EU Energy Competition Issues
A UK perspective

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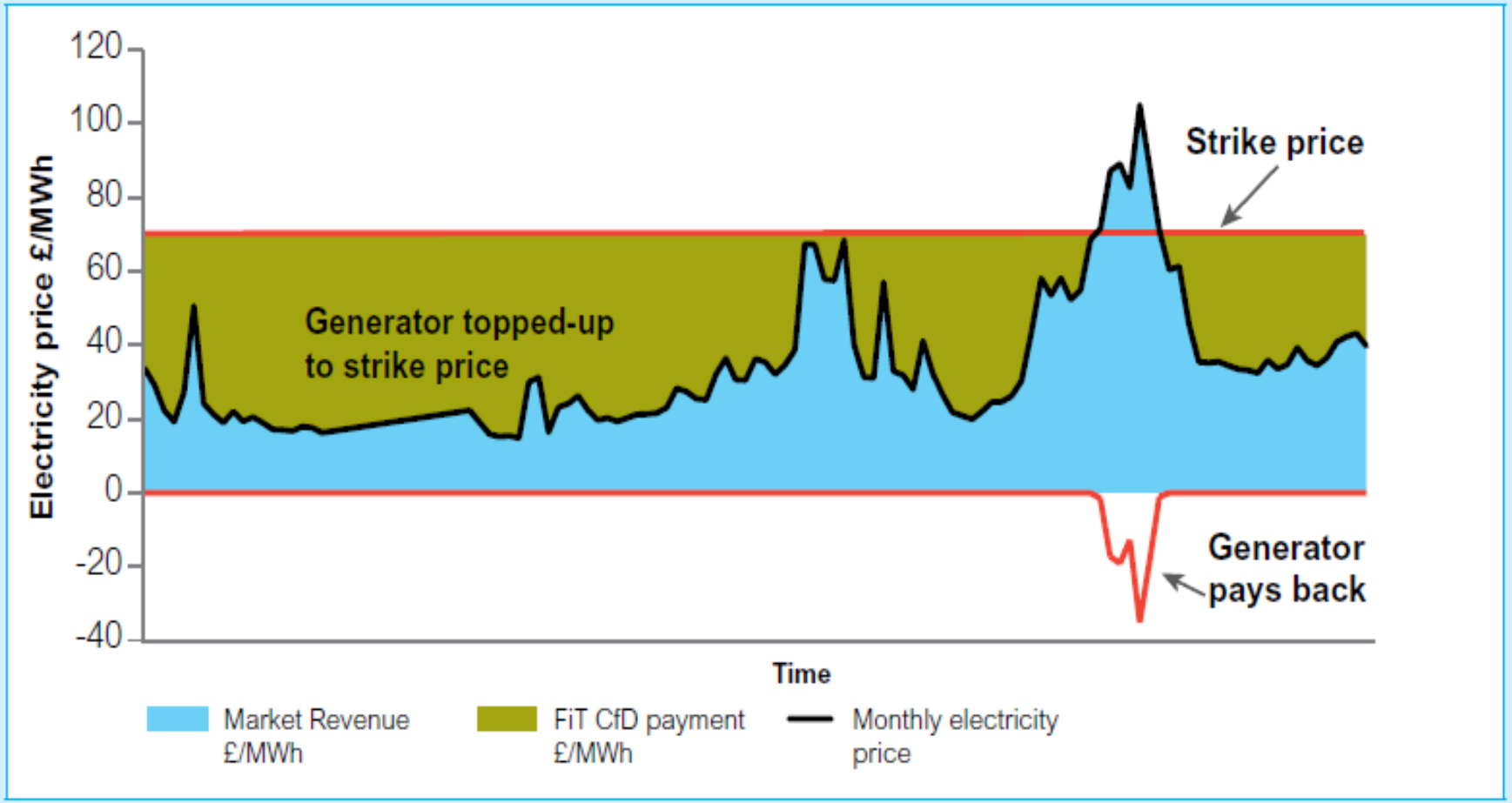
Contents

- Three challenges based on UK experience:
- Subsidised generation: Nuclear New Build
- Capacity mechanisms
- Retail market competition

