

# Smart Grid, Smart Electricity to Heat Storage.

*Presentation at Capacity Building  
Workshop Data4Action*

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**DATA****CTION**  
[www.data4action.eu](http://www.data4action.eu)

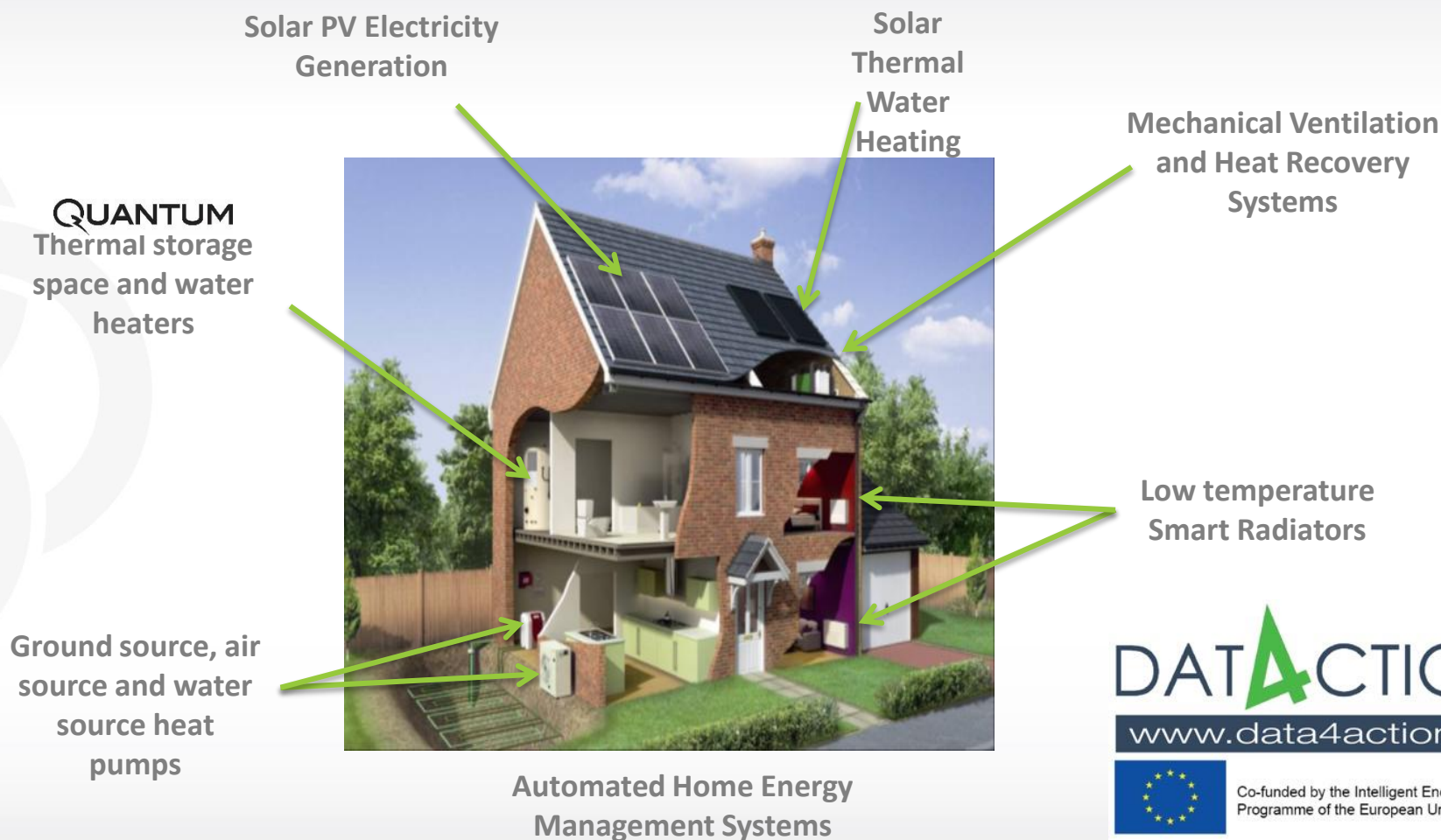


