

Empowering Consumers through Demand Response



Grace Murray
Consumers for a smart energy system
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Consumer Empowerment through Demand Response



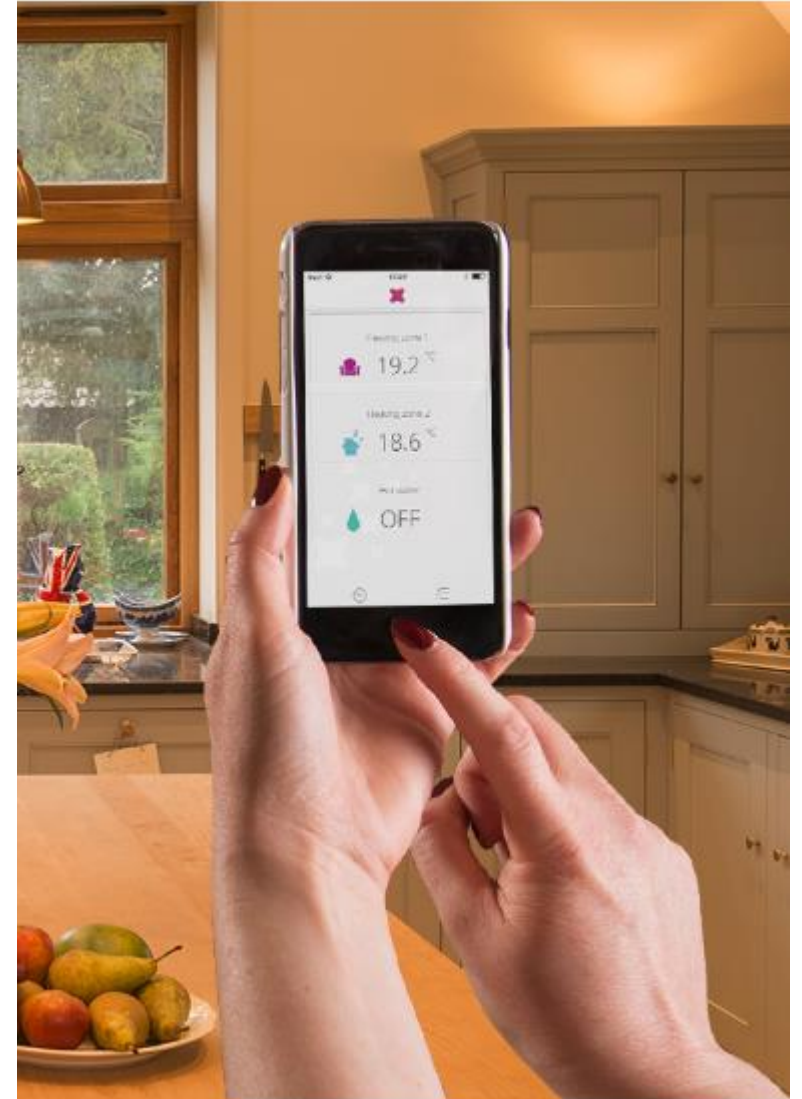
1) Implicit Demand-Side Flexibility

Consumer adjusts to variable market-price signals through

➔ personal choices

➔ automation

- ✓ uses power when it's cheapest
- ✓ saves money on consumer's bill
- ✓ saves hedging cost & supports system

