

GB Gas Security Policy and international gas markets

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EPRG, University of Cambridge

Economic & social science research in energy markets & policy –
electricity, gas and carbon.

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Key points

- Assessing GB gas supply security now means making a judgement about the conditions for “access to gas”
- Good reasons to be optimistic but the case is hard to sell to politicians
- No need to study the problem to death, certainty will remain elusive
- Risk-averse politicians may well over-provide security of supply – it is a tax on gas, but if voters go for it...

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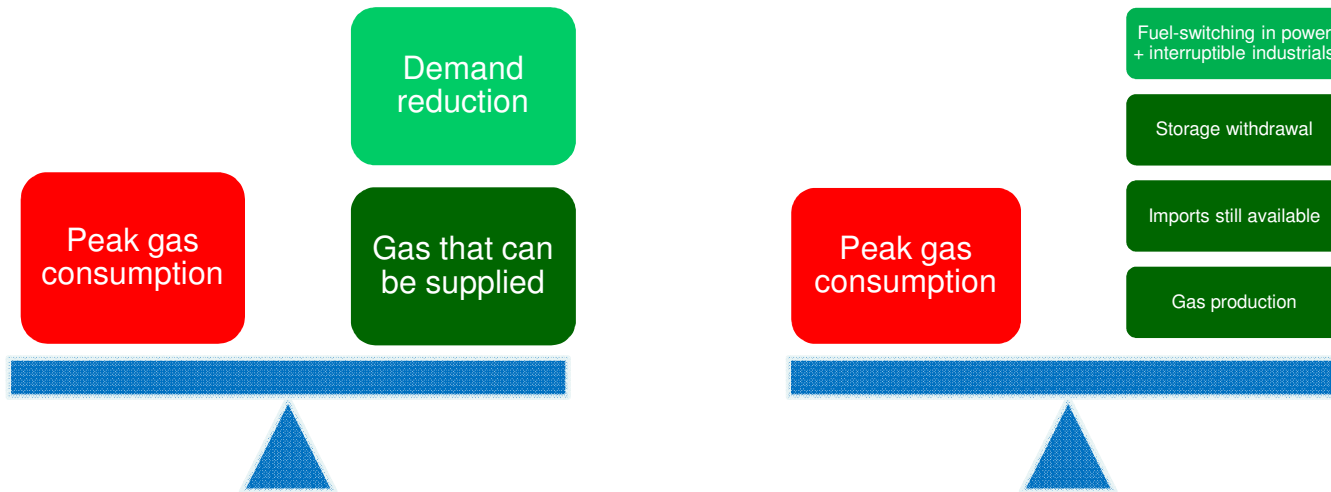
1. A framework for analysis
2. The UK debate
3. Market developments
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Defining gas supply security

- ‘Gas supply security’ refers to the ability of the energy system to meet contracted final energy demand under a gas supply disruption (at peak time)
- In the UK, possible ‘disruptions’ include
 - Loss of Norway
 - Loss of Interconnector
 - Loss of a large LNG terminal (or pipeline from Wales)
 - Loss of Qatari gas (strait of Ormuz / war in the Gulf)
 - A combination of the above?

