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# Security of Supply

## The outlook for electricity

**Ofgem**

27/03/14

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# Overview

- Electricity margins are tightening and risks to security of supply increasing

- Risks of controlled disconnections remain low

In this presentation:

1. Why are risks increasing?
2. What does the Capacity Assessment tell us?

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# The Investment Challenge

- In 2010 Project Discovery highlighted the exceptional challenges facing the GB electricity markets
    1. Unprecedented investment against backdrop of uncertainty
    2. Short term price signals not reflective of scarcity
    3. Increasing costs of energy to consumers
- Competing objectives – security of supply, decarbonisation and affordability
- Our 2012 Electricity Capacity Assessment confirmed this outlook

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# Supply Side

- Environmental legislation forcing polluting plant to adapt to strict emission levels or shut down
  - Large combustion plant directive (by 2016)
  - Industrial emissions directive (by 2023)
- Environmental targets
- Low investment in new plant exacerbated by financial crisis, lower demand and reduced profits of plants
- Policy uncertainty around EMR
- Economics of coal/gas accelerated closures of LCPD opted-out plant and led to mothballing of gas plant

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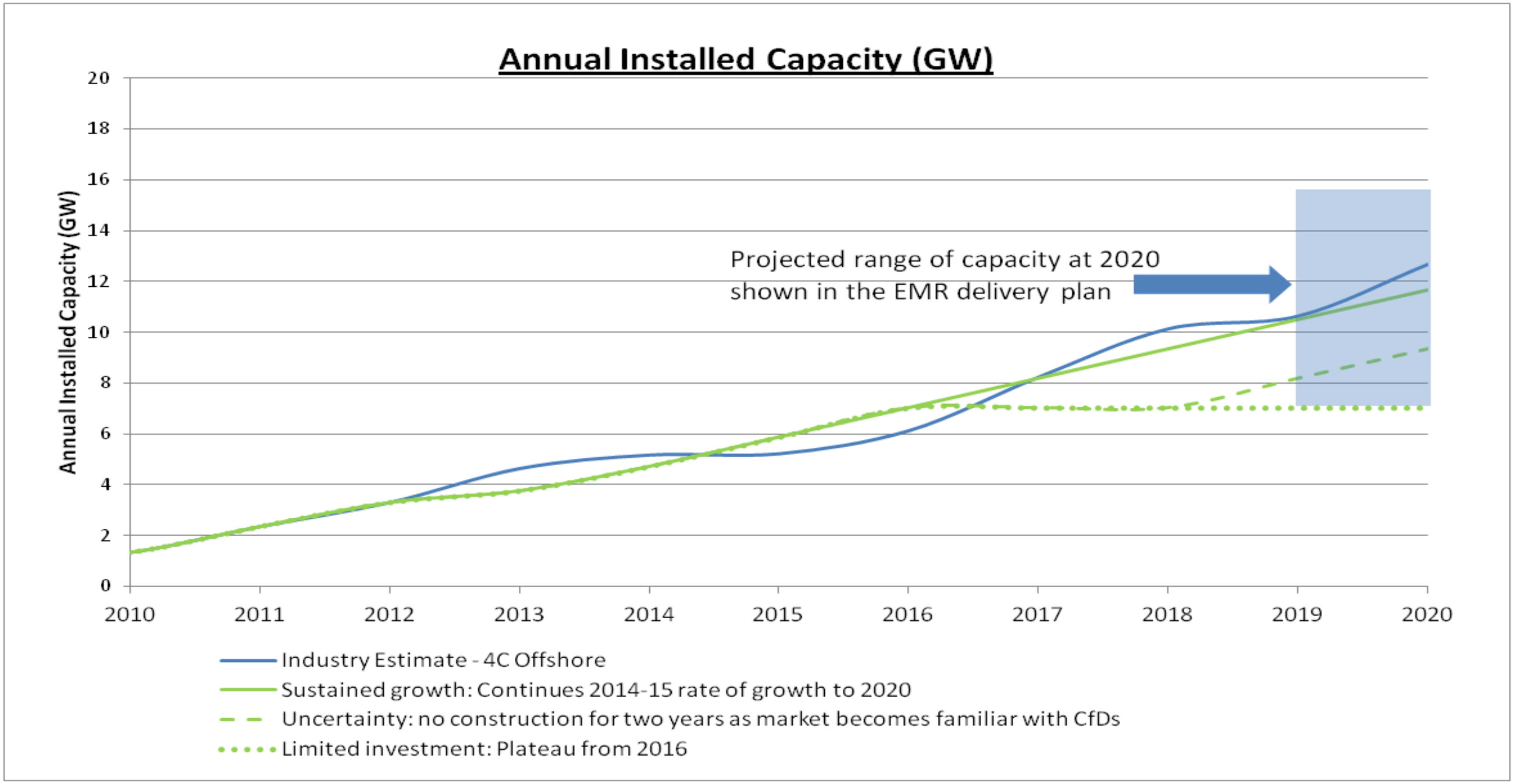
# Offshore wind evolution




