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ADDRESSING ENERGY COST COMPETITIVENESS FOR NORTHERN IRELAND BUSINESSES & ENERGY POLICY OUTLOOK

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Centre for Sustainable Technologies
CST

- REF 2014 School of the Built Environment (ScoBE)
- Ulster top 25% for research power
- Research Impact – 44% world-leading (top in NI)
- ScoBE top 10 in UK (top in NI)

Energy Research
- Renewable Energy
- Energy Storage
- Energy in Buildings
- Economics and Policy

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Electricity prices in NI

Data: Quarter 2: April - June 2016

Ministerial Energy & Manufacturing Advisory Group

EMAG

- December 2015 – March 2016
- Appointed by DETI Minister Bell
- Followed a series of high-profile closures
- Report on energy costs for NI Manufacturing sector
- Recommendations

EMAG

Key Recommendations

1: "…deliver competitive local energy costs for business in an EU context; …especially for LEUs and energy intensive manufacturers."

2: "… NI electricity prices for LEUs and energy intensive manufacturers should be equal to the EU median. An initial target should be that NI electricity prices for this group are no higher than those …in ROI"

3: "…long term policy certainty by developing a clear, consistent long-term energy and decarbonisation strategy for Northern Ireland to 2030."

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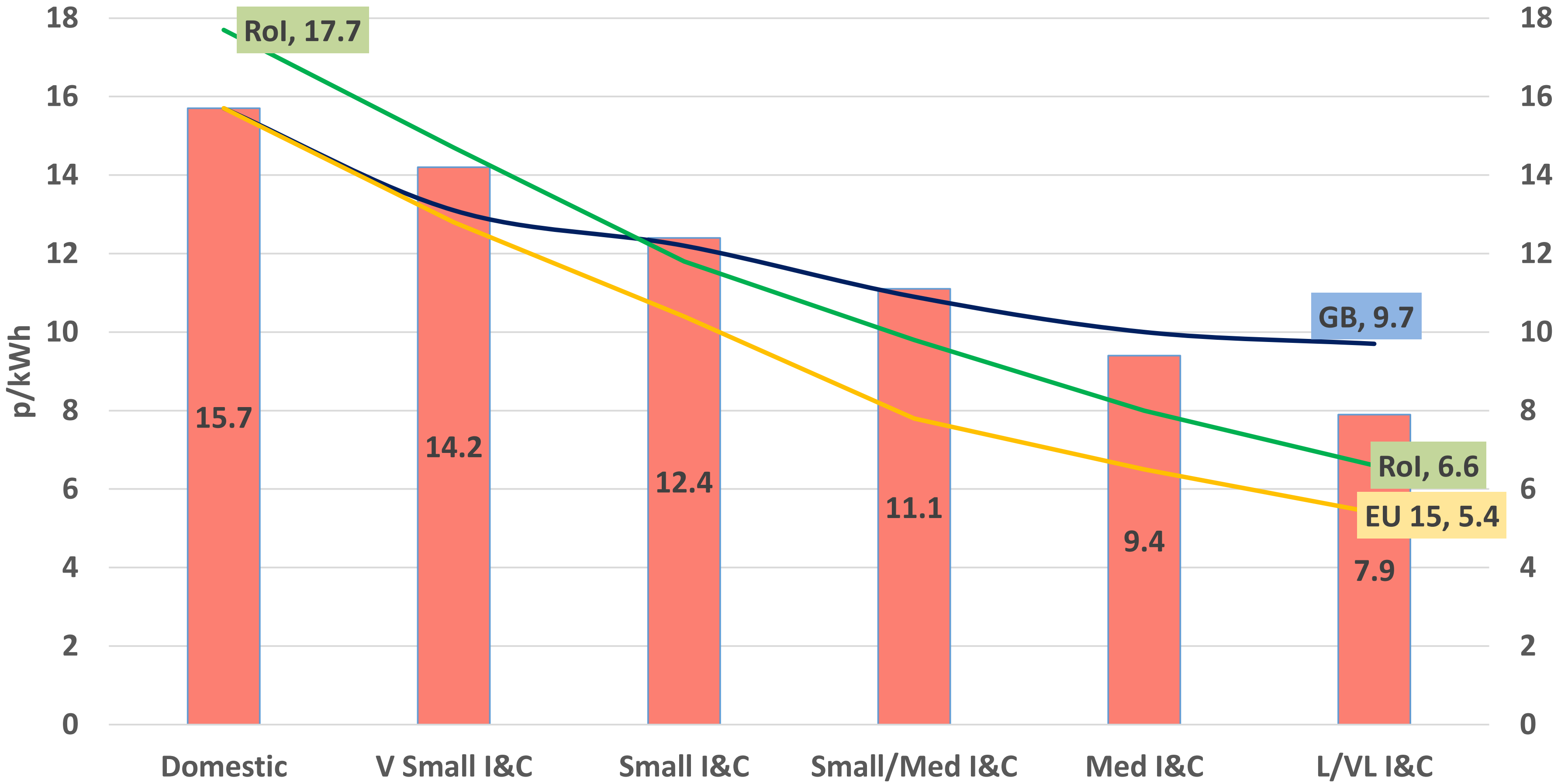
NI, EU15, GB & RoI Apr – Jun 2016

