



Are consumers aware that they play a role in cost efficient and energy efficient Smart Grids?

*Initial results from Task 23 of the
IEA DSM Implementing Agreement*

Linda Hull
EA Technology

www.eatechnology.com

Are consumers aware ..

- ...of Smart Grids?
- ...of the role of customers (in general)
 - in delivering energy efficient Smart Grids?
- ...of their role (specific)
 - what can I do?

Are consumers aware ..

- ...of Smart Grids?
 - of existing electricity grid and the stakeholders?
- ...of the role of customers (in general)
 - in delivering energy efficient Smart Grids?
- ...of their role (specific)
 - what can I do?

Consumer Awareness of the Electricity Market – an example

Are consumers aware of the industry stakeholders and what they do?



Role	Residential Customers Republic of Ireland		
	ESB Networks	Supplier	Don't know
Responsibility for power failure repair	56%	28%	15%
Maintenance of grid	56%	25%	18%
Responsibility for Meter reading	17%	64%	16%
Responsibility for billing and payment	10%	74%	14%

Implications?



Which electricity supplier should I choose?

Reasons for not switching electricity supplier

Like current service	A factor	54%
	Not a factor	19%
No reason to	A factor	46%
	Not a factor	28%
Concern about an alternative supplier's provision of a reliable supply of electricity	A factor	36%
	Not a factor	34%
Concern about alternative supplier to be as responsive if there is a power outage	A factor	35%
	Not a factor	35%
Do not believe that prices will remain as low as the alternative supplier claims	A factor	35%
	Not a factor	32%

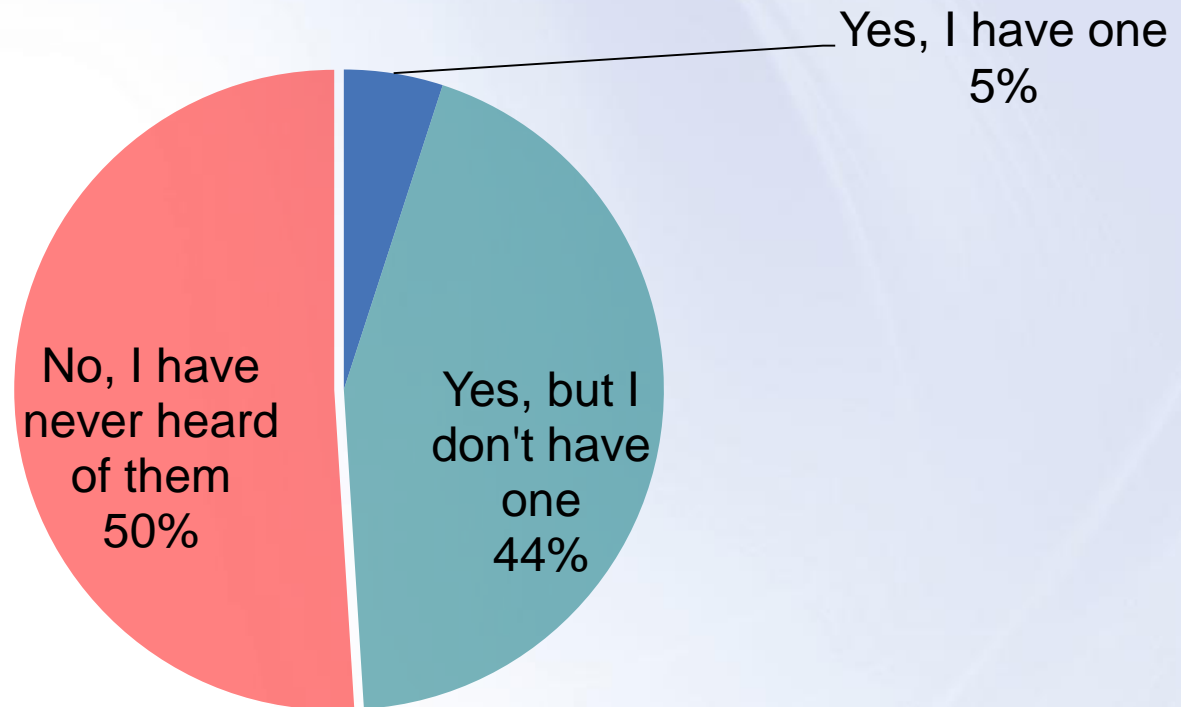
For another example – see...



