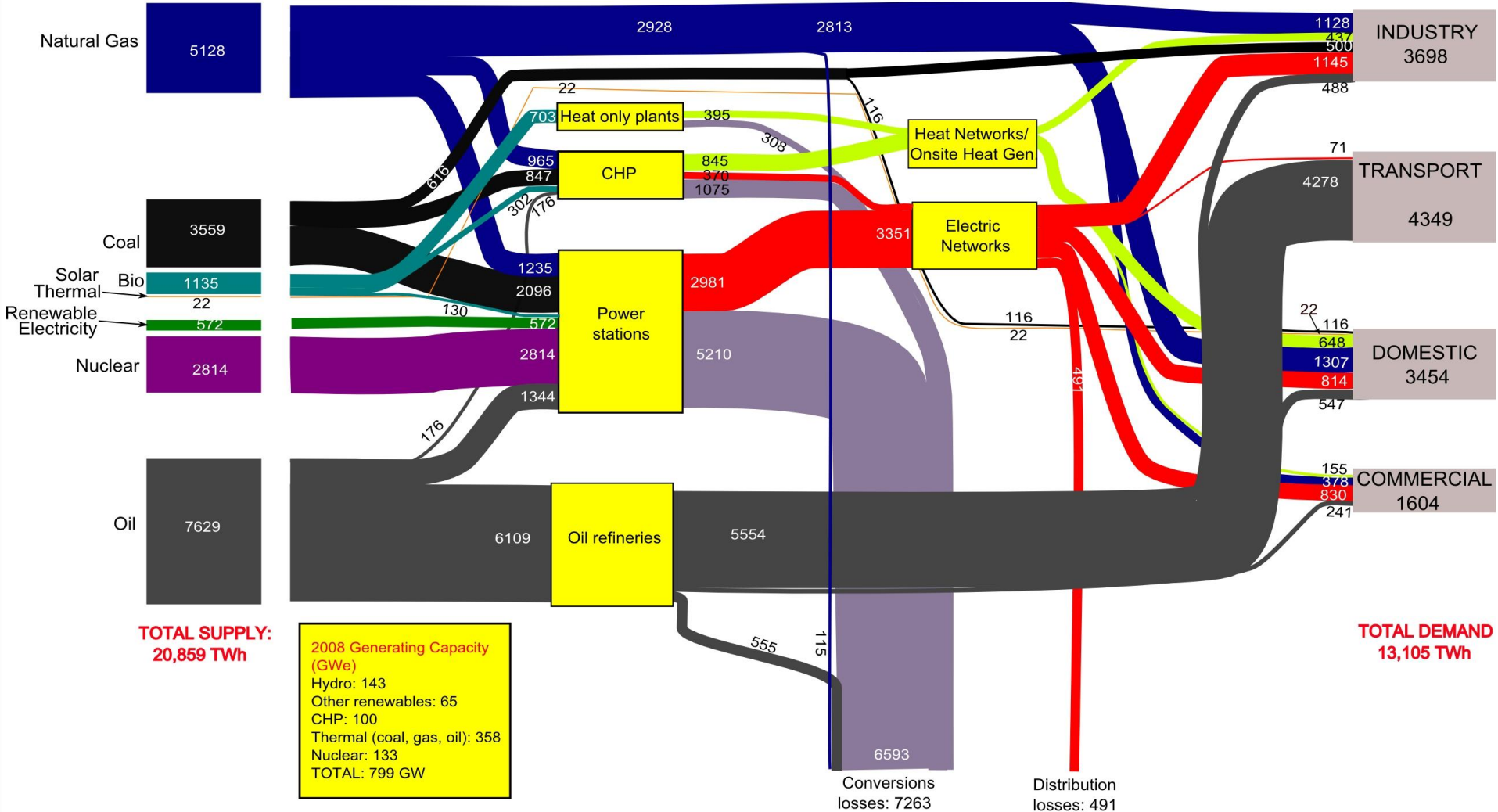
Global HEMs snapshot



- **Goal – identify some possible features of successful business models for HEMs deployment**
- **European energy context – what does it tell us?**
- **The stakeholders:**
 - ▶ **The policymaker / regulator**
 - ▶ **The customer**
 - ▶ **The energy company**
- **Some conclusions**