Measuring gas supply security

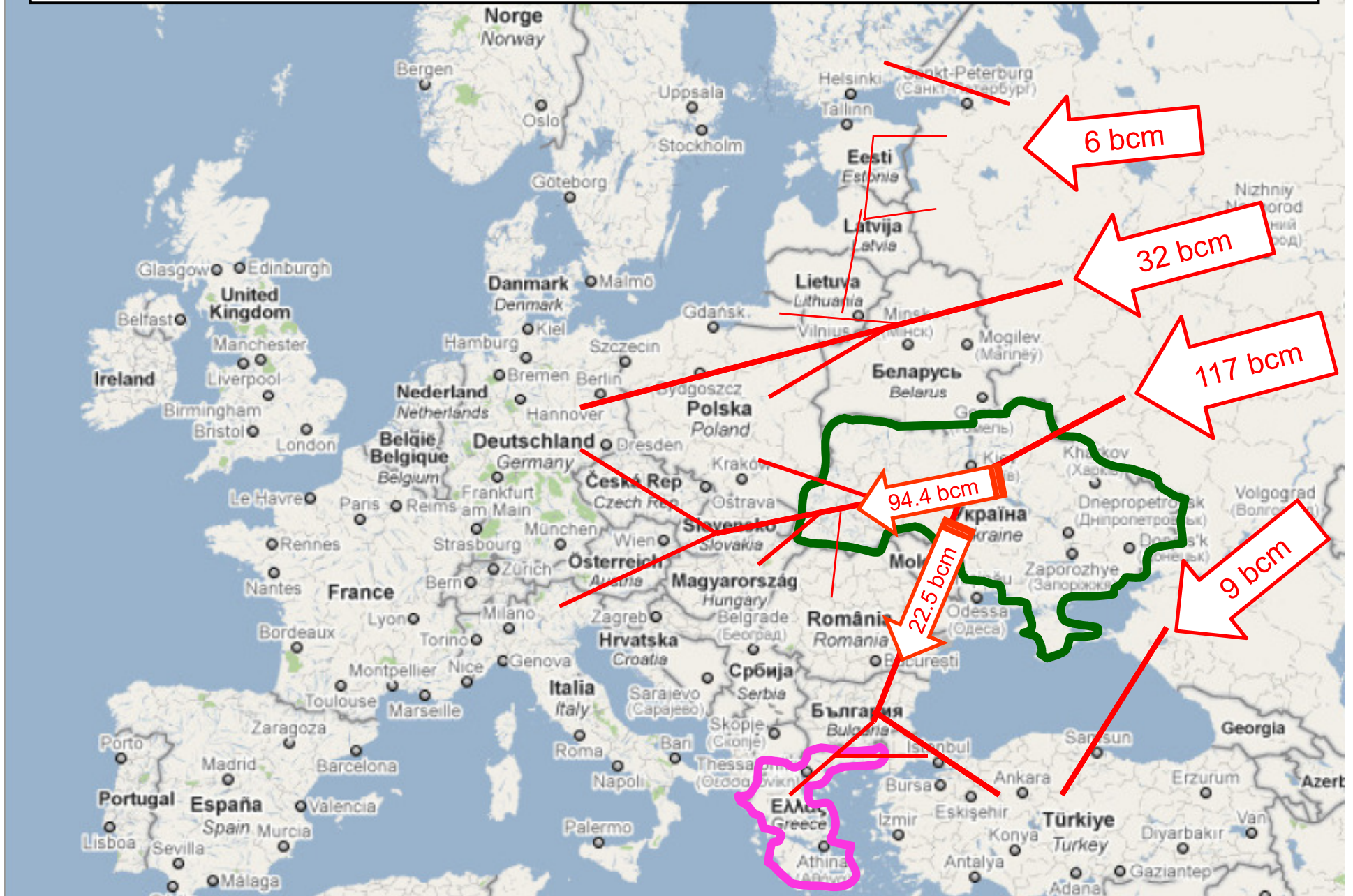
- Gas Supply Balance **in a give disruption scenario**