Comparison across consumer categories



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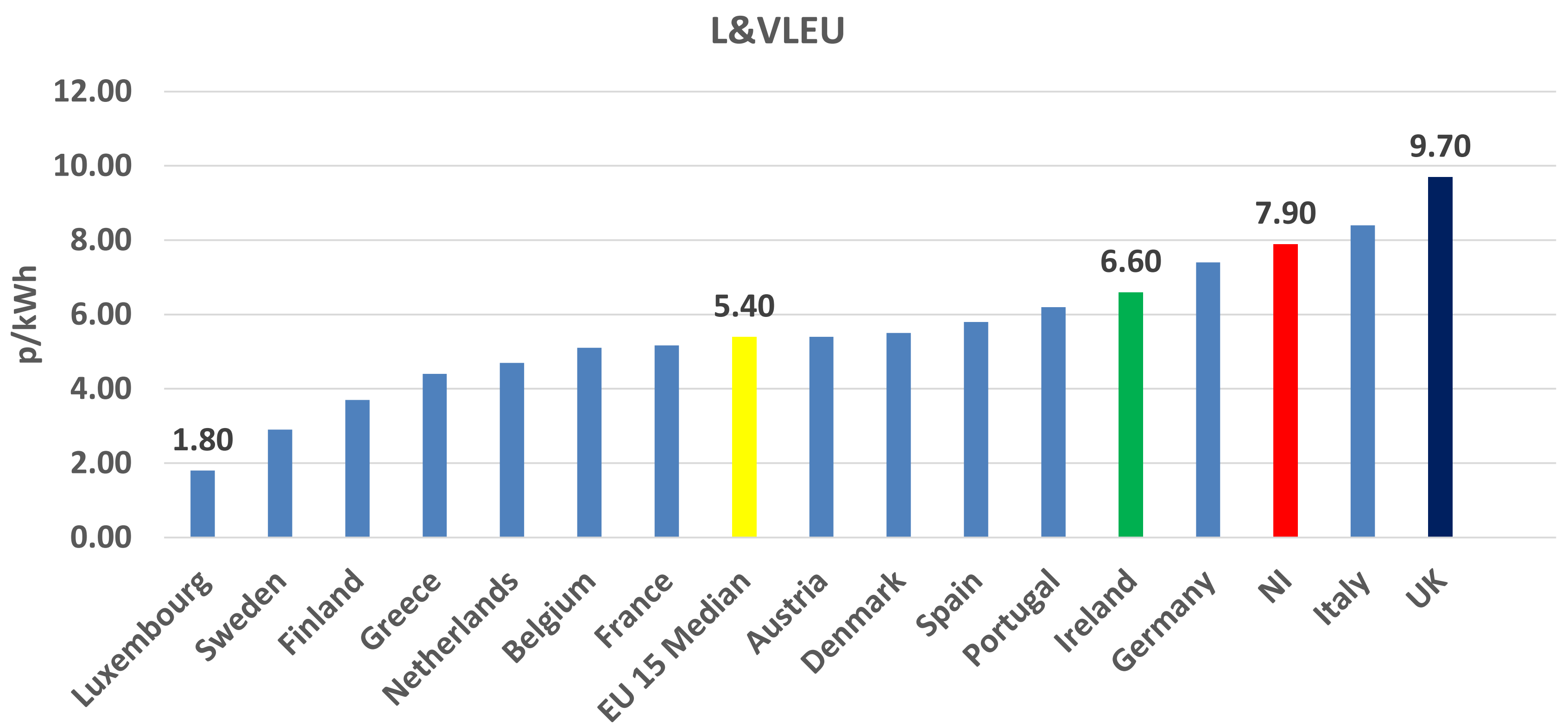
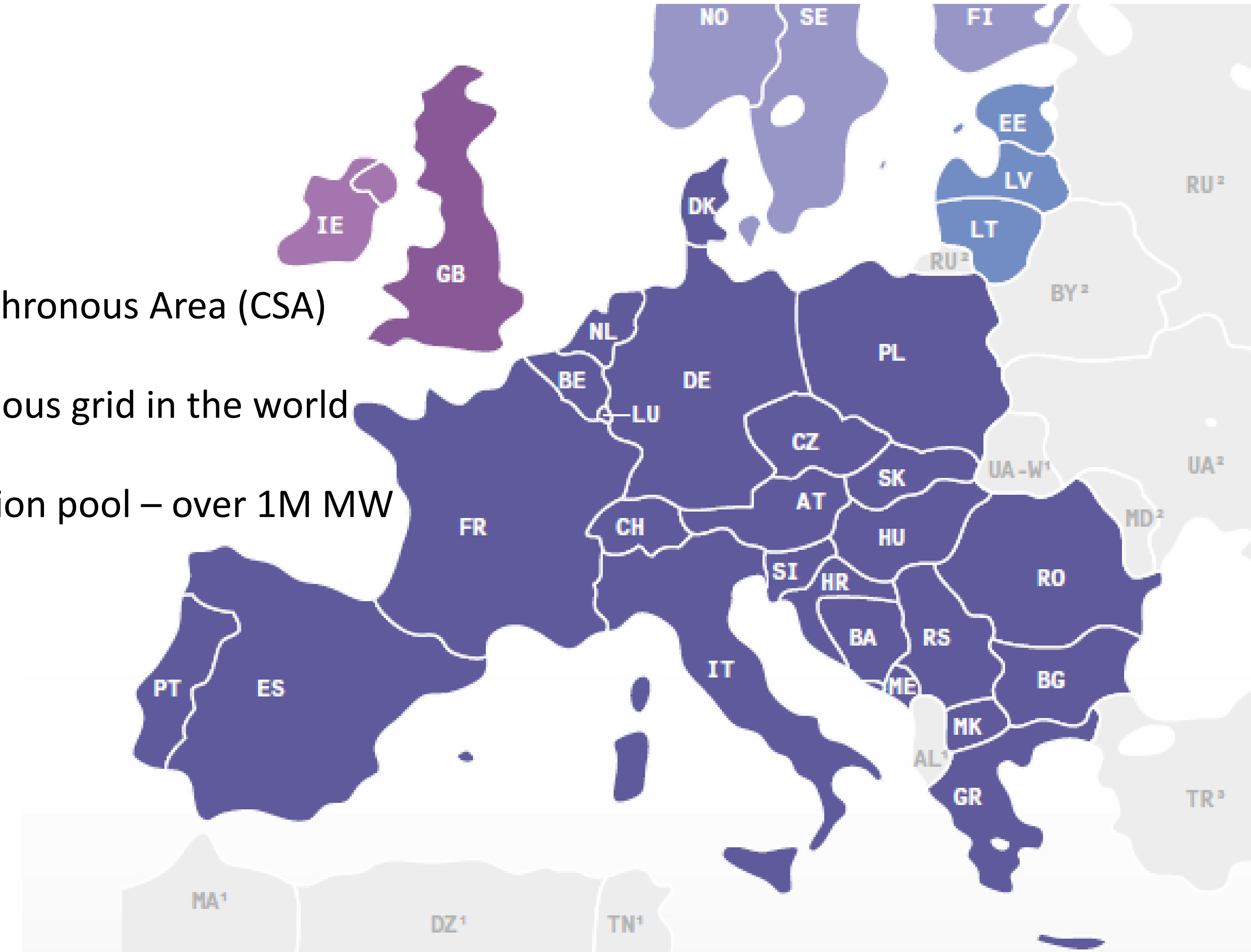
EU 15 L&VL (>20,000 MWh/yr)
Comparison by country