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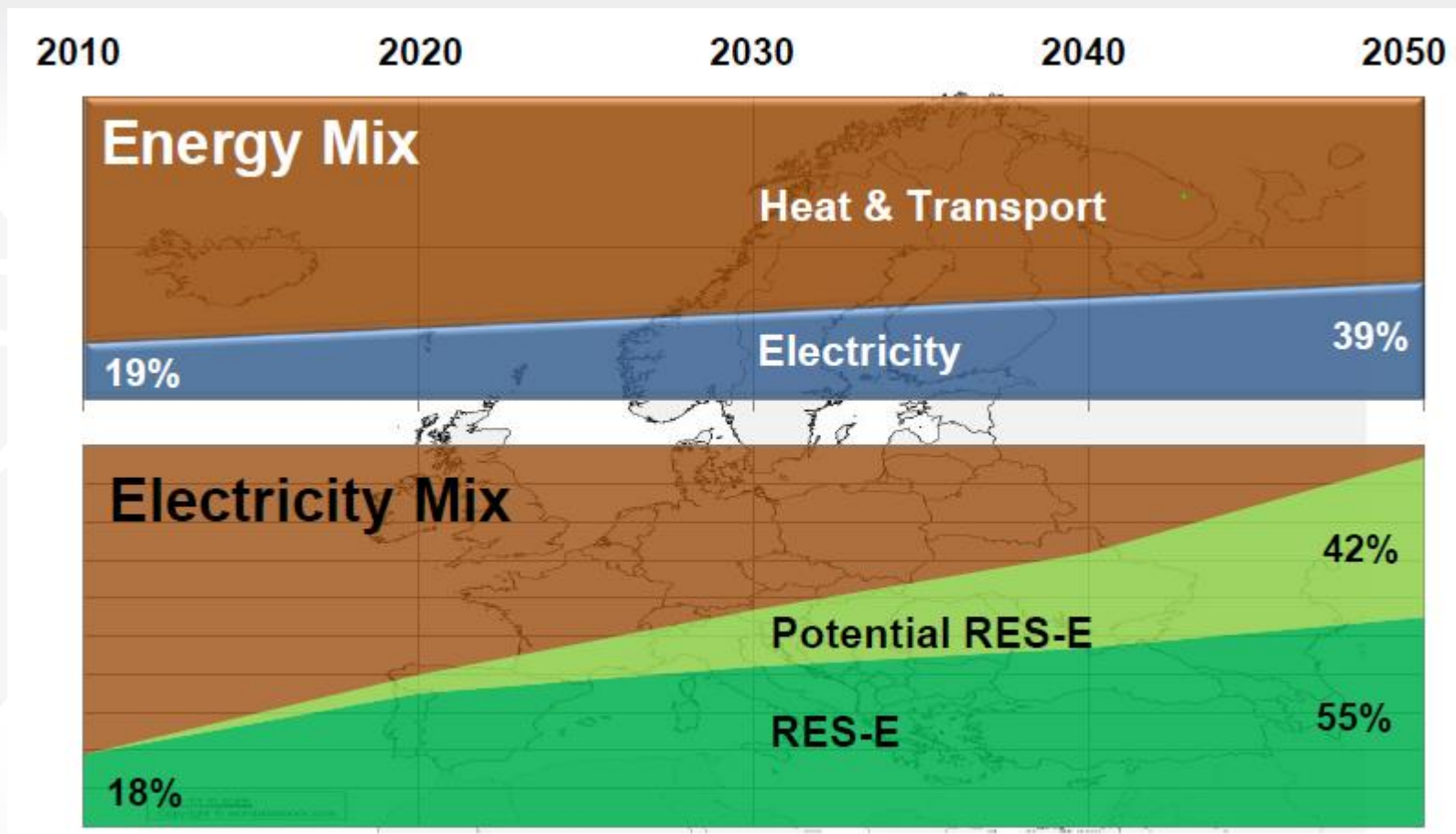
- Glen Dimplex Overview
- The Need for Smart Grid
- The Potential for Smart Electric Heating
- Smart Electric Storage Heating
- Real Value Project
- Questions