Source: Network 2012 Conference. Commissioned by EA Technology and the Electricity Networks Association. Youtube.

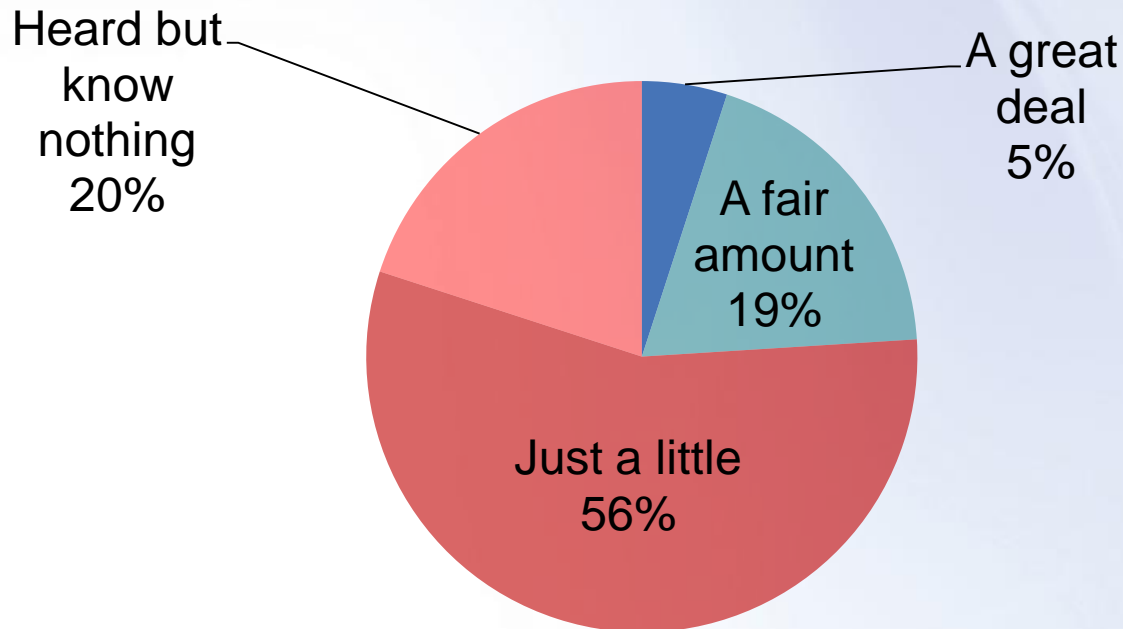
Consumer awareness of specific technologies and concepts – Smart Meter example

Before today, had you heard of smart meters?



Consumer awareness of specific technologies and concepts – Smart Meter example

How much, if anything, would you say you know about smart meters?



Consumer awareness of technologies– In Home Display example

- Participants in a trial were asked “Do you have a visual display in your home, that tells you how much electricity or gas you are using?”

Intervention	RTD (elec only)	RTD (dual fuel)	RTD + ToU	RTD + Usage Alarm	RTD + Heating controller	Total
Yes	45.8%	35.2%	50.9%	62.4%	36.1%	46.5%
No	54.2%	64.8%	49.1%	37.6%	63.9%	53.5%
Number	83	105	114	109	97	508

RTD = real time display
ToU = time of use (tariff)