European Continental Synchronous Grid

- Continental Synchronous Area (CSA)
- Formerly UCTE
- Largest synchronous grid in the world
- 24 countries
- Massive generation pool – over 1M MW



Advantages of large interconnected power systems

- Maximize the use of large baseload plant
- Maximize the use of indigenous resources
- Load/cost curve management
    - Storage/DSM
- Common provisioning of reserves
- Transmission of large blocks of cheap power
- Load diversity
- Generation diversity
- Reduced constraints/losses
- Increased/cheaper reliability

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European Continental Synchronous Grid

Comparison

	Customers	% CSA	IC capacity MW	Energy (GWh)	% CSA
NI	0.8M	0.18	450	9011	0.28
RoI	1.8M	0.45	500	26648	0.84
SEM	2.5M	0.63	950	35659	1.12
GB	26M	6.50	3,200	302631	9.53
EU-CSA	400M	100	232,151	3174200	100

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2. Network charges

NI and RoI have a dispersed population

The network in both jurisdictions is larger in relative terms than average

In Ireland there is **84m** of T&D wire per customer

In GB the figure is **49m** of T&D wire per customer

In CSA the figure is ~**20m** of T&D wire per customer

RoI has decided to alleviate network charges for I&C customers by re-allocating costs to the domestic sector, in order to improve the competitiveness of RoI-based companies.

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3. Statutory charges

- UK is unusual in EU
- DE, NL, FR, IT and DK allocate policy costs via privileging criteria
- Businesses facing international competition are relieved from state-regulated charges
- UK uses quota system – cost distribution left to market

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3. Statutory charges

EU countries reduce charges based on:

- Absolute consumption
- Energy intensity
- Sector affiliation
- Processes used
- Energy efficiency measures

3. Statutory charges

UK

The cost of energy and climate policy in the United Kingdom are distributed via power suppliers.

There are no fixed rates, but quotas that are to be met by supplying companies.

To reduce the impact of rising policy-induced costs on energy-intensive industries, the government is increasingly relying on compensation payments, which are expected to gain importance in the future.

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Statutory charges

EU privileging criteria

Absolute consumption: The rates of many state-regulated electricity tariff components are graded or contain fixed base amounts.

Thus companies with high consumption pay, on average, less per unit of energy.

For example, in Germany all companies in the special equalisation scheme pay the full EEG surcharge (0.329 ct/kWh) for the first Gigawatt hour of consumption, then 0.05ct/kWh (or 0.025 ct/kWh if electricity costs exceed 4% of turnover

Statutory charges

EU privileging criteria

Energy intensity: The total electricity costs compared to sales or gross value added shows which companies' competitiveness might be put at risk as a result of high electricity prices.

In various regulations, companies that exceed a certain threshold of energy intensity are privileged.

In the German special equalisation scheme, this threshold is 16% of gross value added in 2015.

Statutory charges
EU privileging criteria

Sector affiliation: Some industries are more exposed to international competition than others, so exemptions are often tied to sector affiliation.

Depending on the sector affiliation, companies must reach different thresholds of energy intensity to be privileged.

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Sectoral breakdown of NI Customers

Sector	Connections	Average Bill
Domestic	~800,000	~£550
Small & Med. I&C	~70,000	~£6k
Large I&C	<200	~£800k