- Founded in 1973
- The worlds largest electrical heating business
- Holds significant market positions in the domestic appliance markets
- Operates through 33 autonomous businesses throughout the world
- Employs c10,000 people
- Annual turnover \$2bn
- Privately owned – finances expansion from its own resources
- Investment in brand building and constant product innovation are cornerstones of the Groups success



# The Need for a Smart Grid

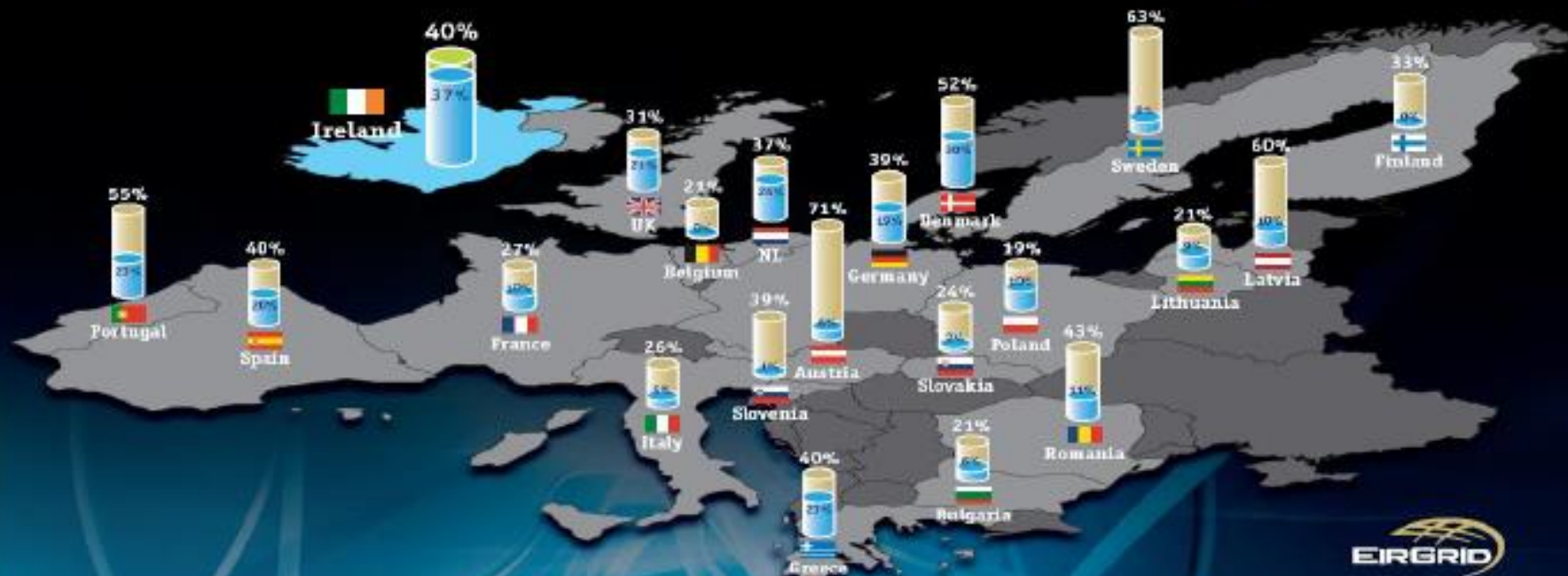




# European Renewable Targets

2020 Renewable Electricity Targets across the EU

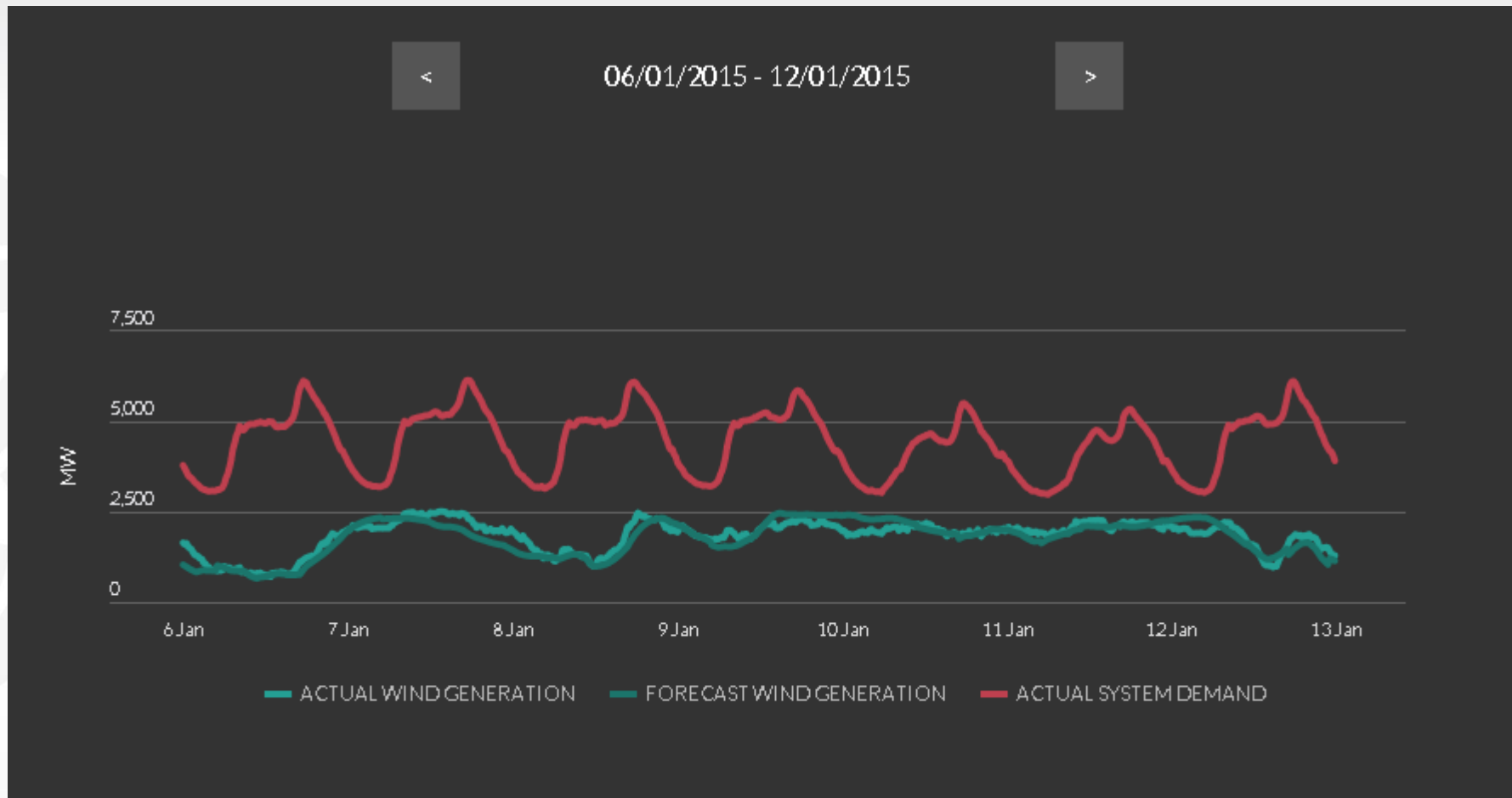
 All Renewables as % of Electricity Demand  
 Wind only as % of Total Electricity Demand



