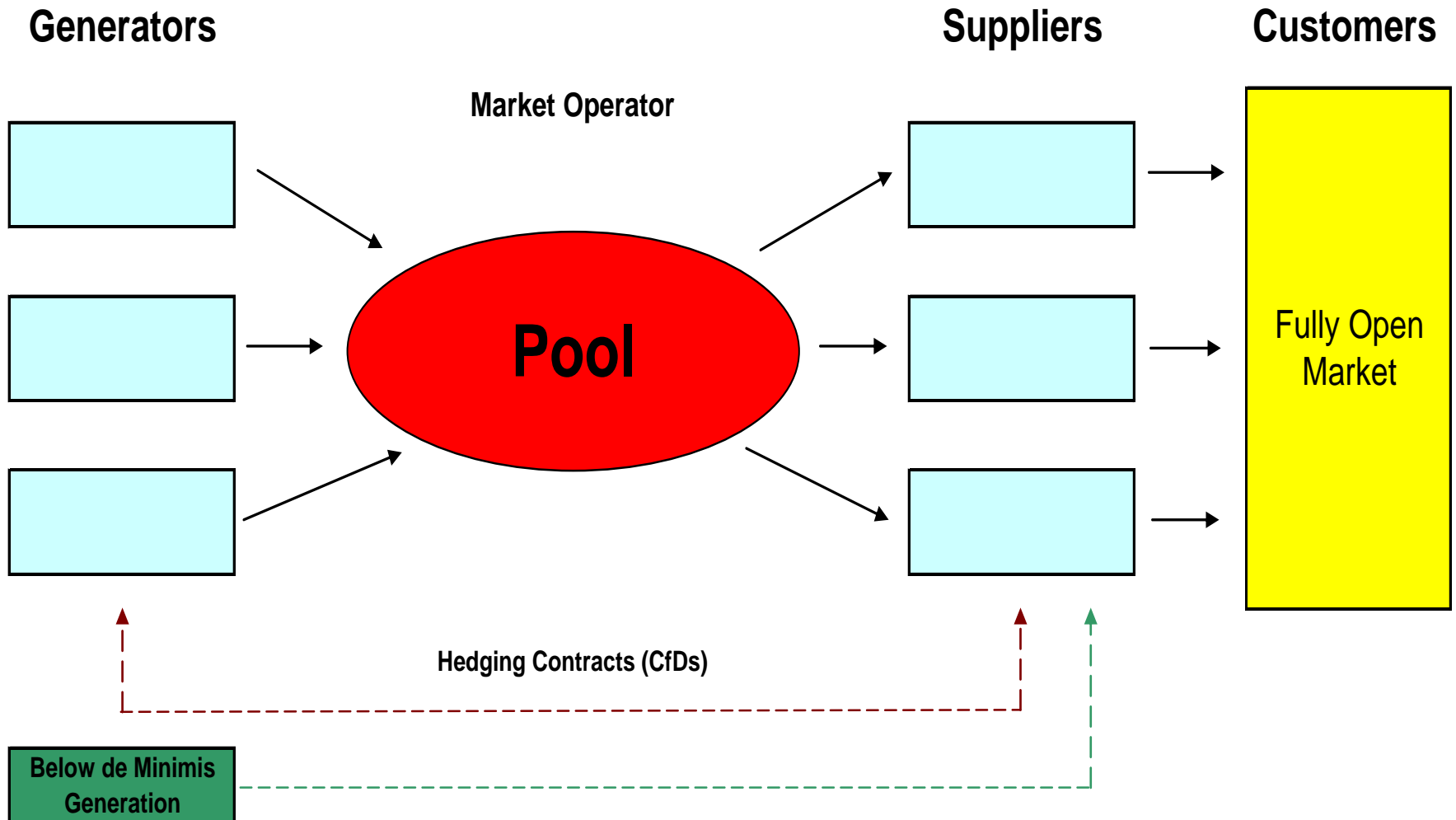




Hedging Commodity Exposures

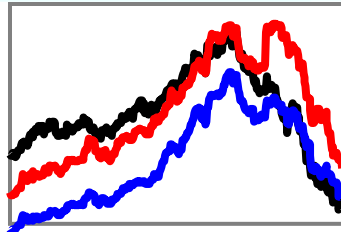
Joe Collins, Bord Gáis Energy

Recap: Single Electricity Market



What influences wholesale prices?