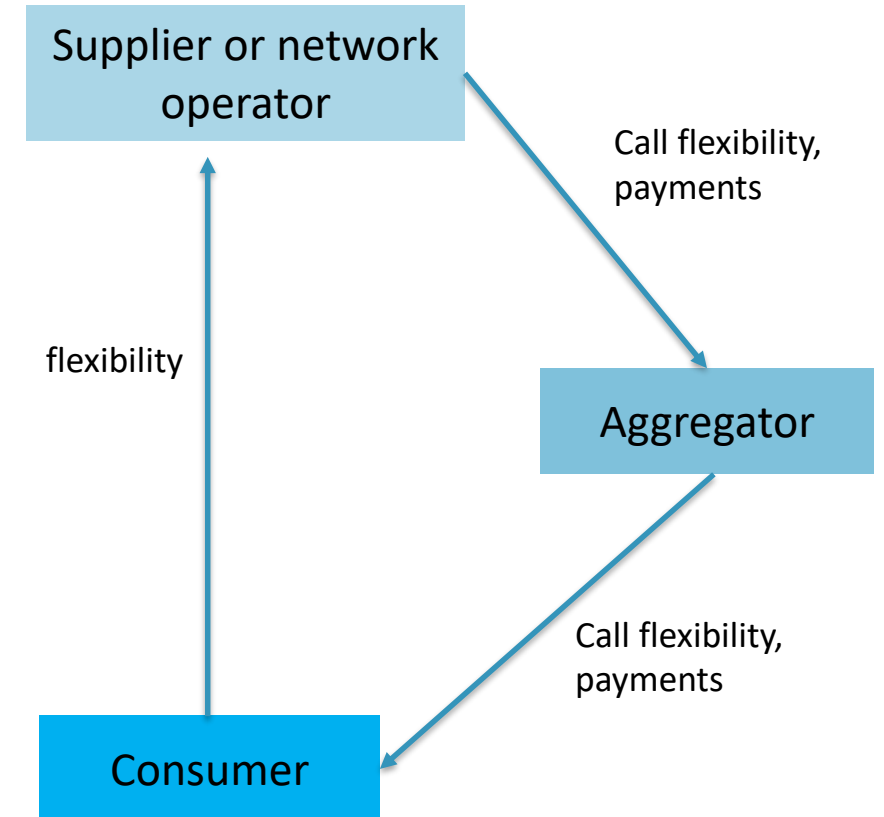


Picture: geo

2) Explicit Demand-Side Flexibility

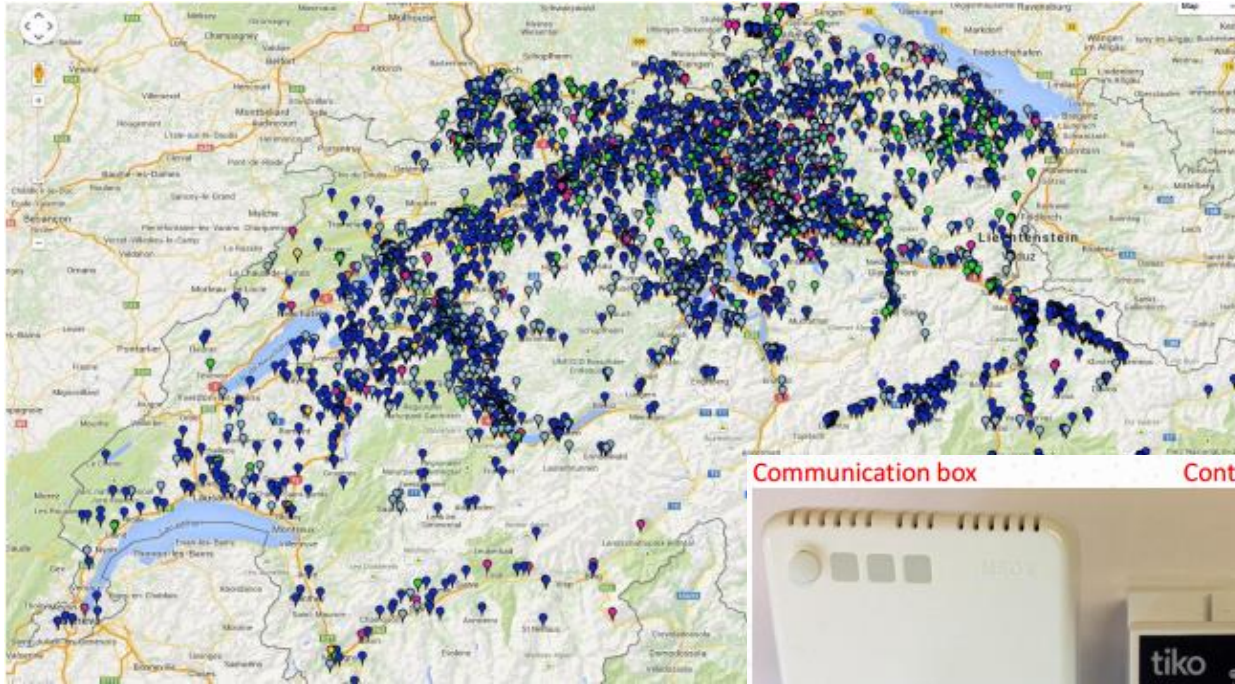
Consumer sells local flexibility via an aggregator