FOR BE 2 - EU Wind and Renewable Percentage 2020



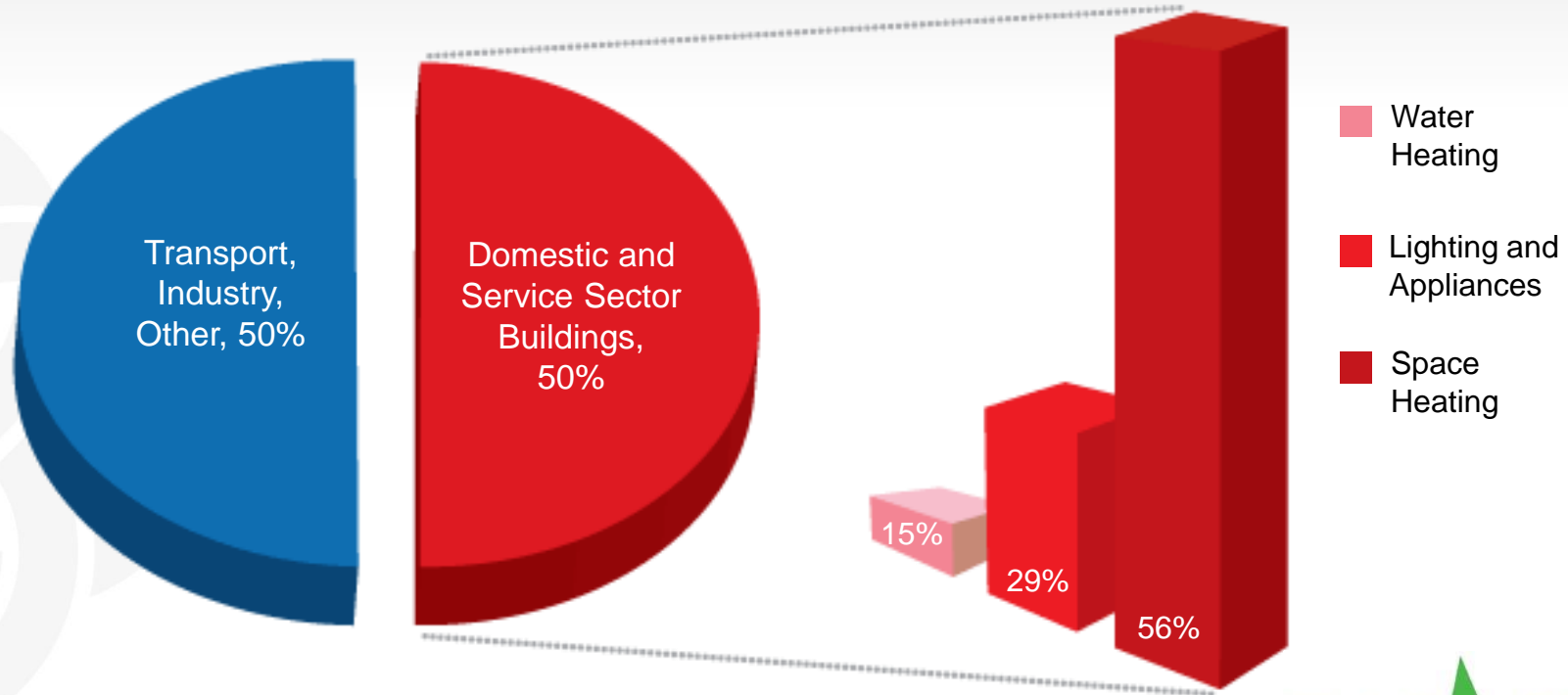
DATA collected from information submitted in the National Renewable Energy Action Plans by EU Member States to the EU Commission in June 2019





## Potential of Smart Electric Heating

# Primary Energy Consumption



**36% of all primary energy is used for space and water heating in buildings**

Source: DECC/UK National Statistics

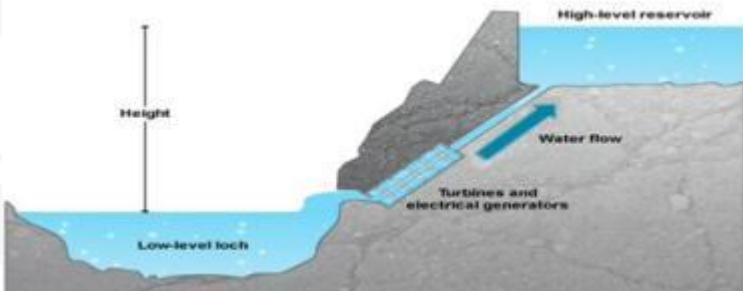
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# Existing Energy Storage in Europe