2008 Energy Supply and Demand in Europe

All numbers are in TWh

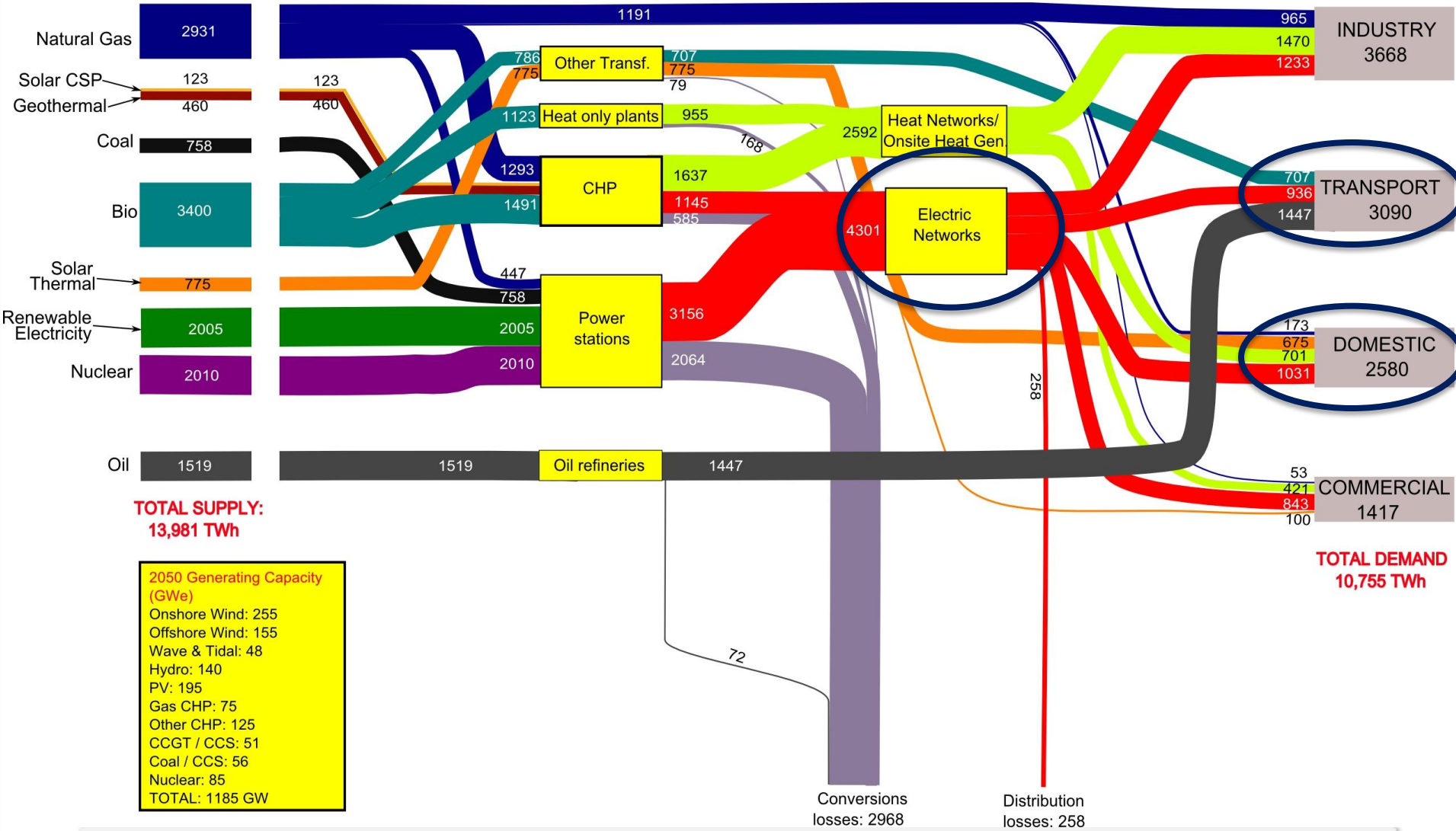


Why so much talk about electricity?

- **Heat has a higher share of final home energy demand**
 - ▶ Residential electricity demand 810 TWh
 - ▶ Residential heat demand ... 2,650 TWh

2050 Energy Supply and Demand in Europe

All numbers are in TWh



Are smart homes needed for this journey?

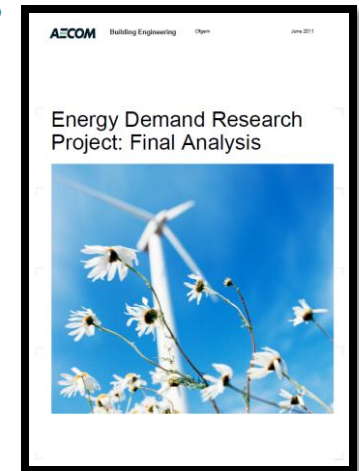
- **Much more electricity**
 - ▶ Heating – heat pumps
 - ▶ Transport - EVs
 - ▶ *Inflexible share up from 41% to 76%*
- **Final demand down but not by much**

UK final energy demand ...

2004 - 173 mtoe

2009 – 152 mtoe
- **The challenge of electricity system balancing is greater than demand reduction**
 - ▶ How to meet that challenge?

- **2020 renewables targets**
- **Energy Efficiency Directive and the PES target**
 - ▶ Member State should set up an energy efficiency obligation scheme that requires energy suppliers to deliver 1.5% energy savings per year from their customers. *Is IHD deployment the most cost-effective way of delivering this?*



- ▶ It sets clear goals for real time consumption information to be displayed to energy consumers by smart meters and their associated customer interfaces.

What do customers want from energy supply?

- To save the planet
- Fun
- Convenience & comfort
- **Cost savings**

What do energy companies want?

- **To keep the regulators happy ...**
- **... sticky customers ...**
- **... more customers ...**
- **... load shifting customers ...**
- **... new sources of revenue**
- **..... Energy services**

What are Energy Services?