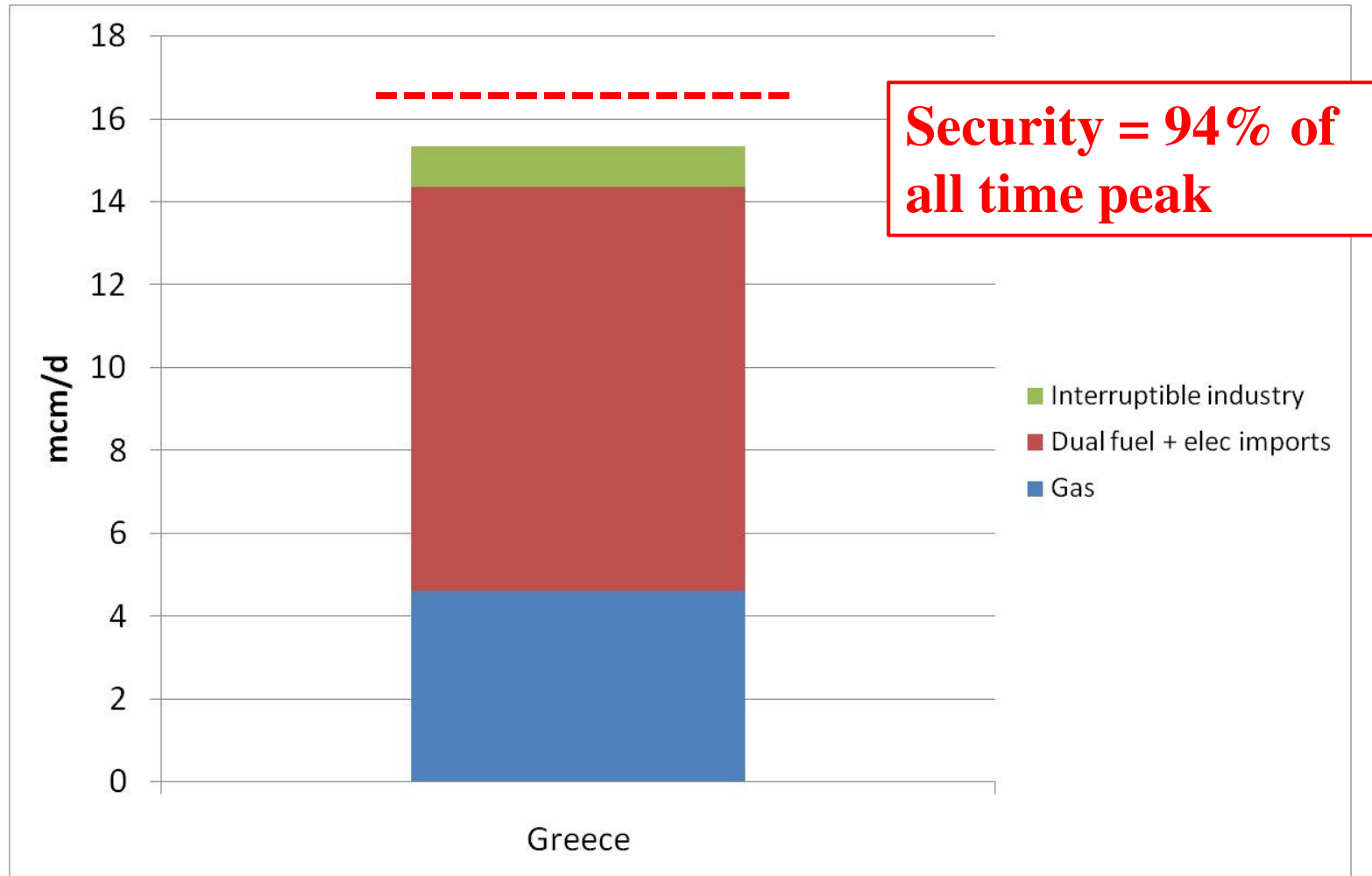
- Simple Gas Supply Security Indicator

$$\text{GSS} = \text{[Green Box]} + \text{[Light Green Box]} \text{ as \% of } \text{[Red Box]}$$

