UNIVERSITY OF CAMBRIDGE | Energy Policy Research Group

Priorities for the Forthcoming Negotiations

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Implications of Brexit for UK and EU Energy and Climate Policy

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I-SEM

- The island of Ireland has a Single Electricity Market (SEM) that is under reform to adapt to the EU TEM
- The SEM is connected to GB North and South
  - Currently inefficient, large gains from coupling
- I-SEM is due before Brexit is complete
  - And is motivated by the gains from better integration
- The I-SEM is only linked to Continent via GB
  - Almost the gains from I-SEM should be realisable through agreements with GB & NI
  - Access to EUPHEMIA seems desirable for both

Priority is to reassure implementation of I-SEM

Key issues

- We interact with the rest of EU over interconnectors
  - Use of **EUPHEMIA auction platform for coupling**
  - And gain access to data of foreign companies
- The rest is transposition of Directives, etc.
  - Most we like and often pushed for
  - **Some are ill-suited to DC-linked countries like GB**
- DG COMP: good on principles, can be political
  - Presumably can still impose fines etc. c.f. Apple

Priority is ensuring SEM works well

Market integration is valuable

Potential gains from market integration.

	ACER sample 2012			EU-28 estimate	
	€ million	NTC 2012	€'000/MWyr or MWh	€ million	Shares
Increase trade 50%					
Day-ahead coupling	€ 300	22,000	€ 13.6	€ 1010	26%
Intraday coupling		10,050	€ 2.6	€ 37	1%
Balancing	€ 575	17,550	€ 32.8	€ 1343	35%
Subtotal				€ 2390	62%
Unscheduled flows	€ 988	34,900	€ 28.3	€ 1360	35%
Curtailment	€ 19	26,075	€ 0.7	€ 130	3%
Total				€ 3880	100%

These are the gains from integrating **existing** interconnectors

Total EU electricity turnover €150 bn, EU gains € 4 bn

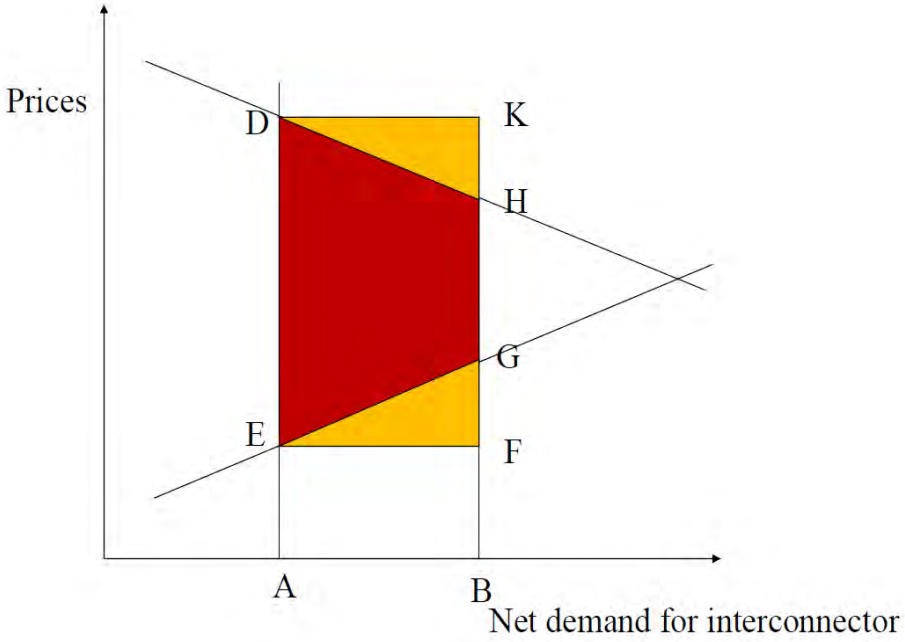
Subtotal gains about 1.6% of total turnover