Conventional heating and cooling installations

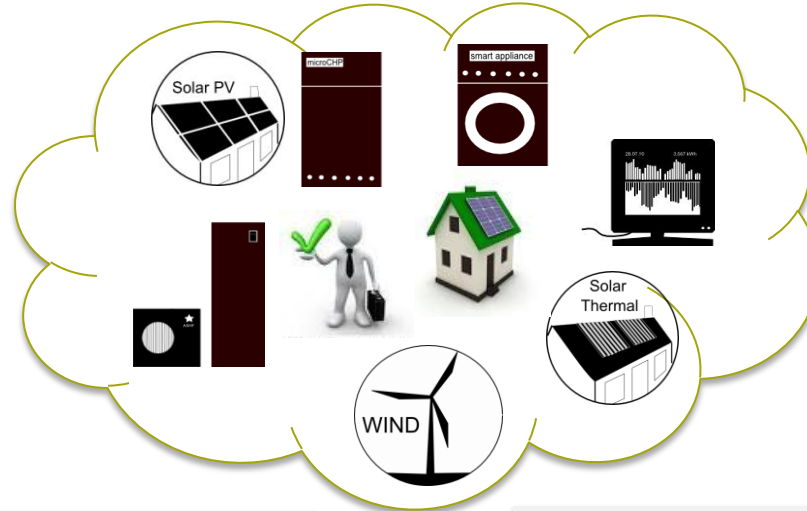
- ▶ Eg fossil boilers, electric water heaters and air conditioning systems..

Low carbon heating

- ▶ Solar thermal, heat pumps, micro-CHP and biomass heating

Energy efficiency

- ▶ Insulation



Distributed generation

- ▶ Photovoltaics and on-site wind

Home energy management systems

- ▶ *In-house displays, energy monitoring and management systems*

Heating system services

- ▶ Maintenance contracts

Utility engagement in energy services – early days

Seizing Opportunities,
Managing Threats:
Utility strategies for
a low-carbon future

accenture

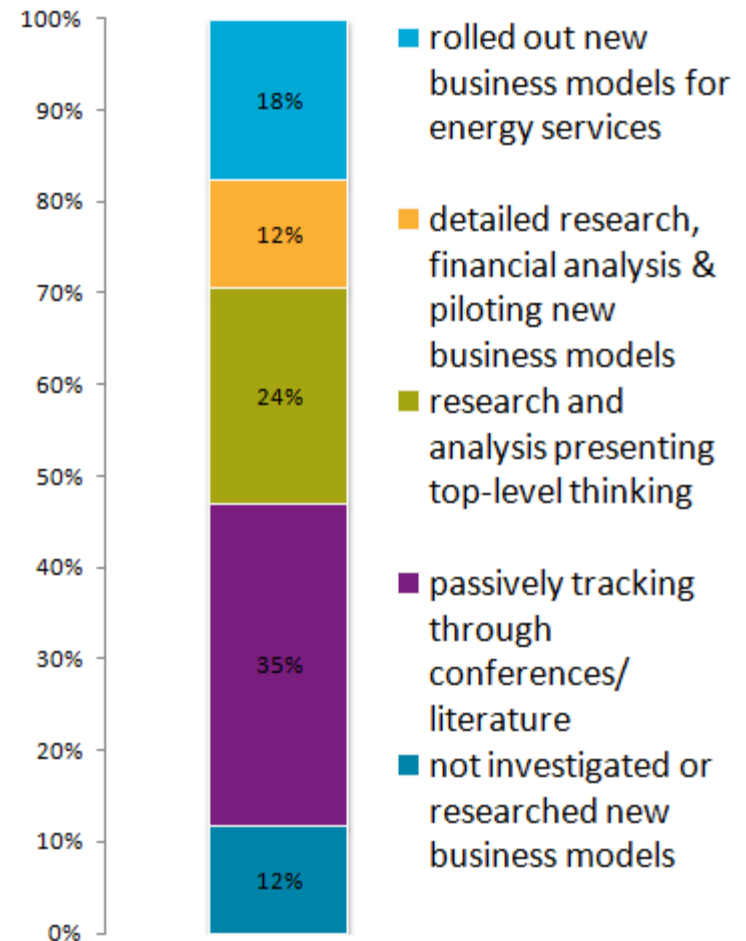
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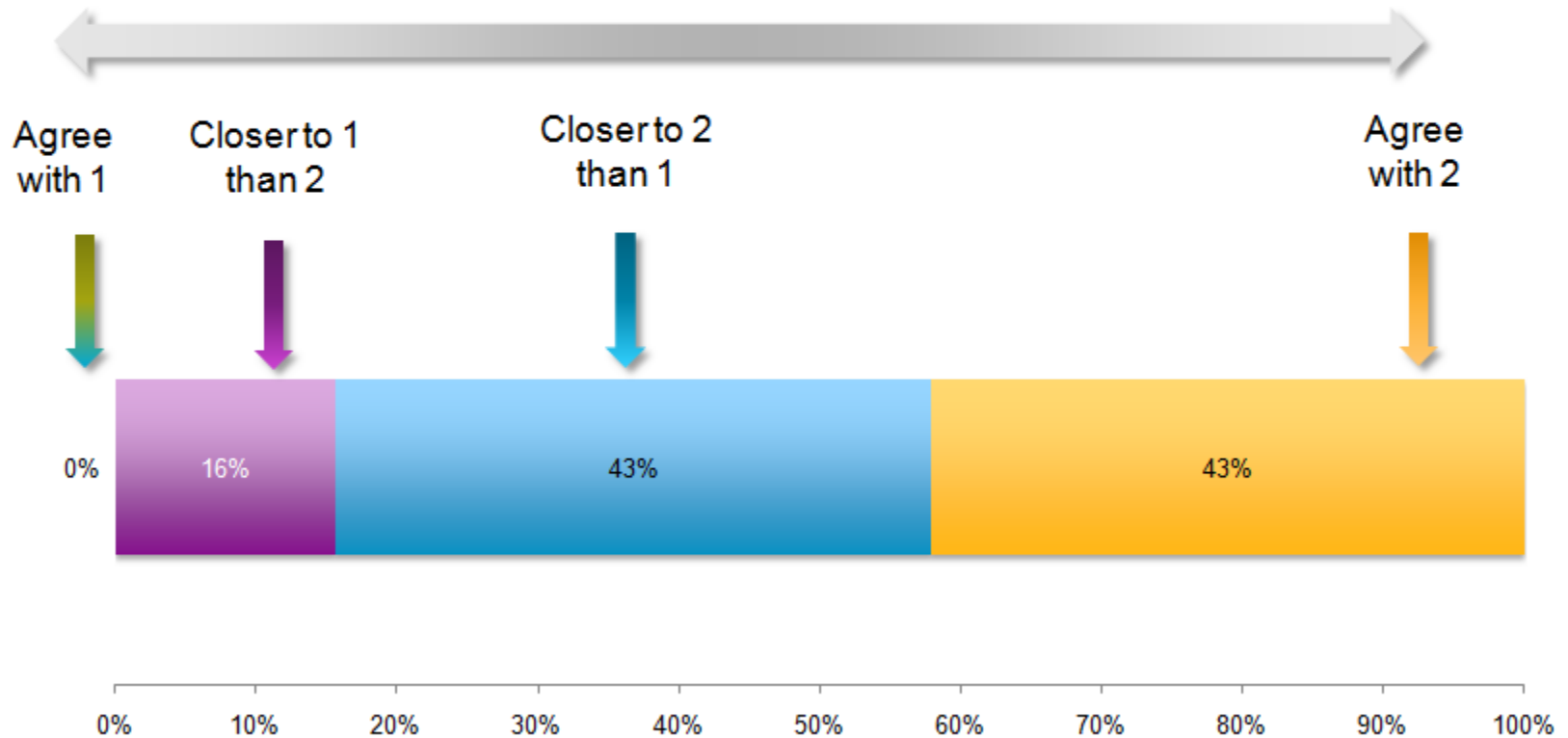
New business models for energy services