Example: Greece without Russian gas

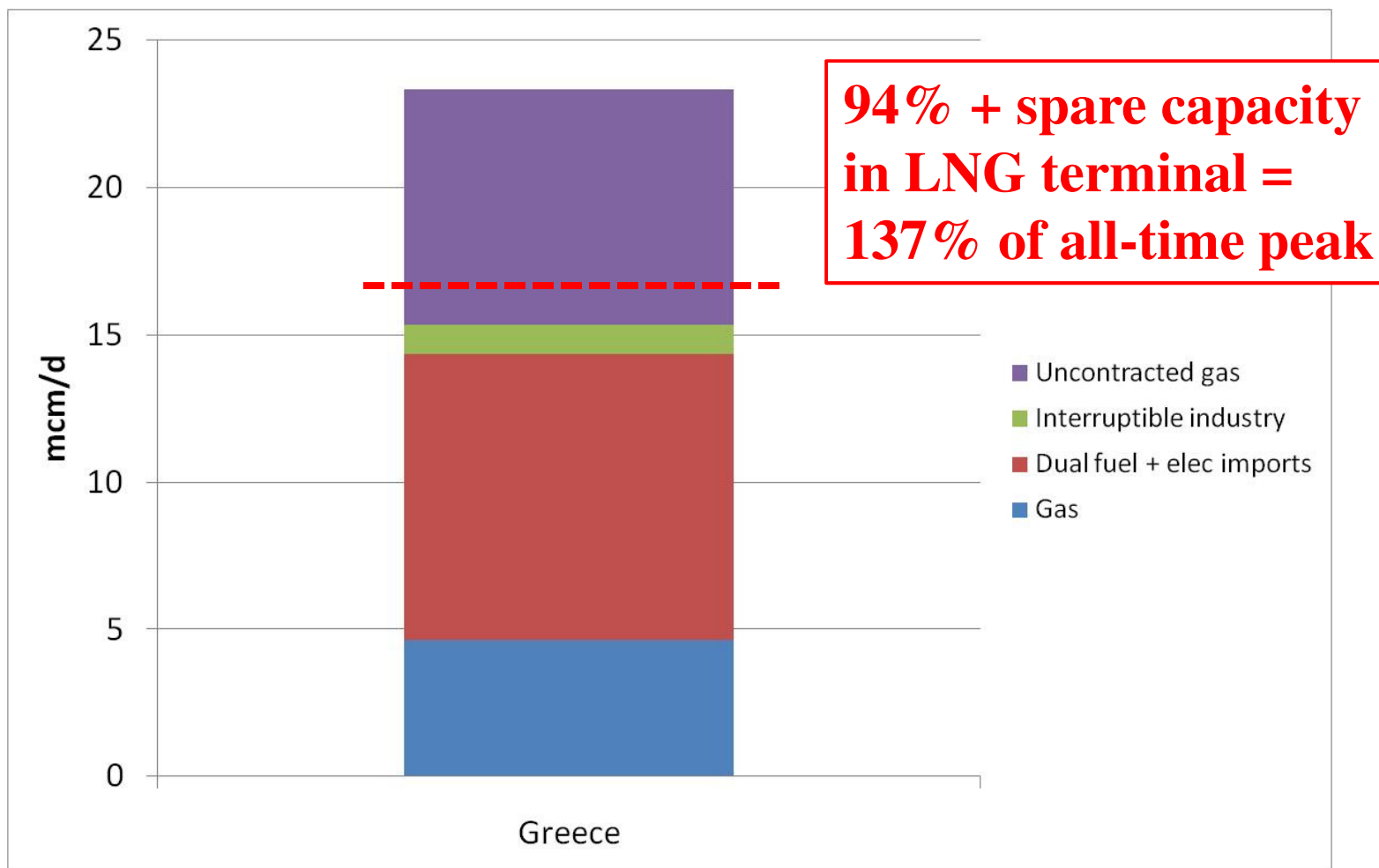


Greece w/o Russian gas (2)