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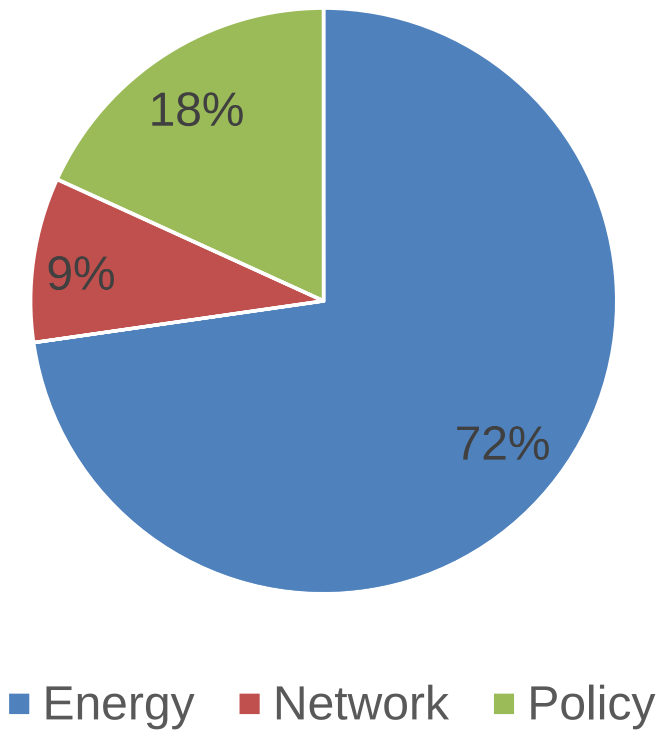
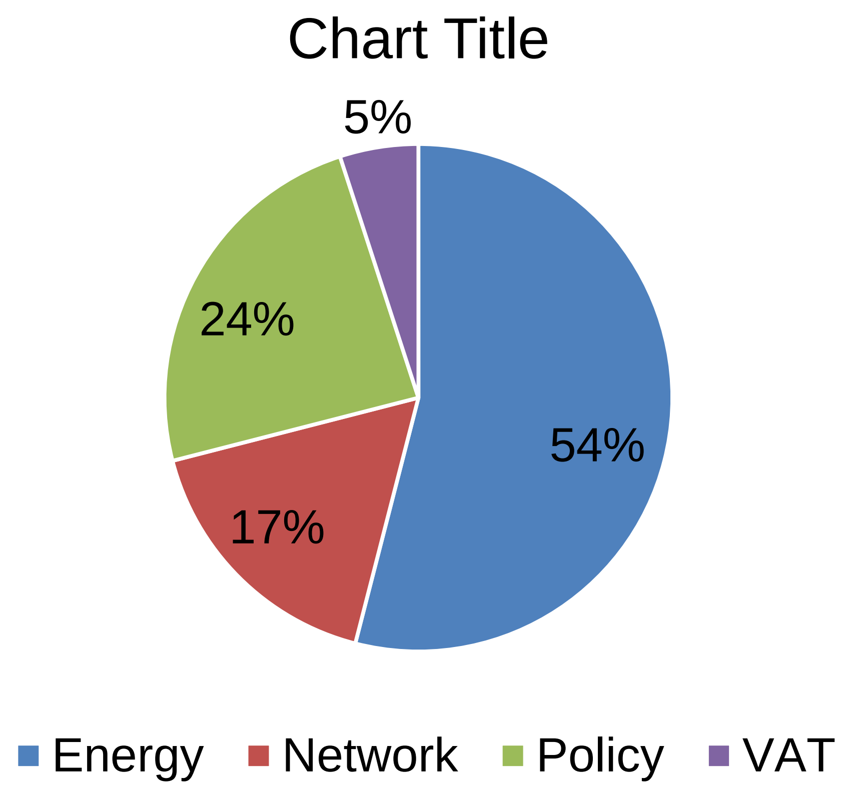
Large I&C

Components of electricity bill



Domestic

Components of electricity bill



Cost reduction for LEUs
RoI Target

- EMAG Recommendation 2
  - **"… NI electricity prices for LEUs and energy intensive manufacturers should be equal to the EU median. An initial target should be that NI electricity prices for this group are no higher than those …in ROI"**
- LEU in RoI pay on average 1.3p/kWh less than NI
- To match RoI costs, need to reduce LEU bill by ~ 15%
- Reduction = c. £125k
- £125k x ~200 = £25 M/yr

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Cost reduction for LEUs
EU Median target

- LEU in EU15 pay on average 2.5p/kWh less than NI
- To match EU15 costs, need to reduce NI LEU bill by ~ 30%
- Reduction = c. £240k
- £240k x ~200 = £48 M/yr

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Impact on domestic consumers

- 15% transfer from LEU bill = £24M
- 30% transfer from LEU = £48M
  - RoI target impact per household ~ £30/yr
  - EU15 target impact per household ~£60/yr

>5% and ~11% increase in average domestic bill to meet targets

Questions