The direction of travel is clear

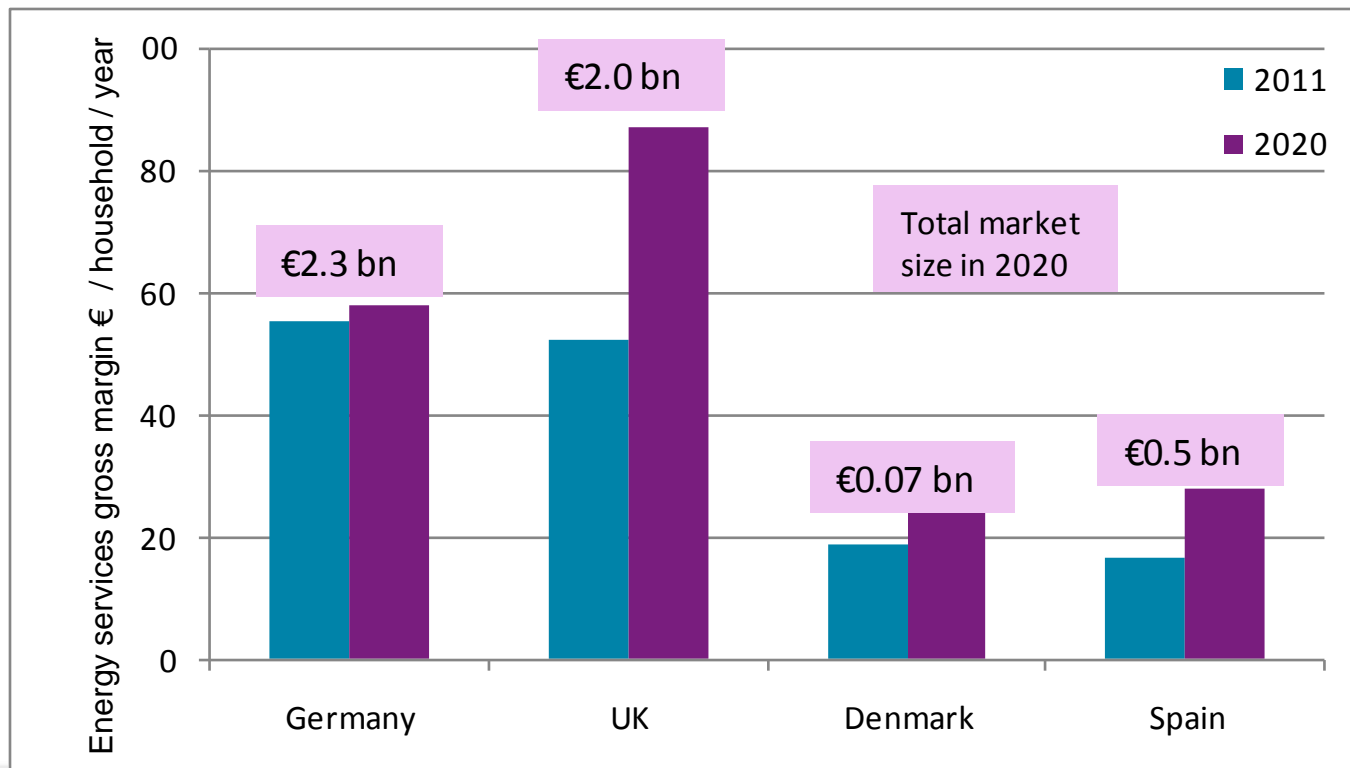
Viewpoint (1): Energy Services will largely be an irrelevance for utilities