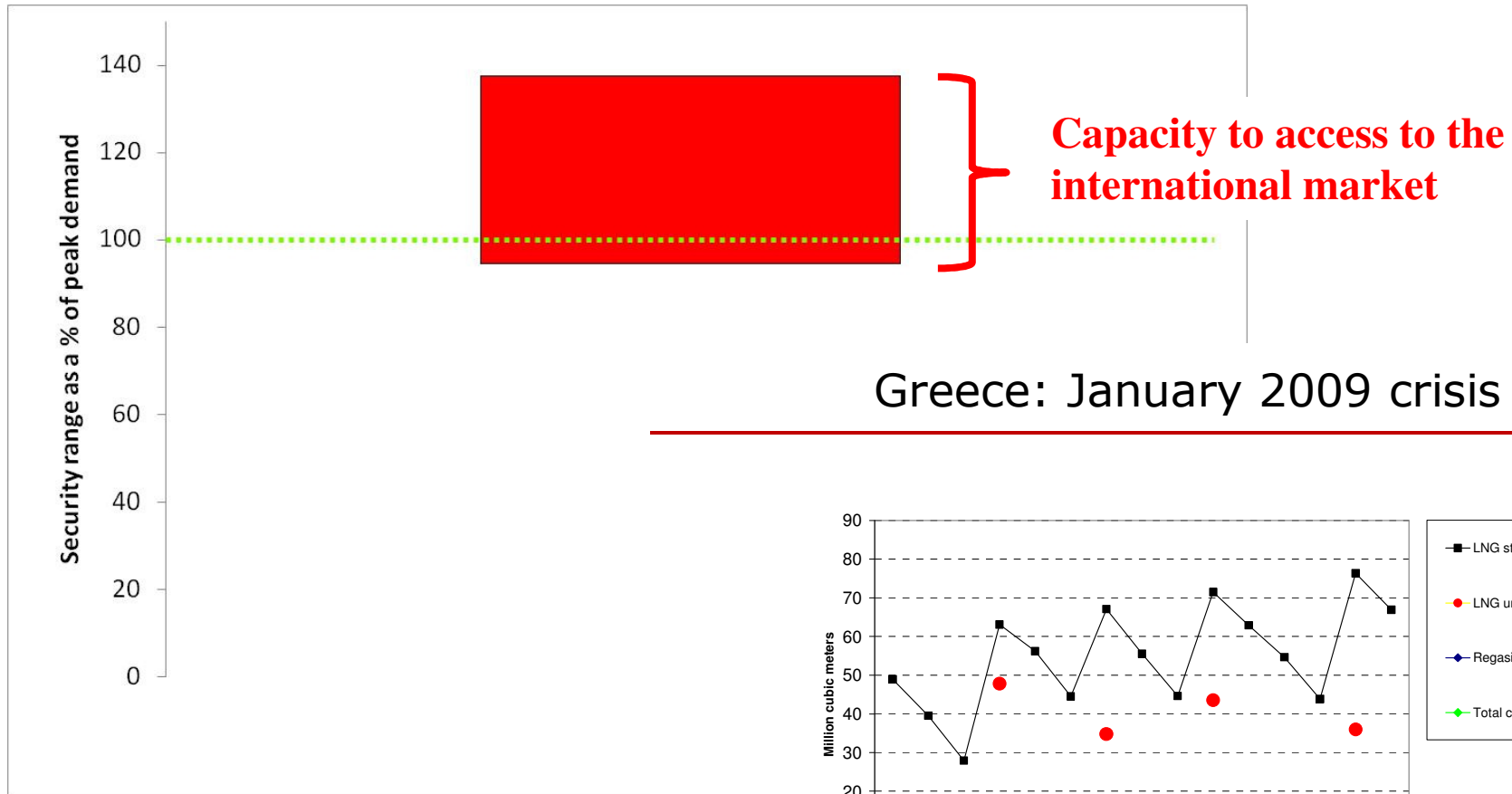
Calculations made in 2010

Greece w/o Russian gas (3)

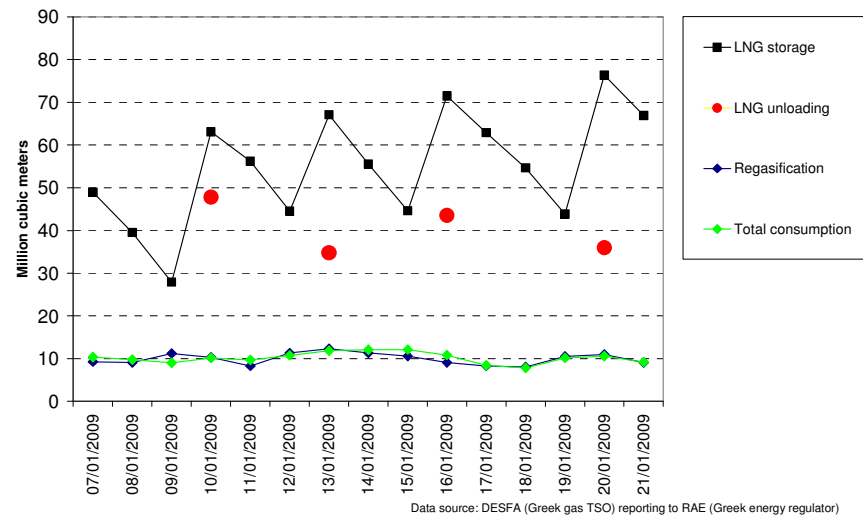


Calculations made in 2010

Greece: min & max security levels



Greece: January 2009 crisis



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The UK debate (1)

- Project Discovery (2009) v. Poyry for DECC (2010)
 - Less difference than meets the eye...
 - Massive import capacity, pipeline + LNG
 - Enough **capacity** to cope with most peak-time disruption scenarios in the years ahead
 - UK security relies on ability to attract gas from European and global markets
 - **At what price?**

