

RETAIL TARIFFS AND PRICING – SOME HIGH-LEVEL PRINCIPLES*

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SUSTAINABILITY FIRST

Economic Incentives for Smarter Customers

CE Electric LCNF National Stakeholder Workshop.

London. 25 May 2011

***Smart Tariffs and Household Demand Response for GB - multi-sponsor study
by Gill Owen and Judith Ward. March 2010 – available at
www.sustainabilityfirst.org.uk**

INCENTIVES FOR 'ACTIVE CONSUMERS'

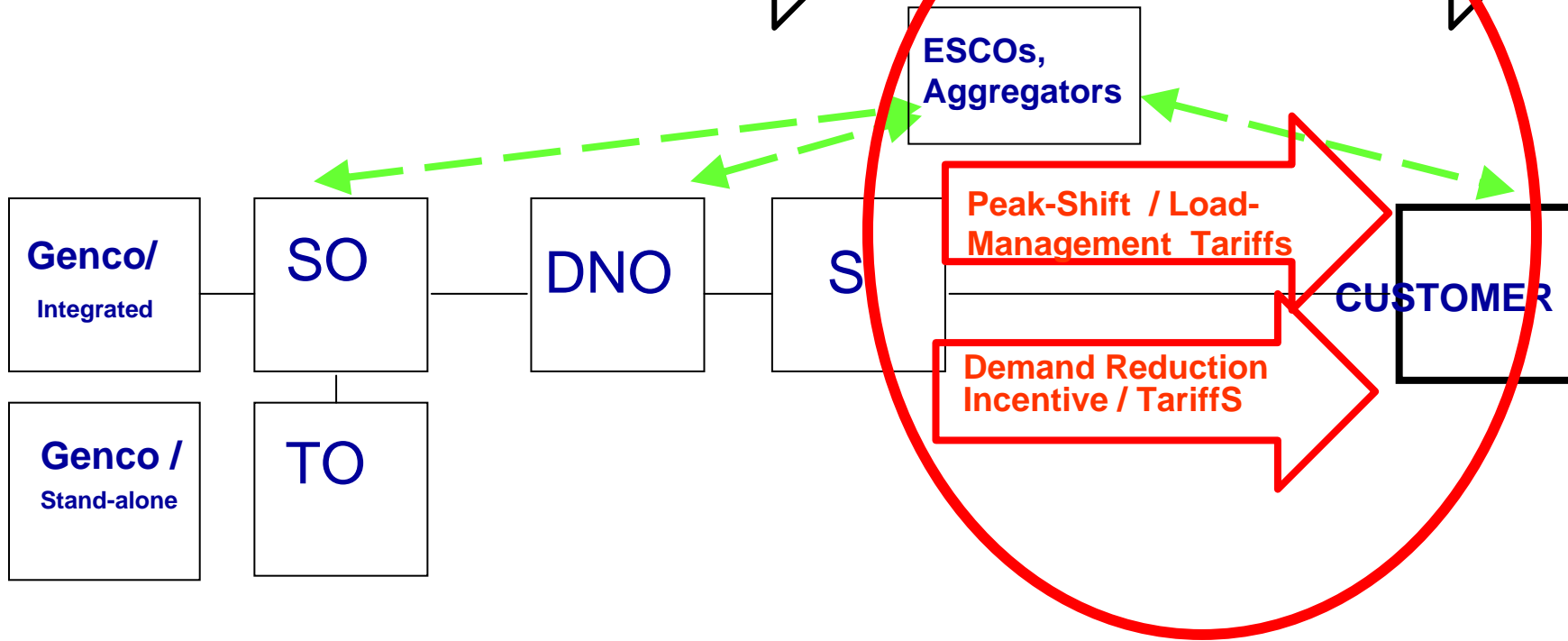
Pricing, Tariffs & Economic Incentives –

Just one of very many tools available to encourage more 'active consumers'.

SMART BRINGS POTENTIAL FOR MORE COST-REFLECTIVITY

More Cost-Reflective

How Cost-Reflective?