SUBSIDISED GENERATION

The proposal: CfD-FIT

Figure 5: The operation of an intermittent Feed-in Tariff with Contract for Difference



Source: DECC (2011), *Planning our electric future: a White Paper for secure, affordable and low-carbon Electricity, p.38.*

Current plans for CfD-FiTs

- The intention is to have a series of auctions in the long term, in the short term there will be technology specific reference prices.
- CfD-FiTs will be within levy control framework of maximum allowable expenditure.
- CfD-FiT payments to generators will be recovered by a supplier levy. Certain energy intensive users will be exempted.
- The counterparty will be a government agency, government will design contract.
- The strike price will be a long term indexed price to provide price certainty. The contract length 15 years for renewable generators.
- *However this is a return to single buyer model…*

Financial outline of Hinkley C

- Probably the largest PPP deal in UK history
- One of the largest global electricity deals in history
  - Three Gorges Dam $28bn; Hinkley C $25.6bn.
- One of the longest deals in electricity history

- £92.50 / MWh (2012 prices), i.e. £95 (2013 prices)
- Or £89.50 / MWh (2012 prices) if 3rd plant at Sizewell C agreed
- All prices indexed to CPI, for 35 years
- Some sharing if costs less than expected (no detail on this)
- 7% of UK electricity supply

- 3200 MW (2 EPR reactors)
- £16 bn construction cost (of which £2bn 'other' costs).
- 10% interest rate
- Delivery date 2023

Construction cost comparisons

- £14bn / 3200 MW = *£4375* / kW (2012)
- Compare with (2012 prices):
  - *£1084* / kW : Civaux 1+2 France (completed 1999) – Rangel and Leveque, 2012
  - *£2323* / kW: Ulchin-5 Korea (completed 2005) – Du and Parsons, 2009
  - *£1700* / kW : Taishan 1+2 China est. $7.5bn / 3320 MW inflating to UK prices (adjusting for UK 57% of total cost done by Chinese labour, at 70% of UK unit labour cost) - Wikipedia
  - *£4345* / KW: Flamanville 3 est. 8.5 bn Euros / 1630 MW - Wikipedia
  - USD $1.60 / £; 1.20 Euro / £

It is all about discount rates!

- Est. £1844m p.a. cash flow net of running cost and decommissioning fund (DECC, 2013, costs)
- NPV of Hinkley C discounted cash flow from 2023:
  - £19564 m, at 10% p.a. for 35 years
  - £31707 m, at 5% p.a. for 35 years
- This implies a refinancing gain of £12bn if on budget opening of plants.
  - This is equivalent to a £28 / MWh
  - i.e. Strike price could be £64.50 / MWh
- *Uncompetitive process with large amount of risk transfer to government.*

CAPACITY MECHANISMS

Capacity Mechanisms

The GB reform proposes the introduction of a capacity mechanism (CM) to contract for the necessary amount of capacity to maintain security of supply. This would involve the introduction of payments to generators for maintaining availability, supplementing the market for units of electrical energy that exists at the moment. This deals with predicted low capacity margins by 2018/19.

Practical problems with Capacity Mechanisms

- *They are mechanisms not markets.*
- The government (or its delivery agency) effectively decides what the required level of capacity is.
- Recent US experience suggests that far from guaranteeing revenue for generators, capacity markets can be used by governments to appropriate revenue from generators by licensing new capacity to drive down capacity market prices (e.g. FERC vs New Jersey, who was accused of monopsony activity in the capacity market).
- National capacity 'markets' are problematic in the EU. It may not be possible to stop EU generators bidding into the capacity markets via interconnectors, thus supporting capacity in other countries rather than the UK.