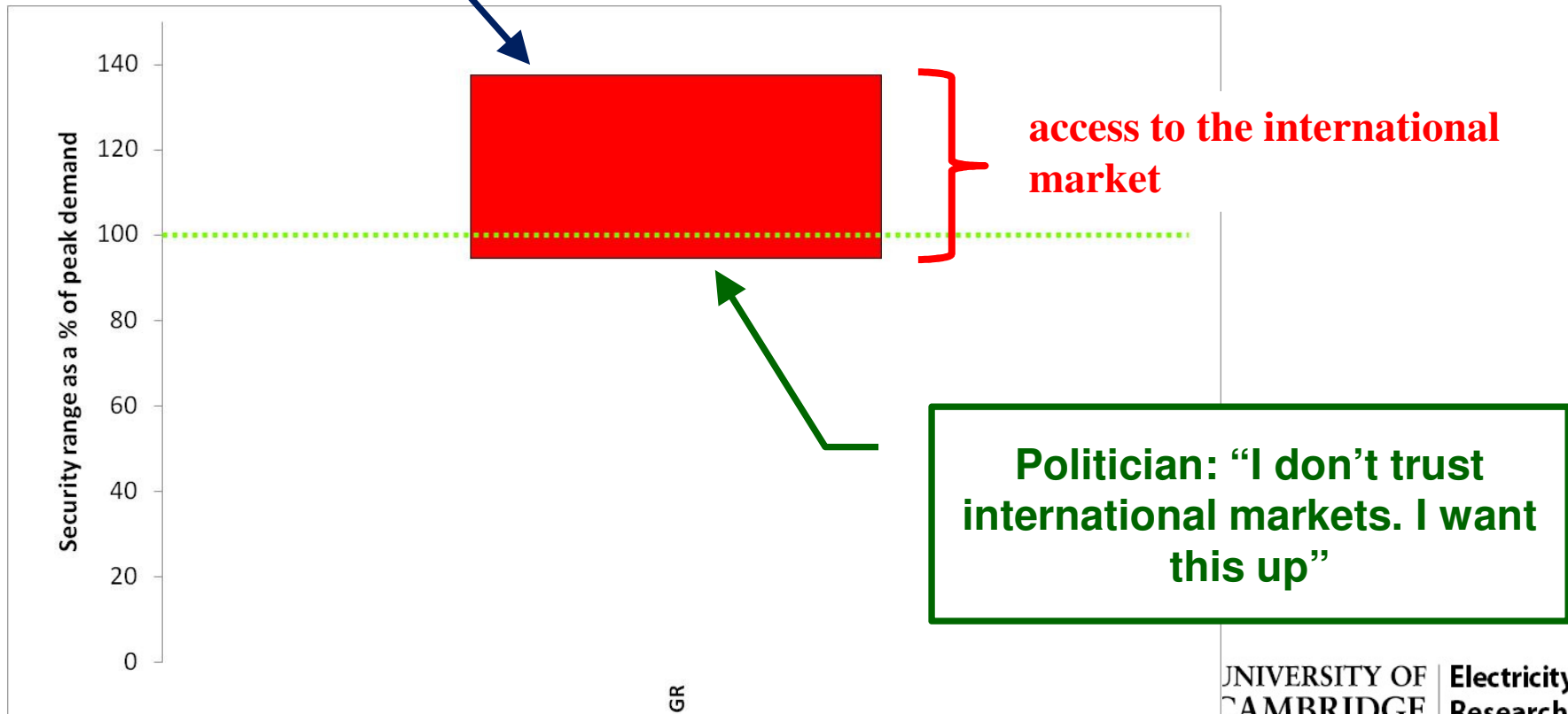
The UK debate (2)

Two ways of looking at it

- “If we allow the price to go up we will get gas (and reduce consumption)”
 - *Price spikes are a solution -- efficient rationing*
- “We do not know how high we may have to pay, and high prices have economic (and political) implications”
 - *Price spikes are an energy security problem*

Economists v. Politicians

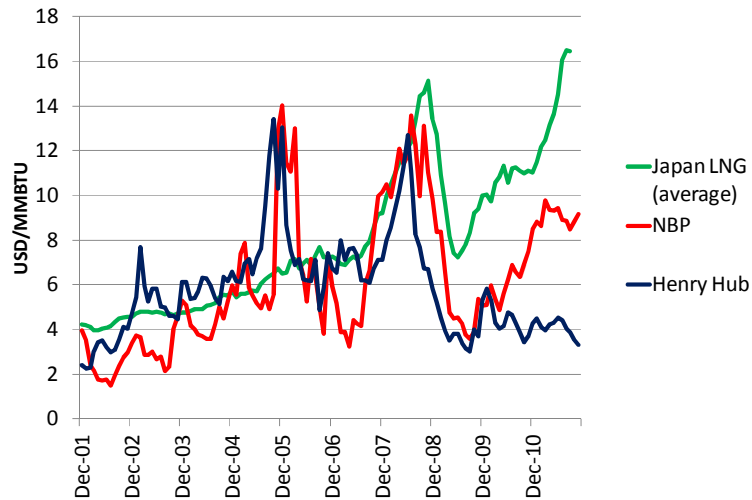
Economist: “look, we are very secure”