- ✓ Gains an income on committed flexibility
- ✓ Supports the system



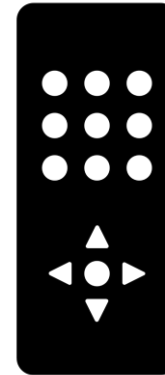
Real life examples of Demand Response in action

- Residential

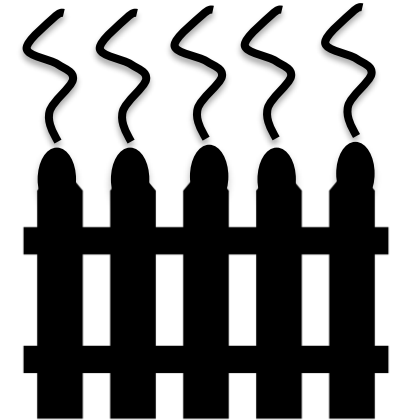


Communication box

Controlling box



Finland: hourly electricity pricing & smart controls

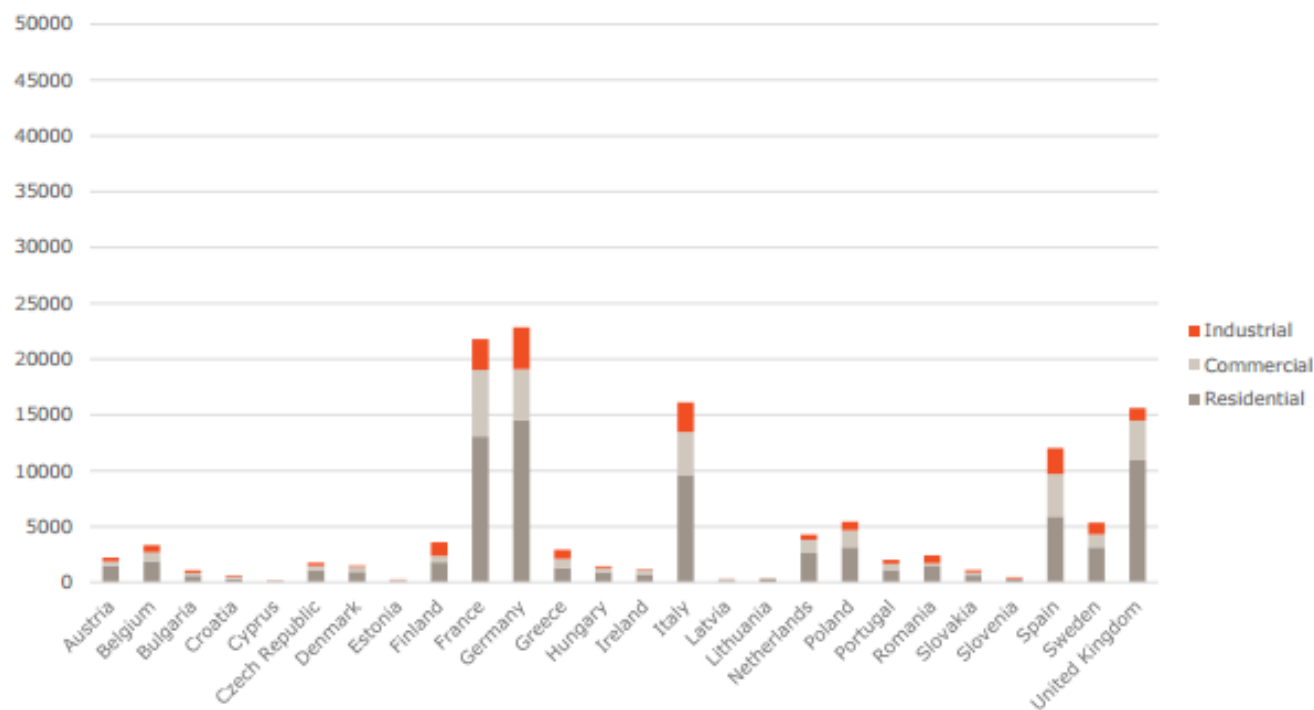


Credit: tiko

tiko: 10,000 customers in Switzerland

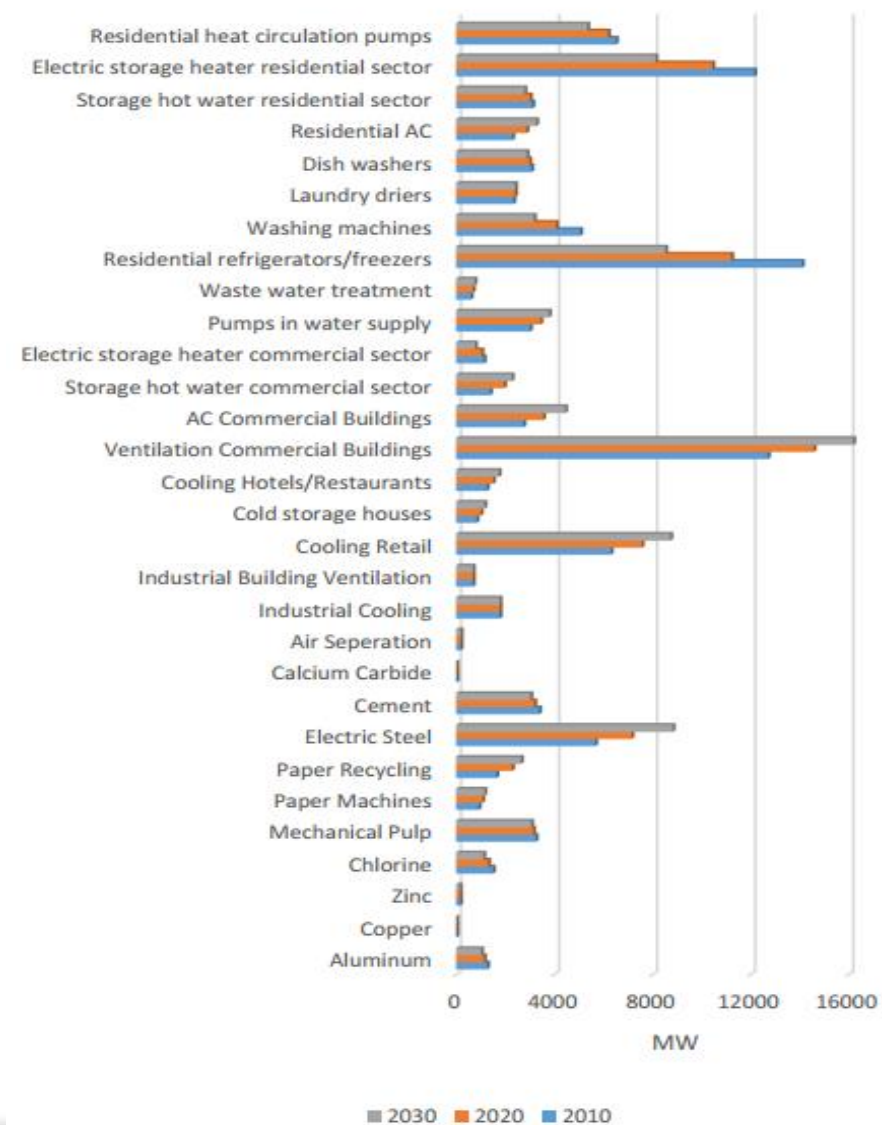
Demand Response potential

Figure 1: Theoretical demand response potential 2016 (in MW)



Source: Impact Assessment support Study on downstream flexibility, demand response and smart metering, COWI, 2016