Viewpoint (2): Utilities will gain significant value & profit from engaging in Energy Services

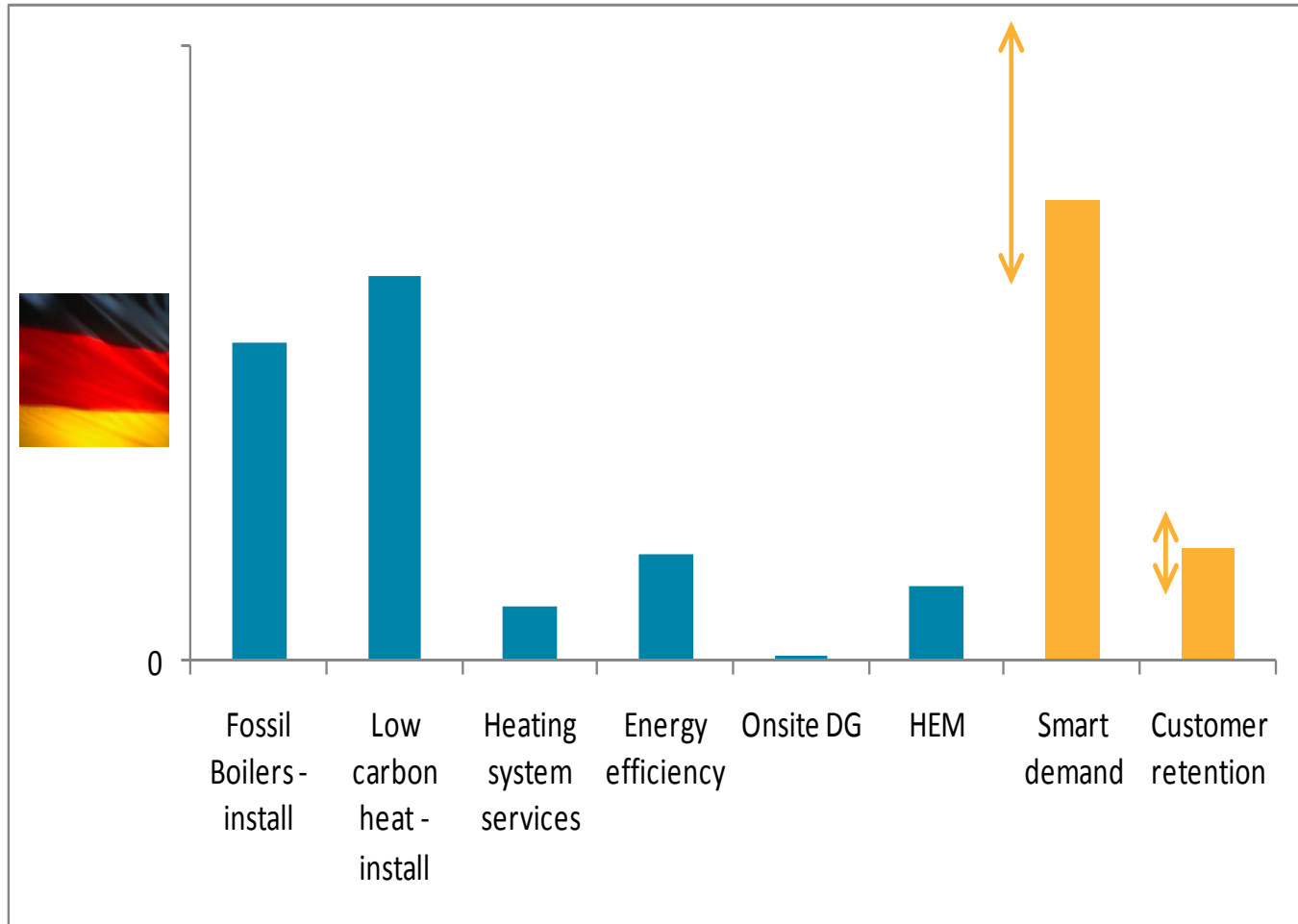


How much value in energy services?