Fuel Prices



Renewable Generation



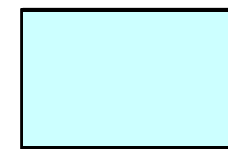
UK Prices



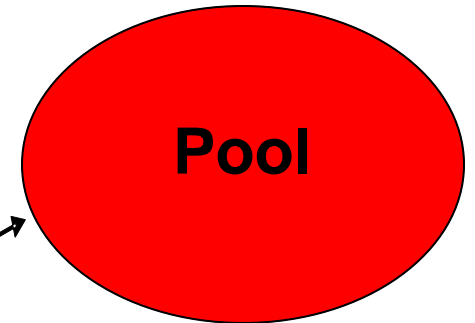
Plant Outages & Technical Data



Generators



Market Model



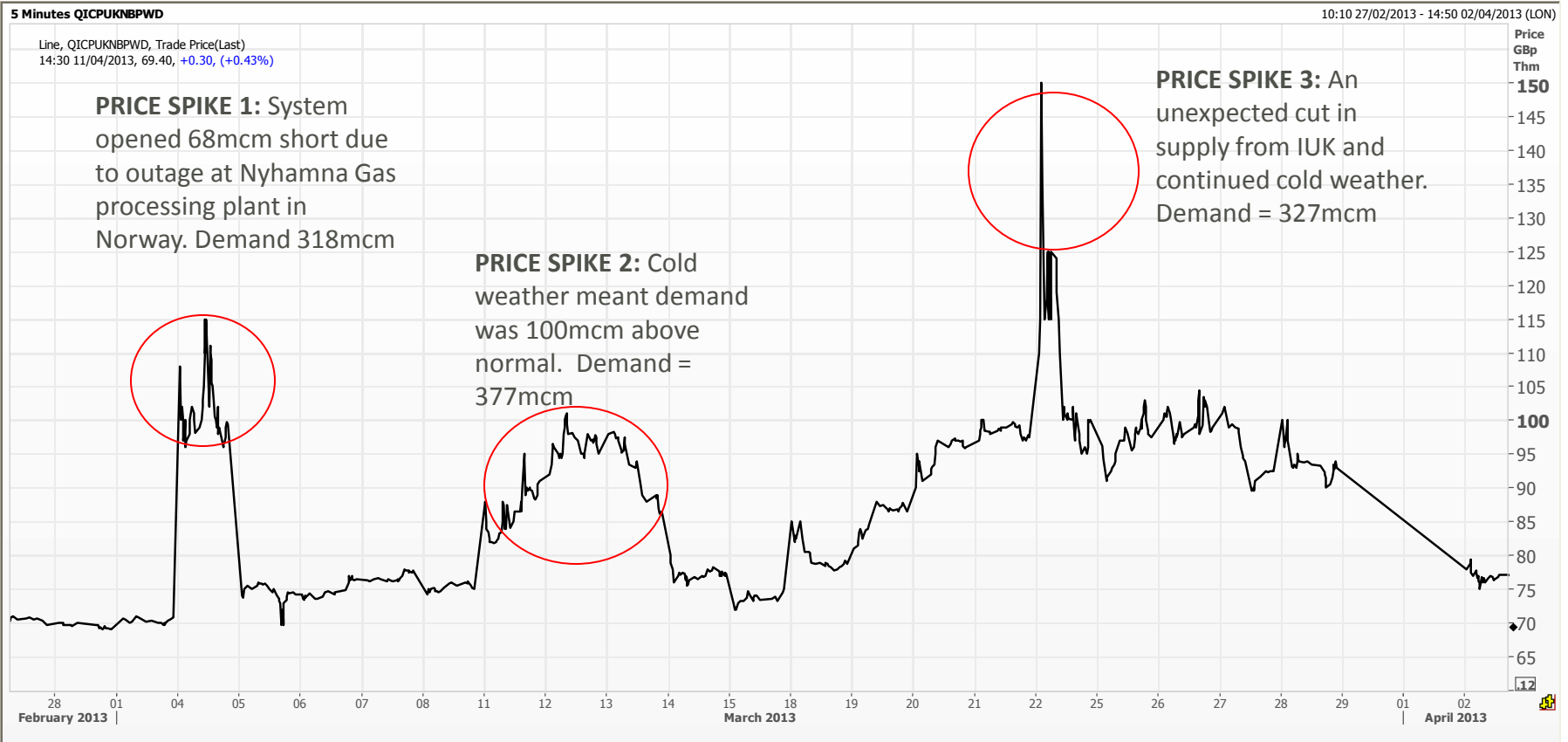
System Demand

Electricity Forward Curves: Fuel Prices



- Regulatory Authorities oversee the Directed Contract auction rounds; these auction rounds give suppliers an opportunity to financially hedge some of their commodity exposures
- Price of the financial hedges is determined by a regression formula, for example the Q3 13 Base load Electricity Price is
$$7.9 + 63.8 * \text{Gas Price} + 0.033 * \text{Coal Price} + 0.41 * \text{CO}_2$$
- Gas Component $\approx 80\%$, Coal $\approx 4\%$, $\text{CO}_2 \approx 3\%$, Constant $\approx 13\%$
- Given the significant influence of gas on the wholesale electricity price (realised and forward), it is critical that BGE has stress testing tools to gauge the impact of supply disruptions/cold weather etc on wholesale gas prices

NBP Within-Day Gas Price: March 2013



Things to Consider



- European Target Model

- What will the structure of the SEM be in 2016?
- How will the target model impact wholesale electricity prices? How do we look at this from a modelling perspective?

- Wind

- What is the current impact of wind on wholesale electricity prices?
- What will the impact of wind be on wholesale prices in 2016 with additional build outs and a new market? How do we quantify/price uncertainty around wind production volumes in this new structure?
- REFIT Schemes -> application of real/exotic option pricing models to quantify premium?



Questions?