## Pumped Hydro Storage



100 GWh

## Thermal Space and Water Heating Storage



Winter



Summer

Winter - 400 GWh

Summer - 170 GWh

## Smart Thermal Energy Storage



**Quantum  
DHW Cylinder**



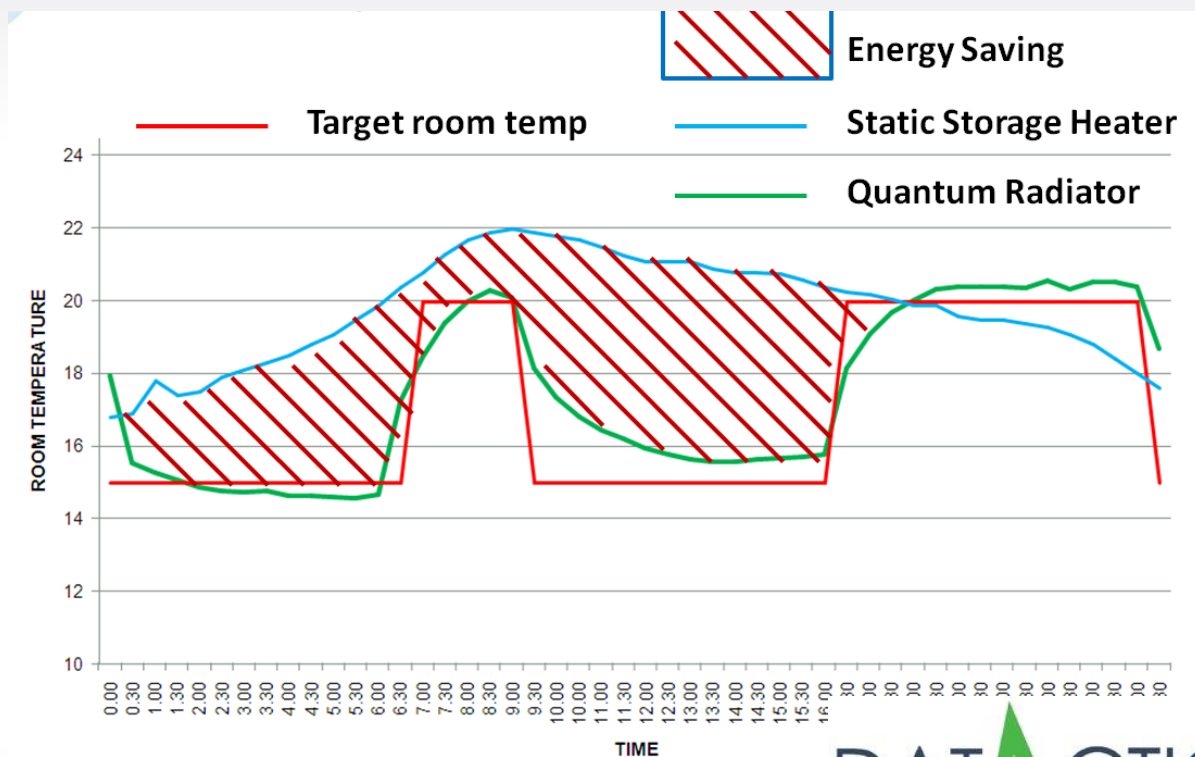
**Quantum  
Smart Electric  
Storage Heater**