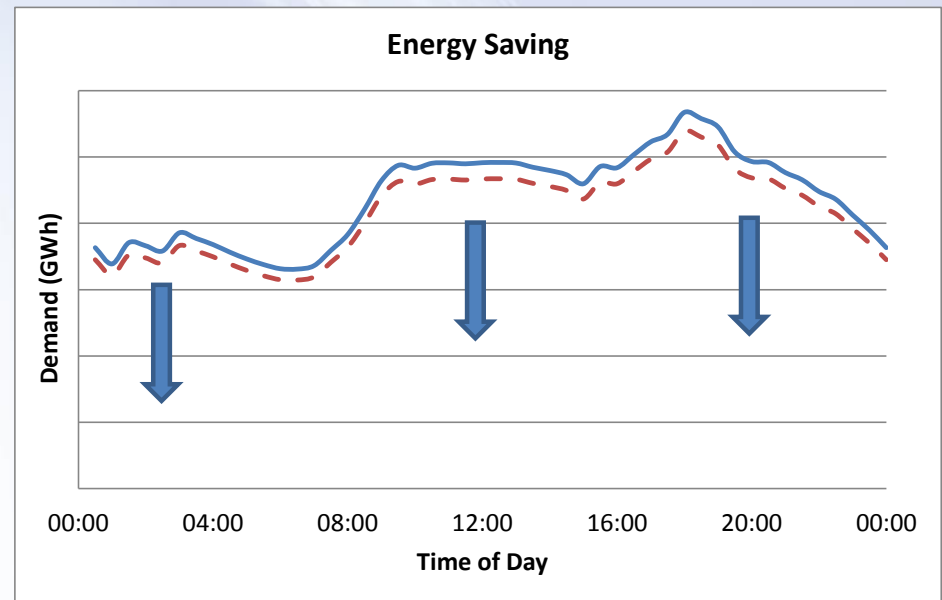
Are consumers aware ..

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An energy efficient Smart Grid

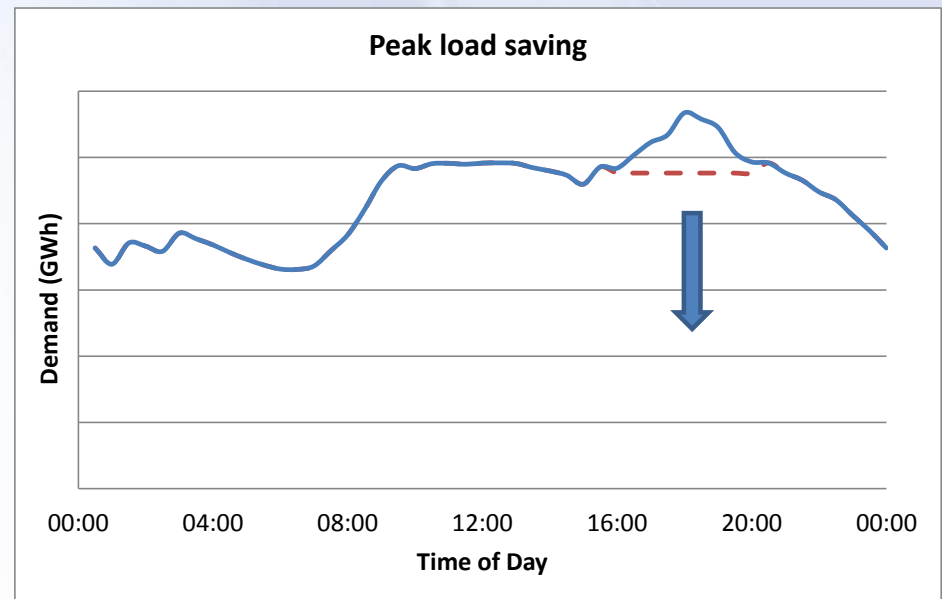
- What is the role of consumers?