Peak & Load Management Tariffs - avoided Opex / Capex

Demand Reduction Tariffs - avoided Capex / Fuel / Emissions

INCENTIVISING FLEXIBLE LOAD VIA MORE COST-REFLECTIVE PRICES

2011

2015

2018

2020's Intermittency

Averaged costs

Peak / Static ToU

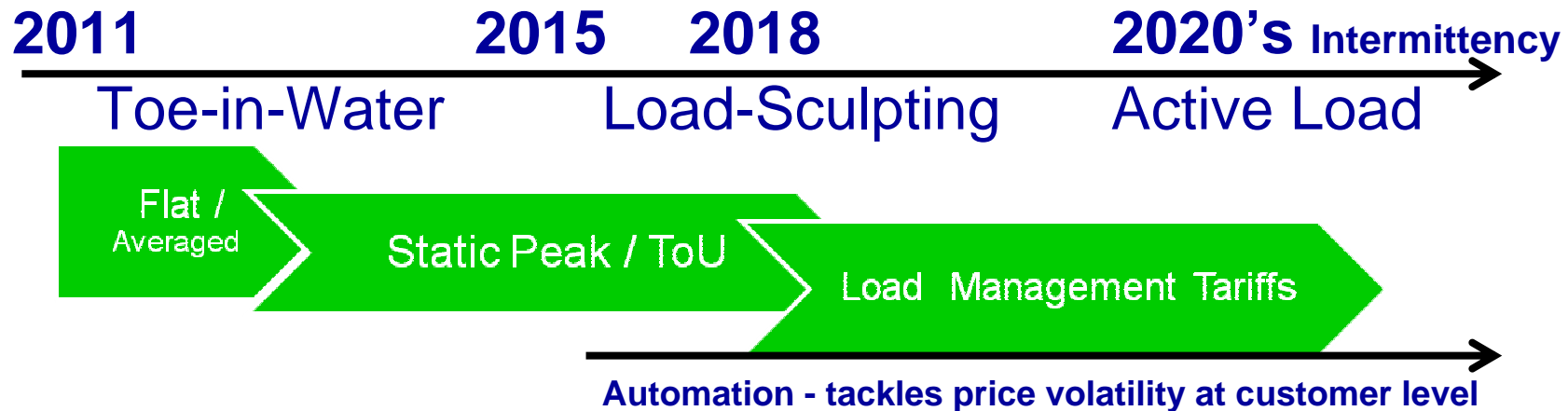
Dynamic

Volatility & Price-Risk

Highly Cost-Reflective Peak Pricing / Dynamic-Pricing – for those best-able to handle significant upside / downside of very volatile pricing - market actors; aggregators ; & some very large industrials.

For rest of us – Likely to be 'Nudge' via Retail Tariffs

RETAIL TARIFFS – INCENTIVISING FLEXIBLE LOAD



Medium-Term – ‘Load-sculpt’ w ToU tariffs – to peak-shift & build load - **but** – may be eventual mis-match in fixed time-related response – and the needs & costs of balancing an intermittent system.

Active Load thro Automation – enable price-responsive, flexible end-customers.

From a Customer Perspective - Automated Load Management Tariffs - could offer cost-efficiency at individual customer level - & convenience.

Many Load Management tariff approaches possible. Perhaps targeted at certain customers – perhaps specific to a load or appliance (EVs, Heat) - or – location-specific.

Not a world of ‘average’ customers - or ‘average’ tariffs .

ALSO - customers will need to buy despatchable load (EVs, Heat, Fridges).

TRIAL LESSONS – INTERNATIONAL

Many Helpful International Lessons

Electricity Peak-Shifting / Demand Response – success, esp w. automation - **BUT** –

system constraints at peak **and** flexible household load (esp A/C) mean that customer peak-shifting has a realisable economic value (US, Canada, Australia). Consistently ~ avge 5% peak reduction / >30% w automation & CPP).

TRIAL LESSONS - IRELAND

Residential Electricity – trialled four ToU tariffs (3-rate) ; a week-end tariff ; & Overall Load Reduction Incentive - **PLUS** different customer-stimuli with the tariffs. (Bi-monthly & monthly billing ; IHD ; Energy Usage Statement ; Magnet ; Sticker). Statistically significant trial findings.