Figure 2: Theoretical potential of demand response per appliance



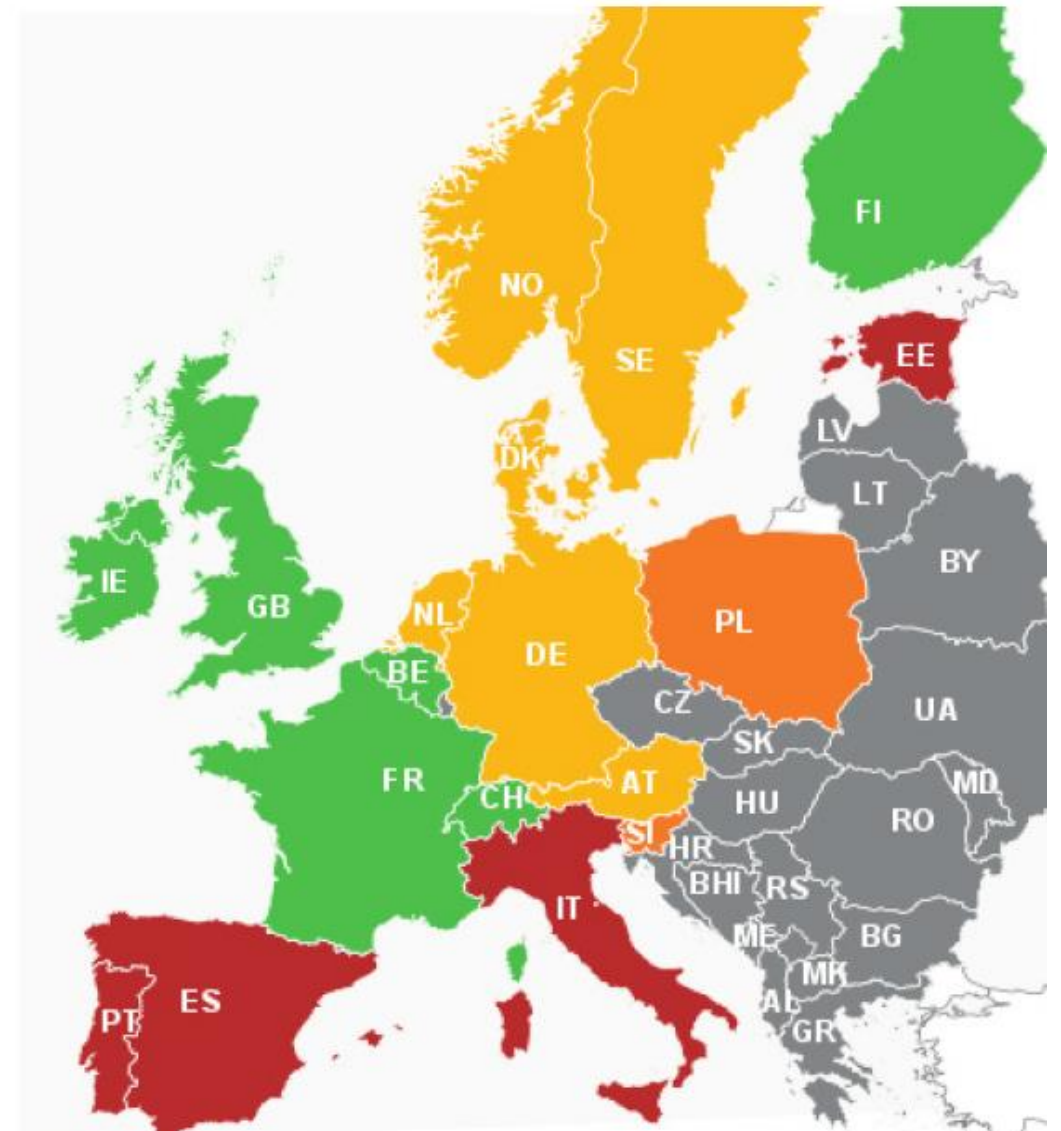
Mapping Demand Response in Europe



Explicit Demand Response 2017



- Commercially active
- Partial opening
- Preliminary development
- Closed
- Not assessed



Conclusions

- Two types of demand response
- Several real world examples of consumer empowerment
- Consumer benefits: saving money, earning money, being in control of energy consumption, taking part in wider energy ecosystem, helping to integrate more renewables, societal benefits of reduced dependency on energy imports, less overcapacity, liquid and liberalised markets
- Still a way to go for removing barriers
- Clean Energy Package offers opportunities to create framework for flexibility solutions and to empower consumers to take part in demand response



SEDCC
Smart Energy Demand Coalition

Grace Murray
Senior Policy Adviser
grace.murray@smartenergydemand.eu

Rue d'Arlon 69-71, 1040 Brussels, Belgium
www.smartenergydemand.eu