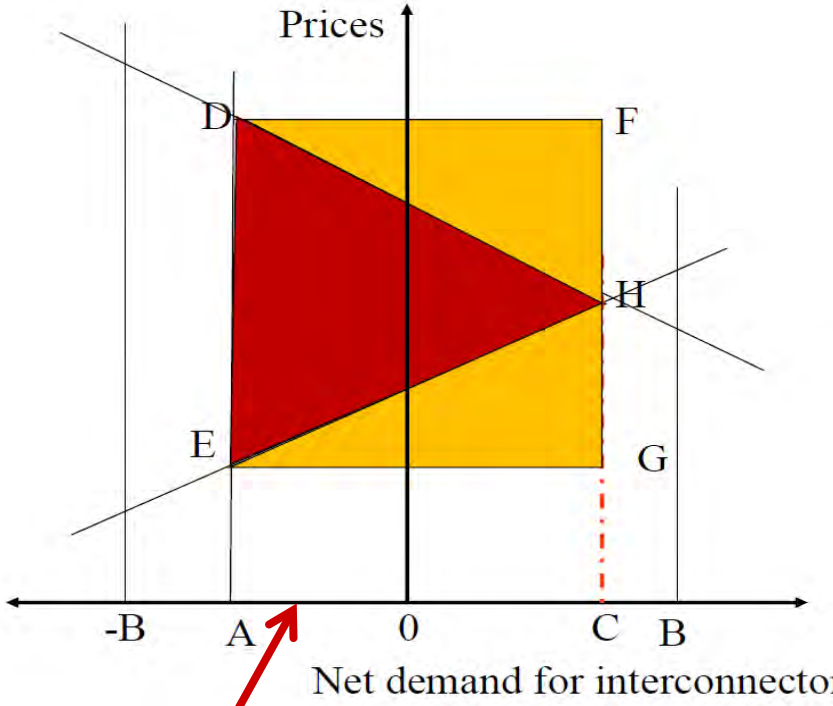
GB wholesale 300 TWh @ £33/MWh = £10 billion/yr

GB gains 1.6% = £160 m/yr. c.f. capacity auction revenue £1 bn/yr

Source: Newbery et al 2016

Benefits of coupling





With flows against price difference

0B is transfer capacity, 0A is pre-coupling use

Red area is arbitrage gain from coupling

Yellow area is overstatement if prices assumed not to change

Market integration is valuable

Table 8.2 IFA trade data 2011	*Losses = 2%*	€ m.
Potential value exports FR=>UK	€ 77.8	82%
Potential value exports UK=>FR	€ 17.4	18%
Potential total value trade	€ 95.2	100%
Loss underexport FR=>UK	€ 10.3	11%
Loss underexport UK=>FR	€ 8.5	9%
FAPD FR=>UK	€ 2.4	3%
FAPD UK=>FR	€ 1.2	1%
Total loss	€ 22.4	24%

FAPD = flow against price difference

Adjust for price change **reduces this by €2.5 m or 10%**

Source: Newbery et al 2013, 2016

Interconnectors

- Market coupling via EUPHEMIA
  - Achieved day-ahead, intra-day(?), balancing delayed
  - **Can FR, BE, NL and NO submit net trades for us?**
- For GB major gains from: coupling DA, shared balancing and reserves
  - We count interconnector contribution in capacity auction
- But DC interconnectors are bilateral & controllable
  - We can and should **negotiate bilateral deals**
  - We still need to clarify treatment in joint stress periods
- Key to efficient trade is efficient GB pricing of IC trade – as in the SEM

Conclusion

- GB is connected to EU by controllable DC links
- These benefit from bilateral arrangements
  - For reserves, stress period management, balancing
- Pre-TEM we arranged IFA bilaterally
- We could do so again
- Need to ensure efficient border pricing
  - As in the Single Electricity Market of the island of Ireland

Priority is to reassure implementation of I-SEM