- **Overall demand reduction – 2.5%** (apparently not linked to OLR).

- **Peak Shift – 8.8%.**

No single ToU tariff stood out as more effective – & no tipping point found – BUT – the peak / off-peak price-ratios trialled were modest (max 4:1).

Customer ‘stimuli’ made a material difference - both to demand-reduction & to peak-shift. (Bi-monthly bills, IHD, energy use statement – most effective combination).

82% said they made changes to the way they use electricity, due to Trial

Footnote

GB EDRP – Also variety of feedback interventions – not just tariffs.

GB Smart Meter Impact Assessment – Central Case. March 2011

Estimated Average Customer Electricity Demand Reduction – 2.8%

Estimated Peak Shift – assumed as an economic benefit of £850m.

PEAK TARIFFS – SOME ISSUES

- **Peak-Prices** – can offer cash benefits to customers who (1) are *already* high *off-peak* users – and / or (2) who have flexible load (eg Ireland, NI, Australia, US).
- **For GB, what Price Differentials ToU Tariffs / Critical Peak Pricing** – to influence usage? (nb Ireland – unclear).
- **Winners / Losers** - and **Fairness Issues** – esp for high-users at peak and / or inflexible users - **PLUS** - must understand specific needs of poor & vulnerable.
- **Automation** - If formalised in customer agreements could enable ‘firm’ delivery of household DR. Practical issues on how ; when – and how economic – as well as general customer acceptability ?
- **Unintended outcomes** (eg switch to gas)

DEMAND REDUCTION TARIFFS – SOME ISSUES

Electricity Rising Block Tariffs - *use more, pay more.*

- **Shape and increments for blocks** - define winners / losers / fairness issues (CSE, CCC research).
- **Poss. controversial** – if discourage *essential* use (e.g. winter heat).
- **May not discourage electricity-use at *higher-cost periods*** (ie at peak- or low wind) – unless combined with other incentives (i.e peak-related).
- **Upward price-pressure over time** – fixed-costs would be recovered over fewer energy units. (Or, an increased standing charge).
- **Regulation** – unclear how block tariffs might work in GB retail market - *unless a common requirement*. Large electricity users would simply switch. (Maybe voluntary mobile phone-type ‘bundles’ ?).
- **Apply rising block approach only to environmental levies ?** May be seen as ‘just’ & ‘green’ – but may have limited impact – in early years at least.

Overall Load Reduction Incentives (EDRP, Ireland).

- **How sustainable for supplier - if customers receive repeated cash-rewards to reduce demand ?** (non-cash rewards ?).

GB SMART TARIFFS - CONCLUSIONS

- Depending on design, GB smart tariffs could benefit :
 - **Many customers** – across household income groups (some exceptions) – and across economic sectors.
 - **Market actors** – better economic management
 - **Public policy** – economic savings (security, demand, carbon).
- Customers will judge introduction of new tariffs on benefit to them. **Willing Customers** will need :
 - **Lower bills**
 - **Simplicity / understanding. Not ‘shock’ bills.**
 - **Suitable safeguards & protections** (esp vulnerable & poor).
- Many cross-industry, commercial & customer issues to resolve

WILL SMARTER TARIFFS ENGAGE CONSUMERS IN SHAPING THE FUTURE DEMAND-SIDE ?

- Will bills be lower ? Will agreements be simple ?
- Will GB customers happily embrace sharper retail-prices which reward – or penalise - particular consumption patterns ?
- Will a move away from ‘averaged’ tariffs, lead suppliers to ‘prefer’ certain customers (eg those with high *off-peak* use ?)
- How ‘bespoke’ might retail tariffs become – for particular customers or customer groups ?
- Will retail tariffs play a role in incentivising *purchase* of despatchable appliances (ie sales of EVs, HPs) on full life-time-cost basis.
- ***How might economic incentives best combine with non-economic approaches to engage consumers ?***

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www.sustainabilityfirst.org.uk

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