**Direct Electric  
Heater (QRad)**



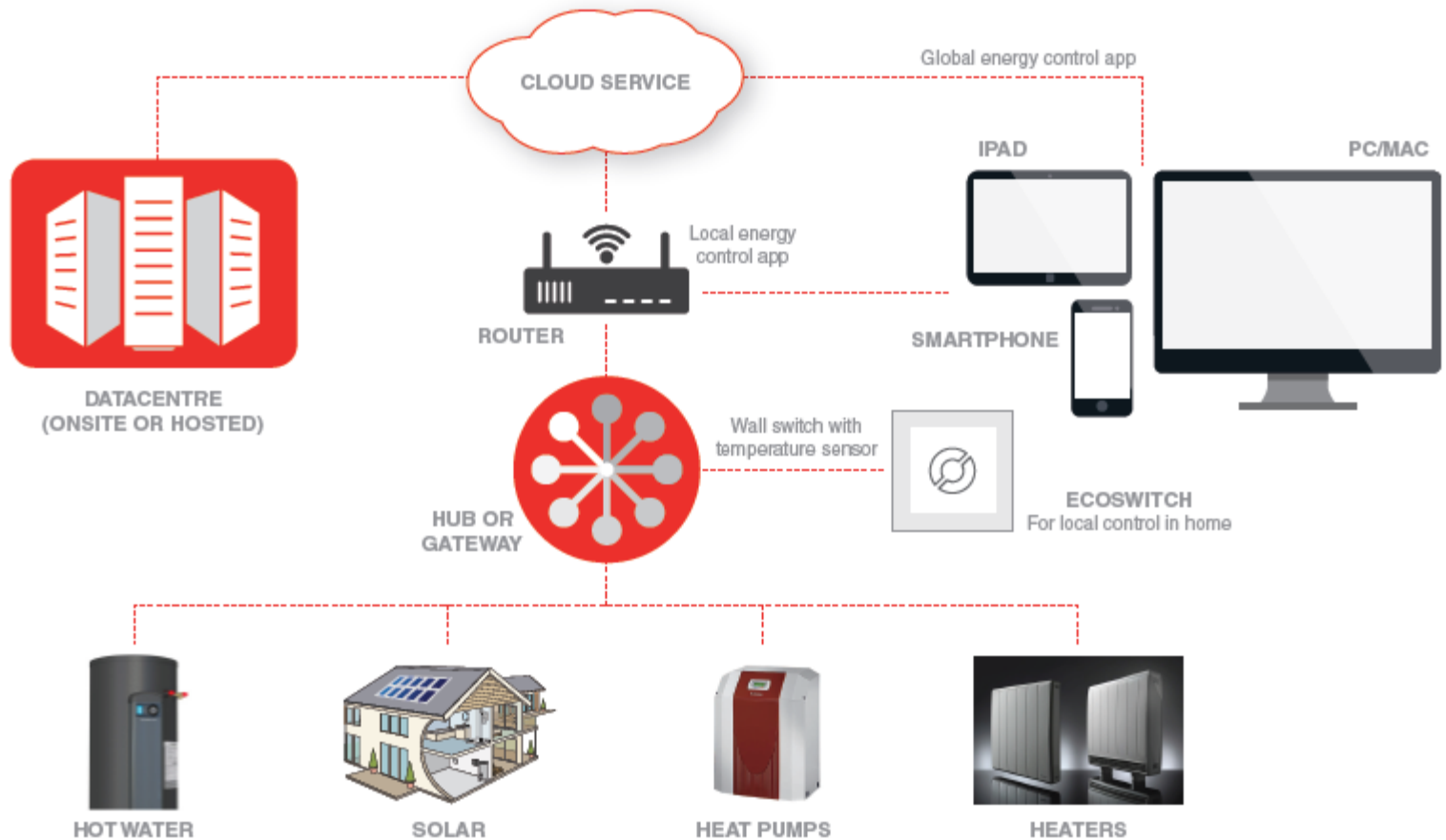
**Quantum  
Hub**



- Quantum annual energy consumption up to **22%** less
- Quantum annual running cost up to **27%** less