1. Reduce overall consumption



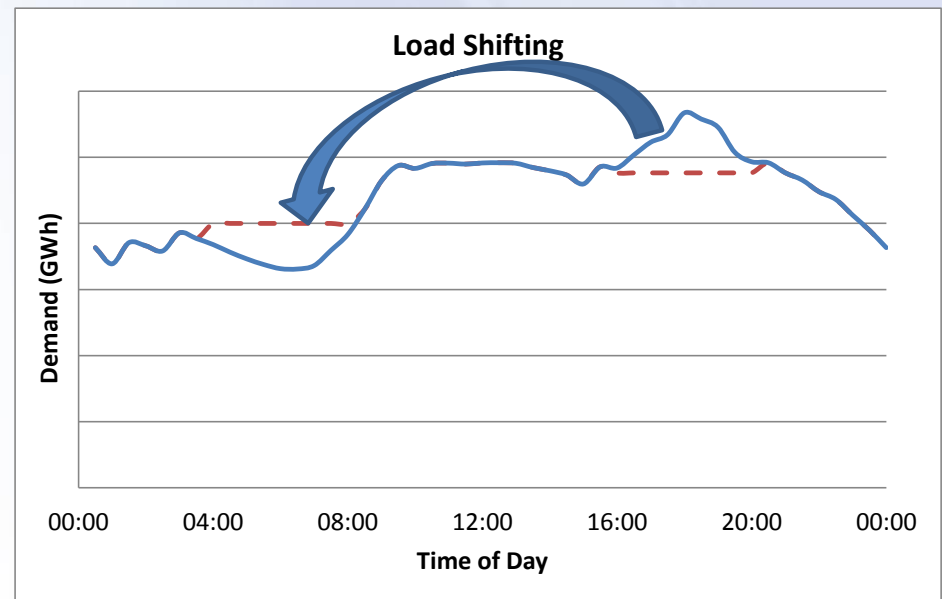
An energy efficient Smart Grid & the role of consumers

1. Reduce overall electricity consumption
2. Reduce peak electricity demand



An energy efficient Smart Grid & the role of consumers

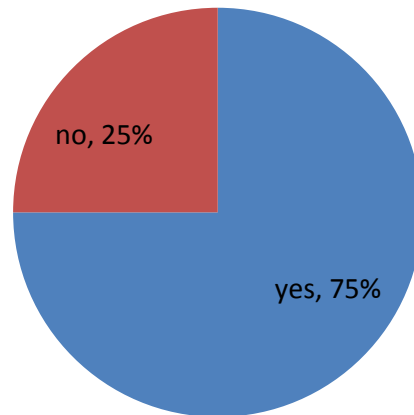
1. Reduce overall electricity consumption
2. Reduce peak electricity demand
3. Shift electricity demand



Consumer Awareness of Energy Efficiency

- What actions lead to the greatest energy savings?
- What is the magnitude of energy savings?