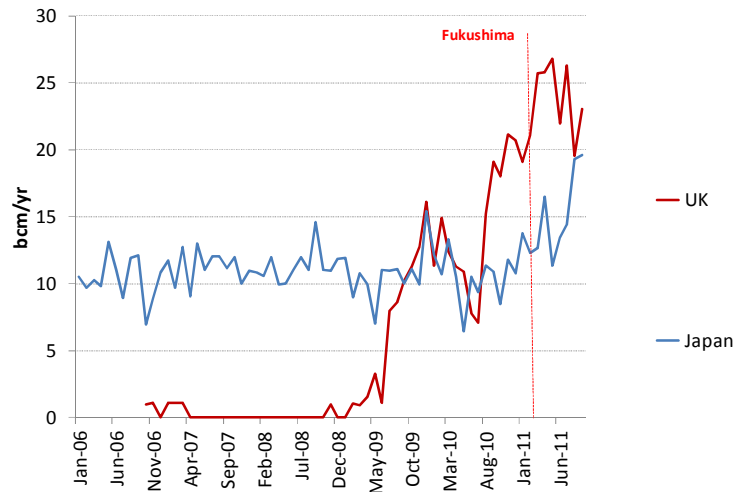
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Global markets



Source: Bloomberg



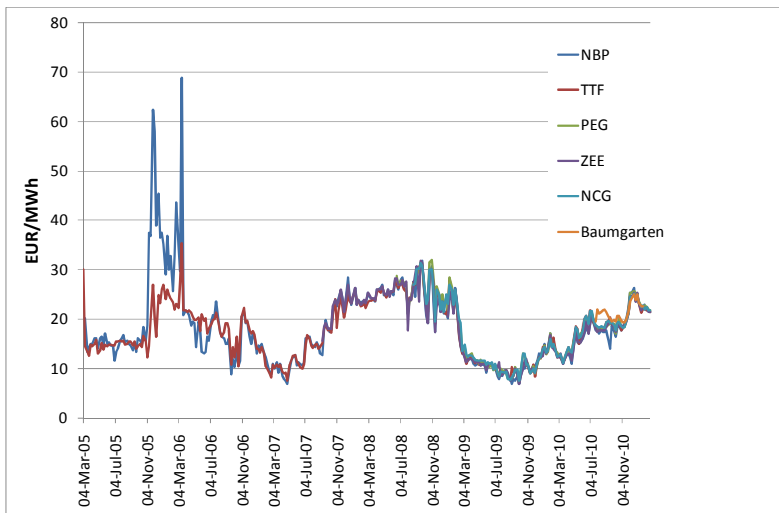
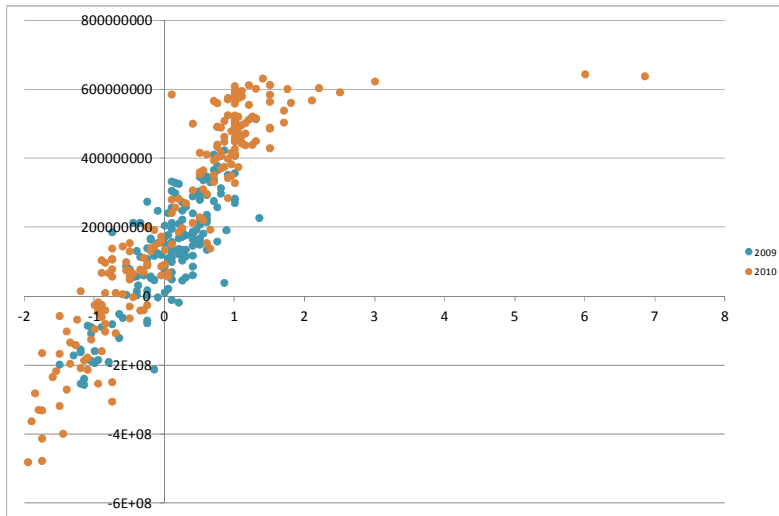
Source: Poten Partners database

- Asian demand is soaring, wiping out the LNG glut
- Non contracted LNG (from Qatar) is dwindling
- Aggravated by Fukushima
- Qatar now 100% of UK LNG
- Will marginal m3 be back to oil-indexed continental gas?