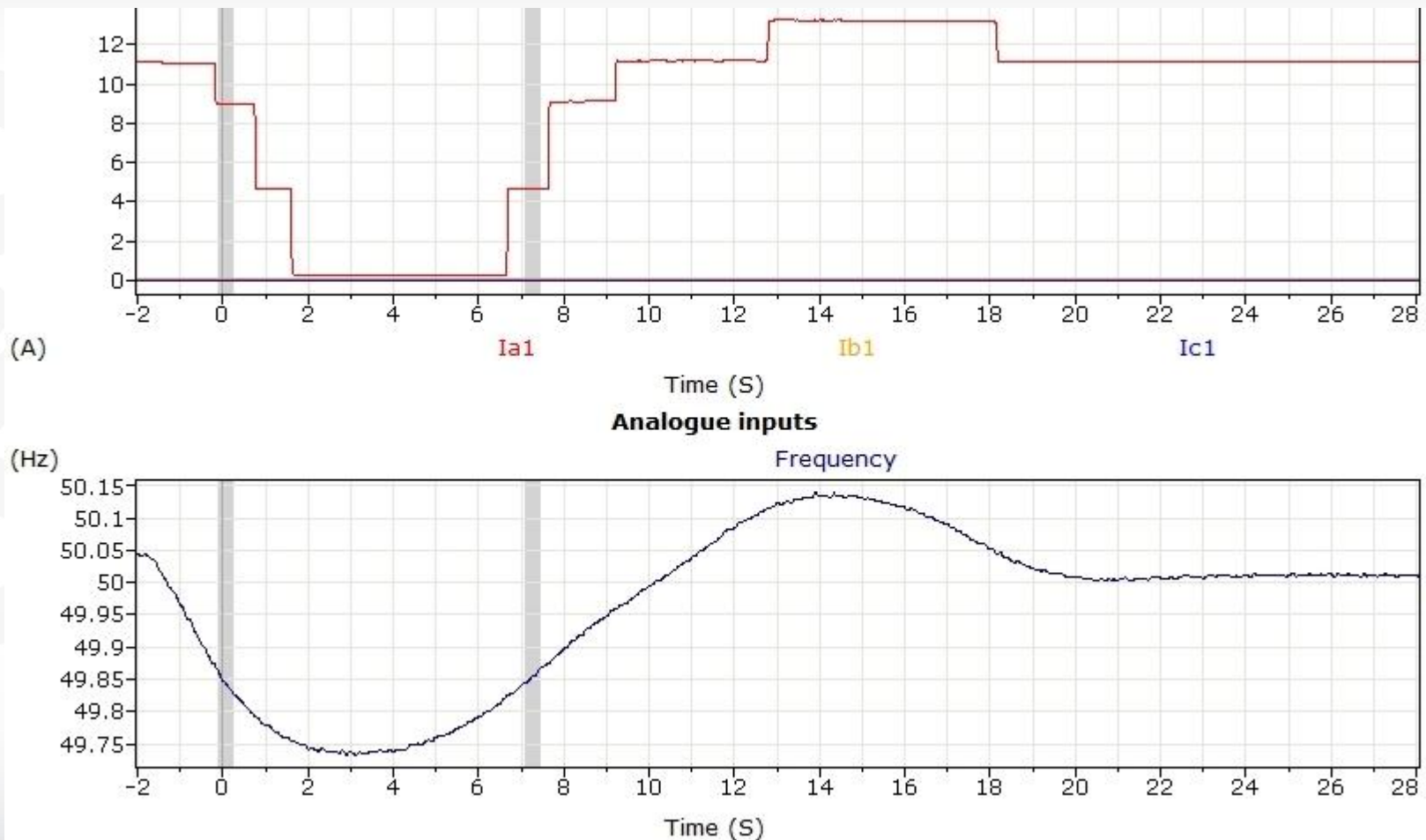


# Connected Appliances



Actual Aggregated Load from Quantum Storage Heaters Responding to a Frequency Event.

*Location: Glen Dimplex R&D Building, Dunleer Co. Louth*



## Real Value Project



**Thank You**

**Any Questions?**