Current Capacity Market plans

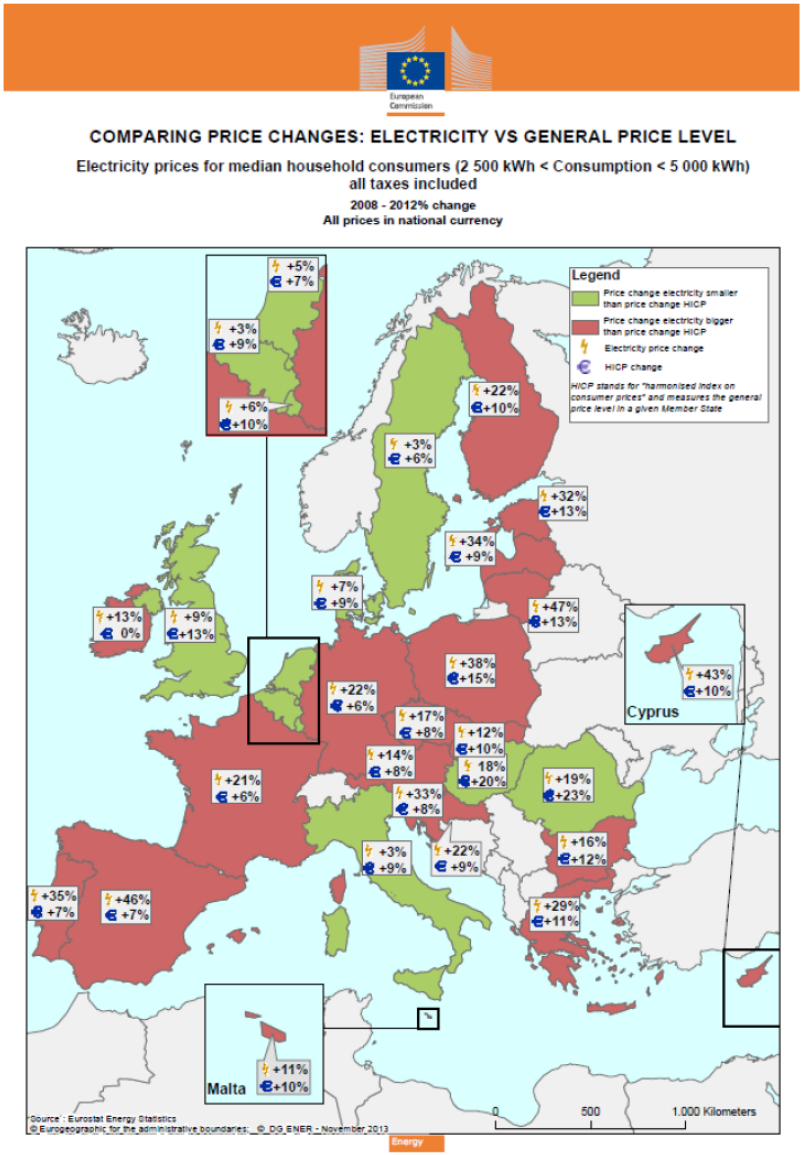
- Annual auctions for 4 years ahead on the basis of predicted peak subject to an enduring reliability standard (Loss of Load Expectation – e.g. 3 hours p.a. as in France).
- *'This will be informed by updated advice from Ofgem and National Grid which will consider economic growth, recent investment decisions, the role of interconnection and energy efficiency, as well as consideration of the outcome of the review of the 4th Carbon Budget.'*
- First auction, potentially, 2014 for 2018/19.
- Bidders need to be available at times of stress.
- In theory, market wide capacity. However CfD recipients will not receive capacity payments.
- DSR and storage will be able to bid.