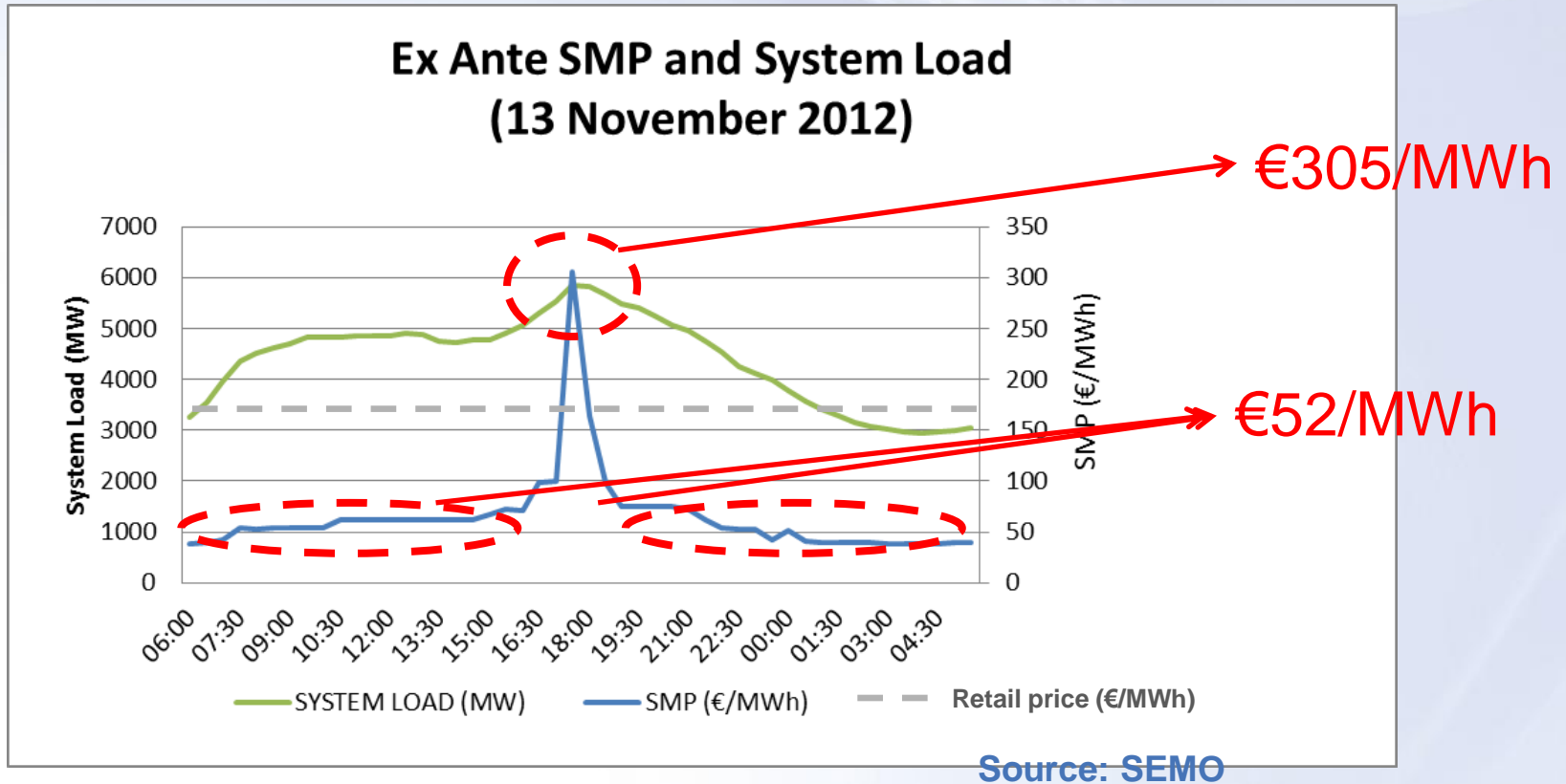
Do you think you understand enough about the actions you can take to to optimise your energy consumption?



Consumer Awareness of Energy Efficiency

- What actions lead to the greatest energy savings?
- What is the magnitude of energy savings?
- A 2010 US study found:
 - Consumers not proficient at identifying ways of saving energy
 - Focus on curtailment actions rather than energy efficiency improvements
 - **Tendency to underestimate energy use**
 - Particularly the magnitude of differences