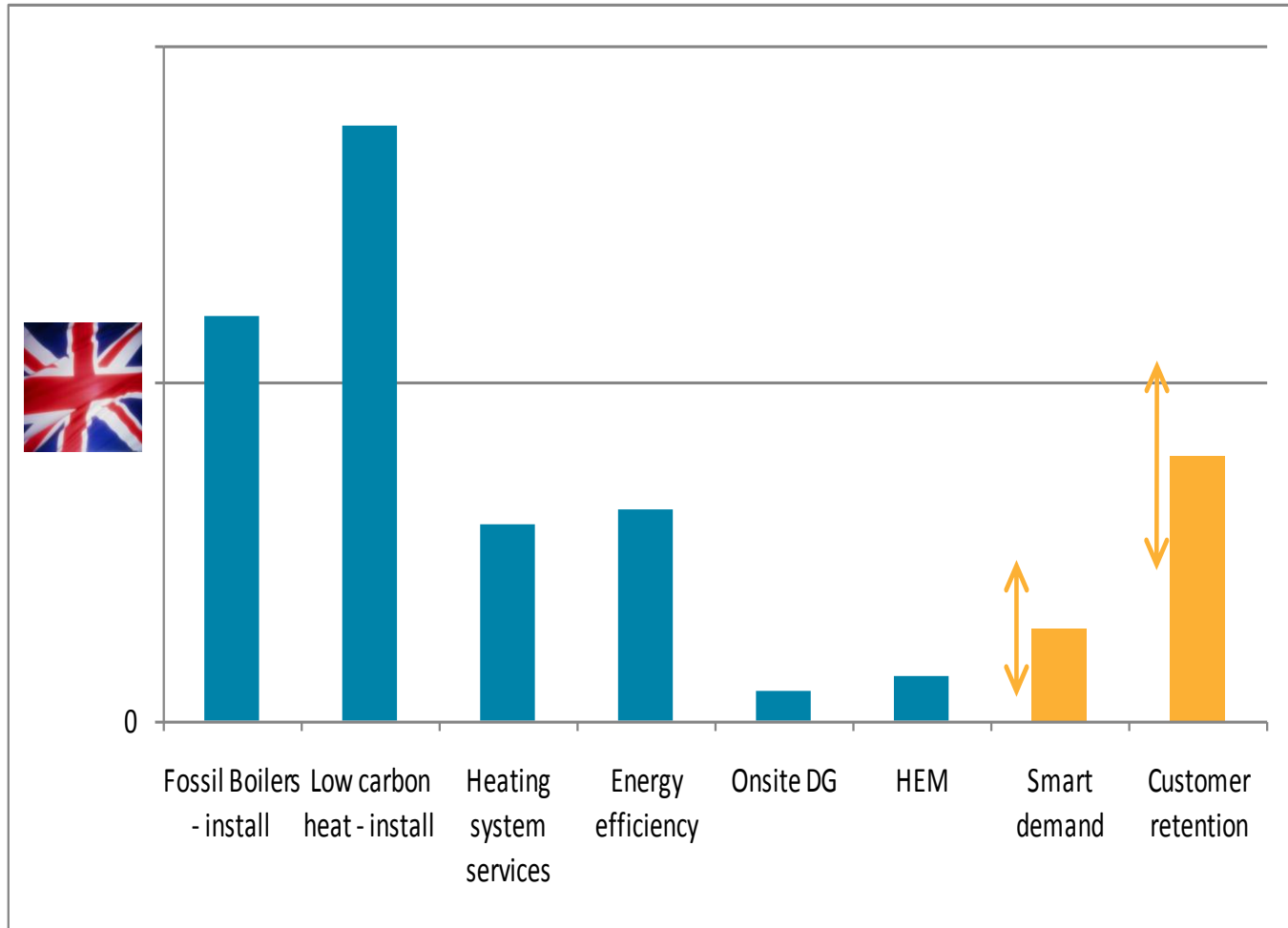
€10 billion profit available from Energy Services in Europe in 2020