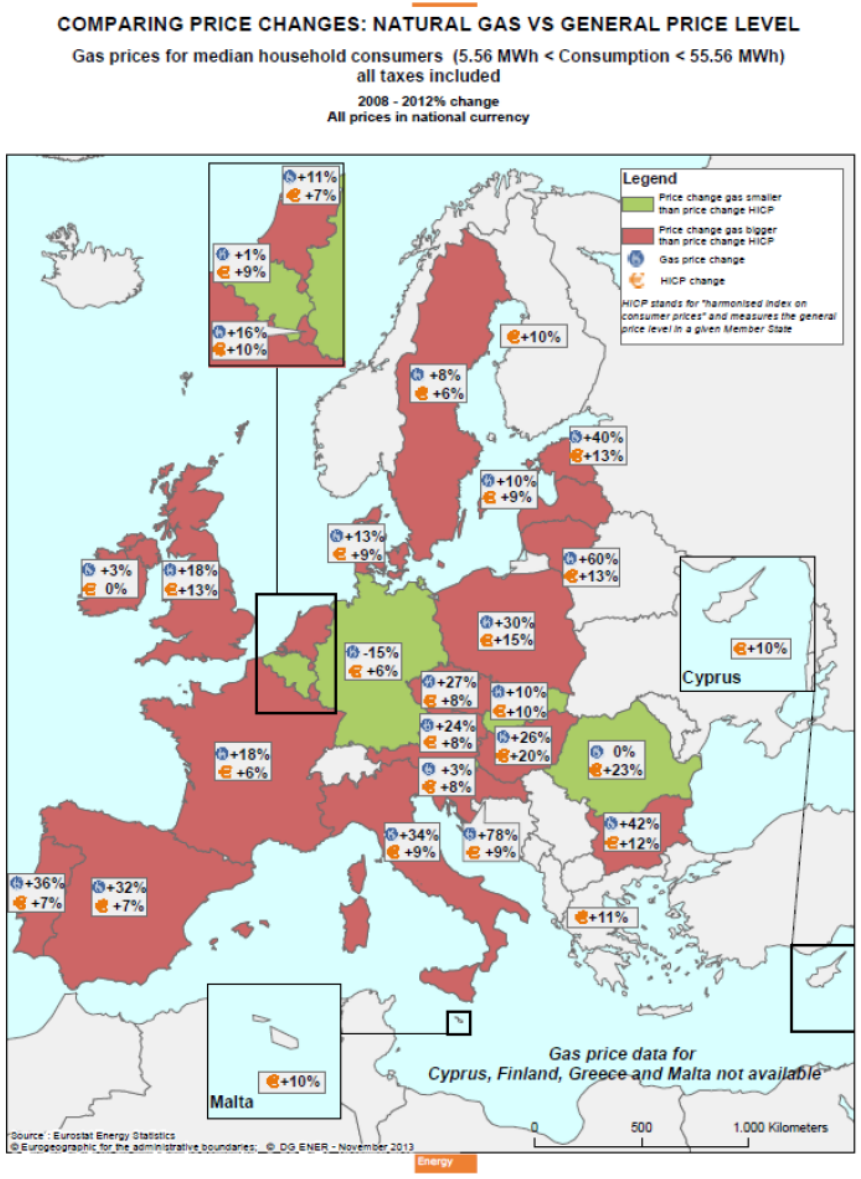
RETAIL COMPETITION

Price background

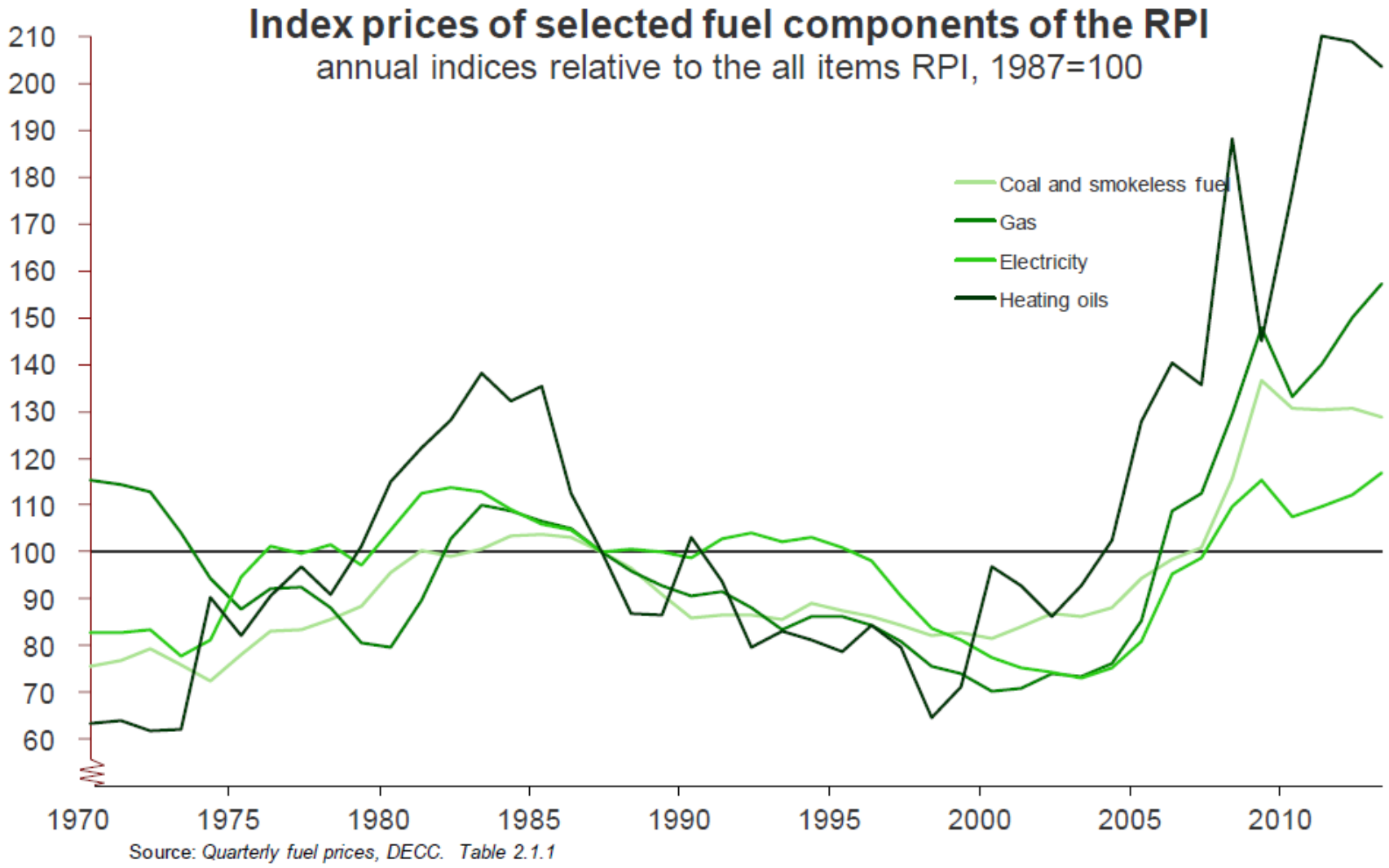
(EU Commission (2014, p.12, 75), Energy Prices and Costs.

Map 1 Household electricity prices vs. inflation (HICP)





Large Price Rises in the UK



Paul Bolton, HOC Library 31 Jan 2014, p.5.

Ofgem's Retail market review - 2012

- 2012 domestic bill final proposals:
  - Limit of 4 tariffs per fuel, meter and payment type
  - End to multi-tier tariffs, all tariffs as standing charge and unit rate structure
  - Regular information about cheapest deal re: savings if customer switches to cheapest deal
  - Putting customers on the best tariff when contract ends
  - New metric, Tariff Comparison rate, to make comparison easier.

Economic Criticism (Littlechild 2012)

- Putting customers on the best tariff –
  - Suppliers are likely to withdraw the best tariff
- Reducing the number of tariffs, restricting the types of tariffs and use of discounts
  - "Prevents competition in fixed-price fixed-term contracts and temporary offers"
  - Discounts likely to just be reduced or removed
  - Suppliers unlikely to risk introducing new tariffs if they have to withdraw one of four existing ones to do so
- Direct conflict with smart metering
  - Aims of smart metering: increase information, allow for broader range of tariffs and more complex tariffs
  - Limiting tariffs a barrier to evolution of smart metering

