

Project discovery seminar

12 November, Methodist Central Hall

Prashant Vaze

Stress tests represent the type of risks facing the energy system in UK?

We should worry less about the lights going out and more about the costs to the economy of running our energy system on the edge

Dieter Helm, Times Online

Interdependence between scenarios and the stress tests, as a result of the shrinkage in the capacity margin.

Structural risks to power sector – effecting supply margin

- Growth in the demand for power
 - Plug-in hybrid vehicles – substantial demand during the rush hour “drive time”
 - Heat pumps – substantial January & February demand for power
 - “Green” scenarios assume rise in demand of 16%; however peak demand assumed constant
- 40TWh nuclear fails to come on stream by 2020

Possible physical stresses

- Independence of gas supply risks
- Climate change impacts
 - Reduction in summer precipitation results in EA restricting operation of power stations due to overheating of rivers
- Design fault in nuclear causing all reactors of same design to be switched off
- Demand side impacts
 - Summer air conditioning usage

Pricing and wholesale market issues

- Low wholesale prices & low EU-ETS price in the Green and Slow growth transition fail to incentivise new build.
- Nuclear (90% price rise since DTI analysis), CCS (€60-90/tCO₂) and off-shore wind fail to be built as a result of low wholesale prices.
- Market failing to reward night-time generation for non-load following generation