HEMs – enablers of value creation

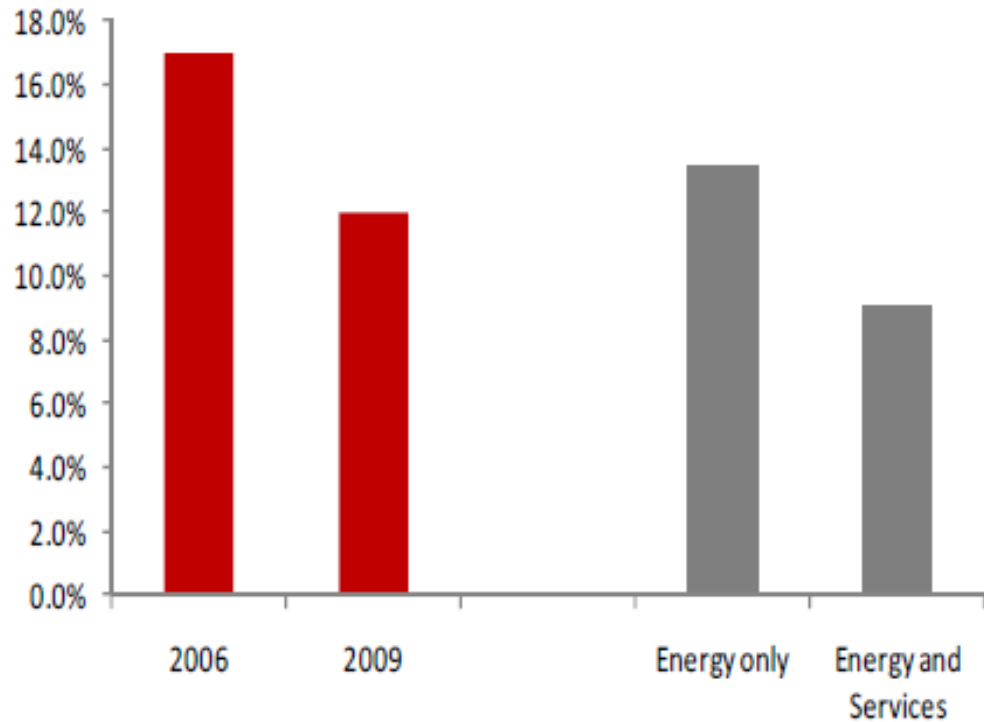


HEMs – enablers of value creation



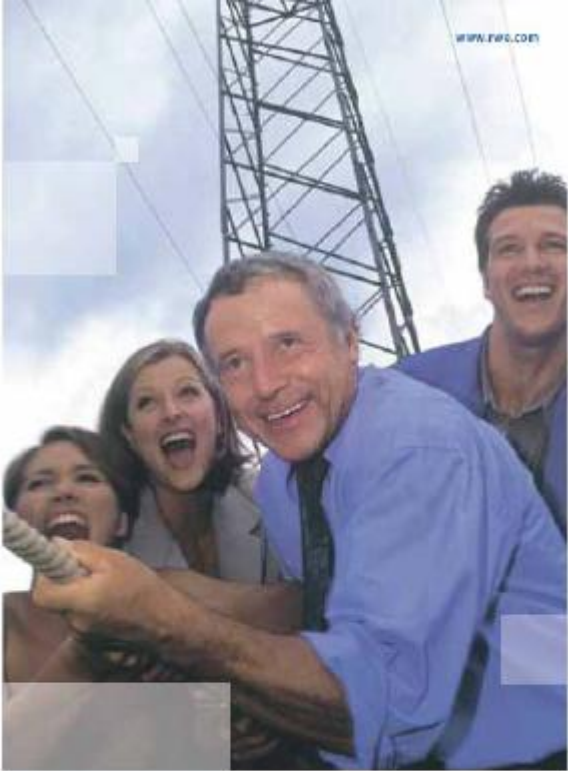
Services offering can mean stickier customers: Customer churn at Centrica

Data taken from 1H10 results



Energy services innovation: the RWE Heat Pump Tariff

- Supply interruption for up to 2 hours during peaks
- Lower overall electricity price
- RWE's distribution business benefits from reduced costs
- **Customers on HP tariff rarely switch**
- **Possible learning: package HEMs with other services**




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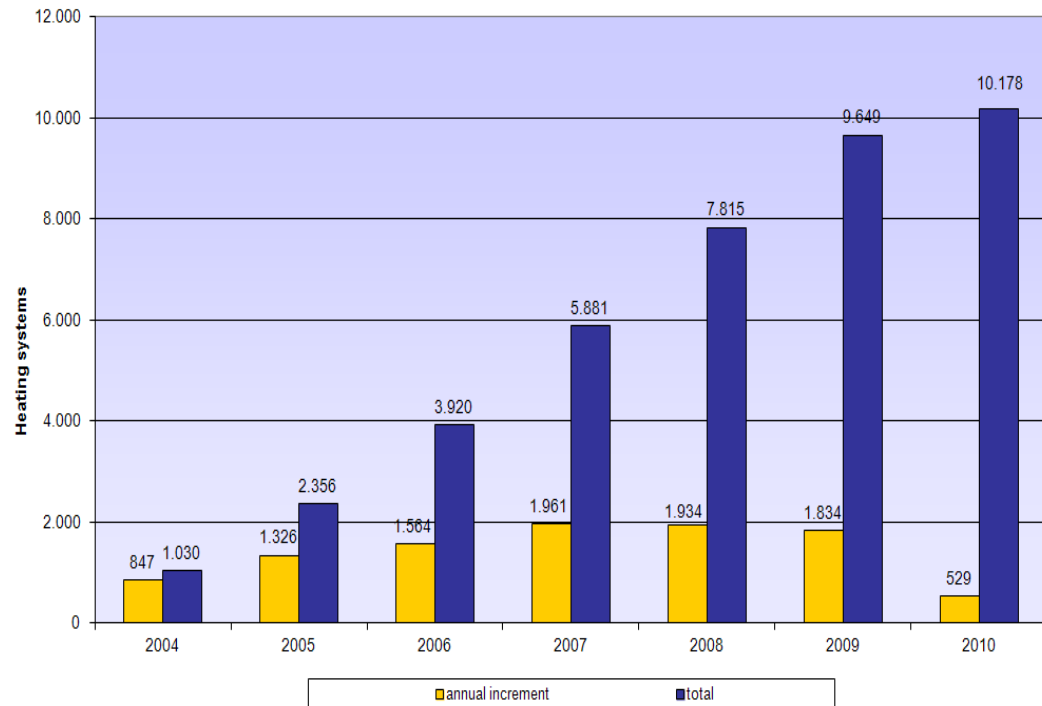
RWE Rhein-Ruhr
Energie für unsere Region