“LNG supplies to the UK are likely to fall as Qatari production satisfies new contracts in 2013 with relatively little uncontracted Atlantic Basin volume taking its place.”

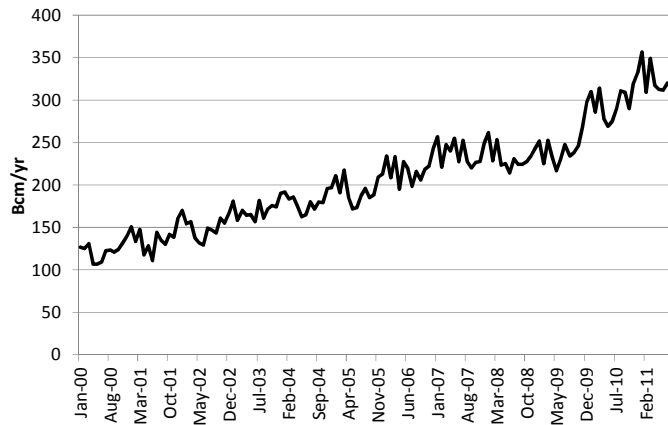
-- Investment bank, January 2012

Globalisation of European gas

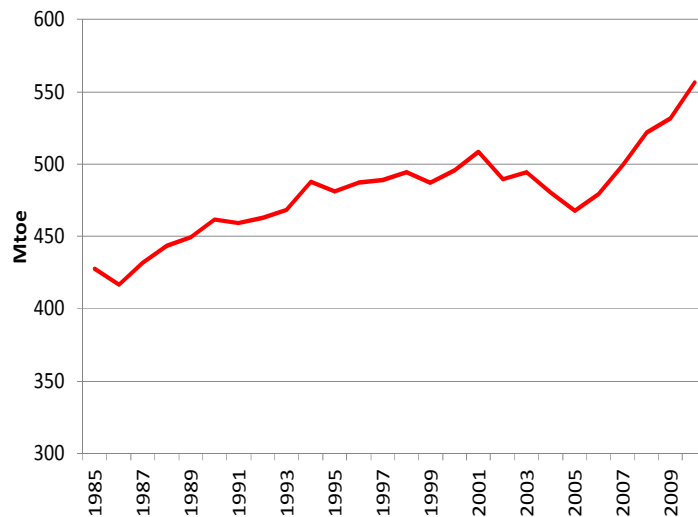


- Oil-indexation vanishing
- North-West Europe: one big, increasingly liquid, increasingly spot-priced, gas market
- Efficient arbitrages between NBP and NWE hubs
- Investment in NWE (Gate; Dunkirk; storage) made with NWE market in mind – *including NBP*
- Overcapacity and premium to flexibility -- ‘option to serve’ and arbitrage
- This market will attract LNG, at the global spot LNG price

Global markets (2/2)



Source: Poten Partners database



Source: BP Statistical Review (2011)

- Massive expansion of global gas production & trade
- Huge diversification of LNG importers
- Contracts and flexibility
- Producers want the option to serve the NWE market
- **NBP should be driven towards Asian spot prices**
- Shale gas boom -- 16.5mtpa of US export contracted
- Beginning of the re-globalisation of gas?
- **Towards a global spot price reference for LNG transactions**

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GB Policy

- Ofgem SCR: Contradiction?
 - Cash-out reform – *Let the price go up*
 - Storage obligation – *Let's avoid price spikes*
 - *(Same contradiction in electricity)*
- Prices, what prices?
 - Value of lost load?
 - Or politically acceptable market-clearing price?
- Another study?
 - Concentrate on changing market behaviour (global & European)
 - Will not give ministers the answer they want
- **Ministers should take a political decision**
 - Democracy produces legitimacy – *not necessarily efficiency*