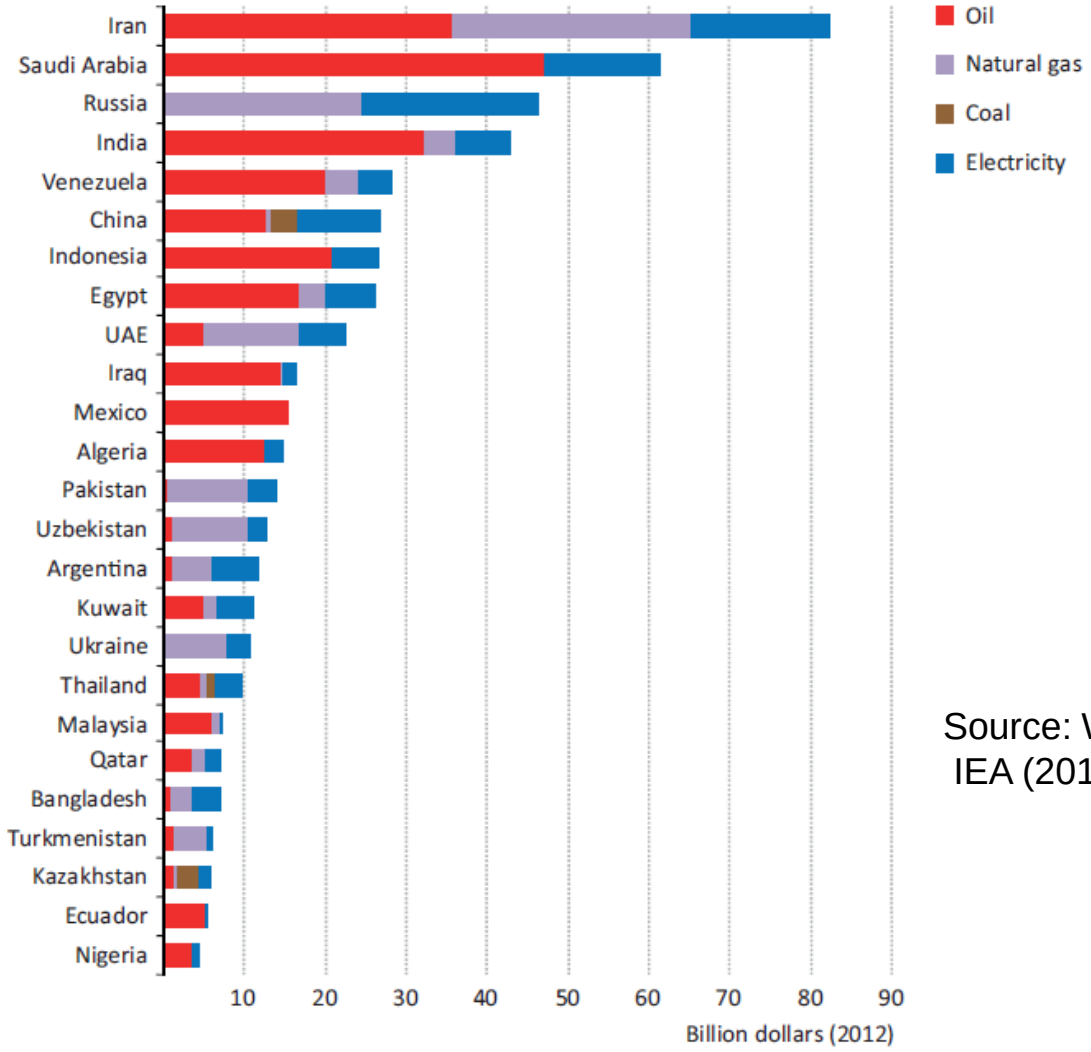
Labour proposal : 20 month price freeze

- Rationale seems to be that time is needed to reset the market, and that prices need to be frozen given the uncertainty that this would create.

- Helm rather nicely summarises the price freeze as a ‘profits tax of uncertain magnitude’. (Helm, 2013, p.4, Labour’s Energy Policies)

Unfortunately pricing below cost is a popular policy

Figure 2.18 ▷ Economic value of fossil-fuel consumption subsidies by fuel for top 25 countries, 2012



Source: World Energy Outlook, IEA (2013, p.95)

Conclusions

- Competition in EU Energy Markets in under threat, from those who loved it most, in three guises:
- A return to a single buyer model for large projects
- Capacity mechanisms rather than energy markets
- Government regulation of final retail prices
- Meanwhile we are giving up on carbon pricing to achieve decarbonisation and market extension to address energy security.