Energy services innovation: EWE – heat contracting

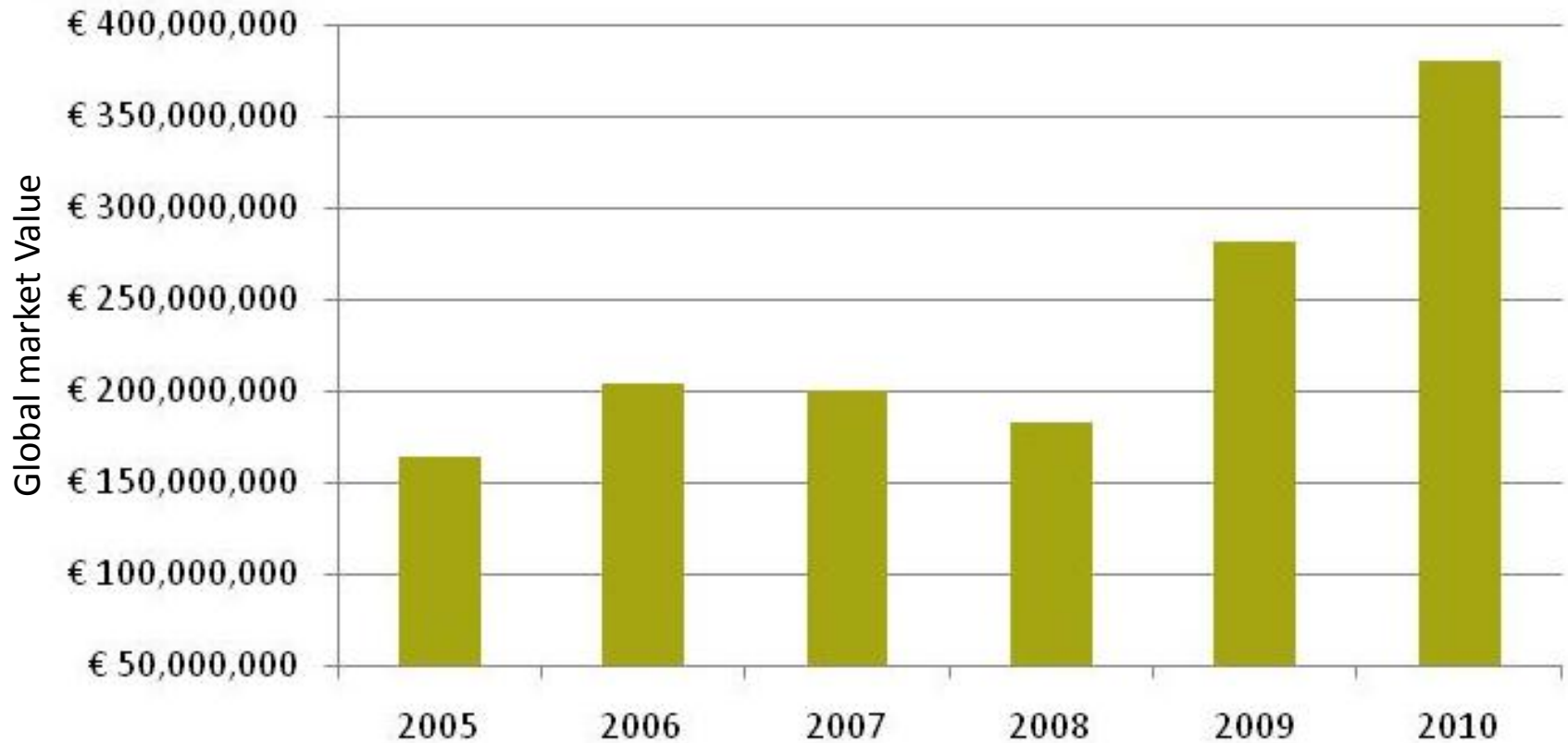


Wärme Plus – Installing & owning residential boilers (& CHP) and selling heat



- ▶ **Financing / servicing boilers / m-CHP could be a new differentiator for energy companies – and stickier customers.**
- ▶ **Possible learning: package HEMs with other services**

Micro-CHP deployment is on the up



- **Europe's energy roadmap needs a major smart home market development.**
 - ▶ 'When? & how? Not 'if'
- **IHD / HEM role in heat demand reduction is an important part of the first half of the journey**
- **HEMs can enable high value stickiness and load shifting ...**
- **... and are likely best packaged with technologies and / or ToU tariffs that enable load shifting ...**
- **... as part of a wider strategy of energy supplier-led energy services provision**