Awareness of pattern of consumption? An example

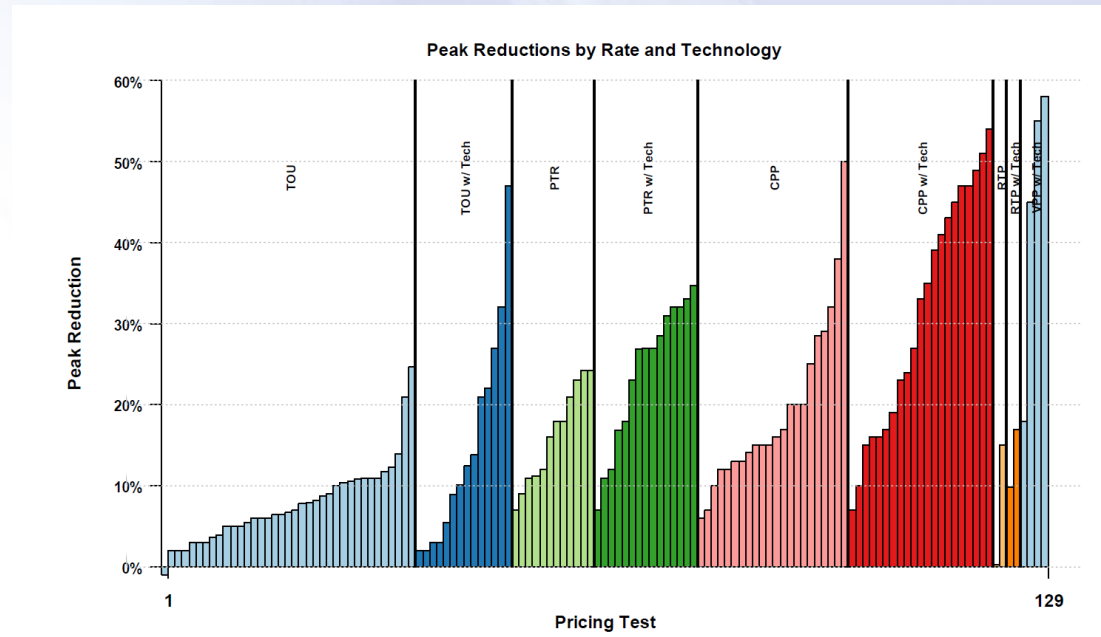


Disjoint between retail price paid by customers and wholesale price

Awareness of pattern of consumption?

A second example

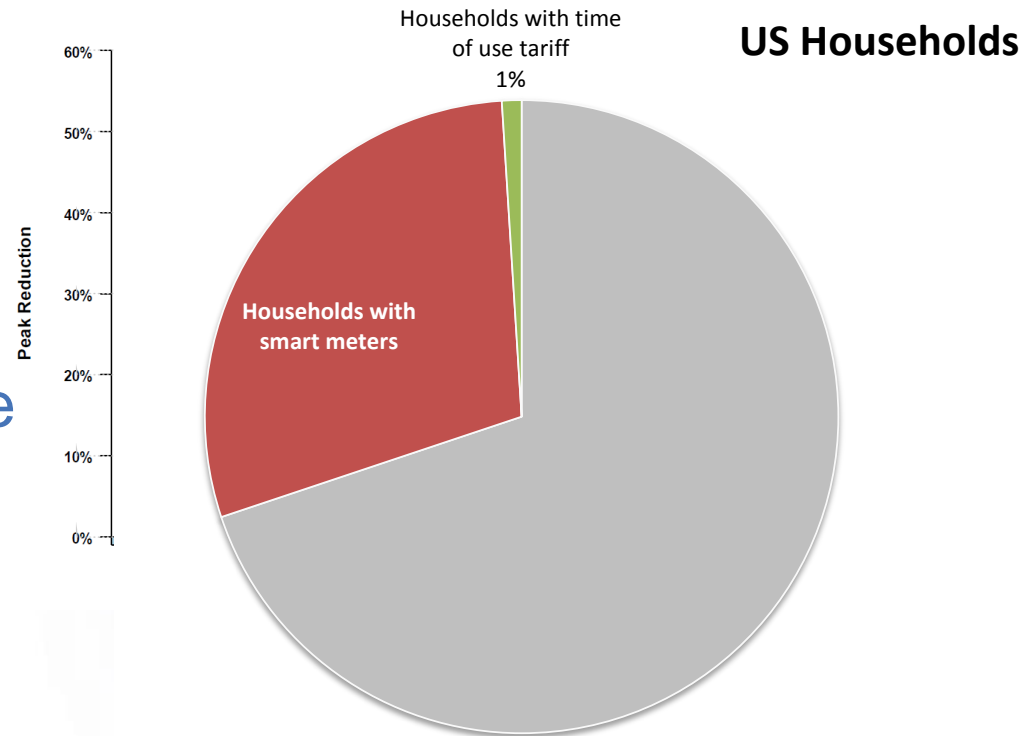
Time of Use tariffs
- a tool to help
increase awareness



Awareness of pattern of consumption?

Time of Use tariffs
- a tool to help
increase awareness

But only limited number
of households have some
form of time of use tariff



Customer willingness

Total number of participants	1,961	
	Very or fairly likely ☺	Very or fairly unlikely ☹
Heat water at different times of the day	56%	25%
Use certain appliances after midnight	51%	33%
Install technology to automatically switch off appliances when prices are high	47%	31%
Carry out chores such as cook meals in cheaper periods (e.g. after 7pm)	41%	40%
Use electric storage heaters	35%	47%

Consumer Awareness

- Smart Meters provide opportunity for consumers to become aware of amount / pattern of consumption



CER



Charm Home Energy Study



linda.hull@eatechnology.com



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