**Source: Ofgem, DECC, 4C Offshore**

- Wind is growing, but will this be enough to replace conventional generation?
- Progress on new offshore wind on the low range
    - — Technical issues remain and concerns over supply chain

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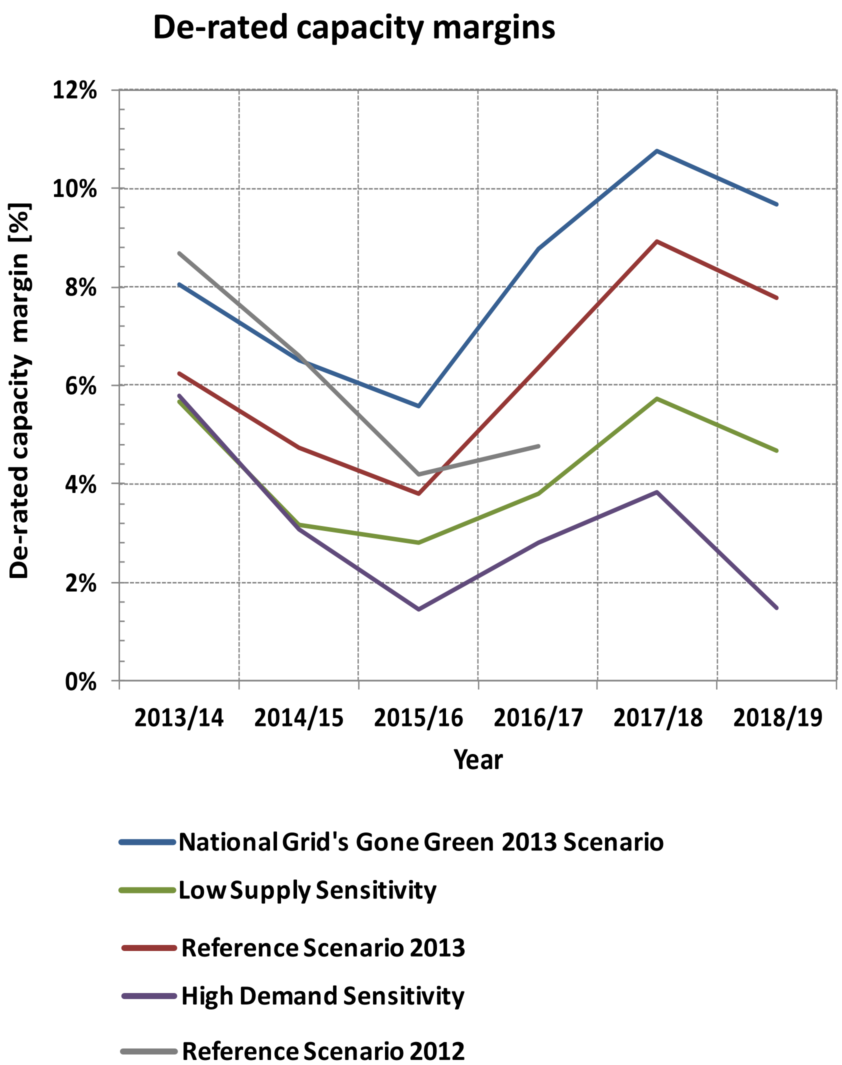
# Capacity Assessment 2013 - security of supply Outlook

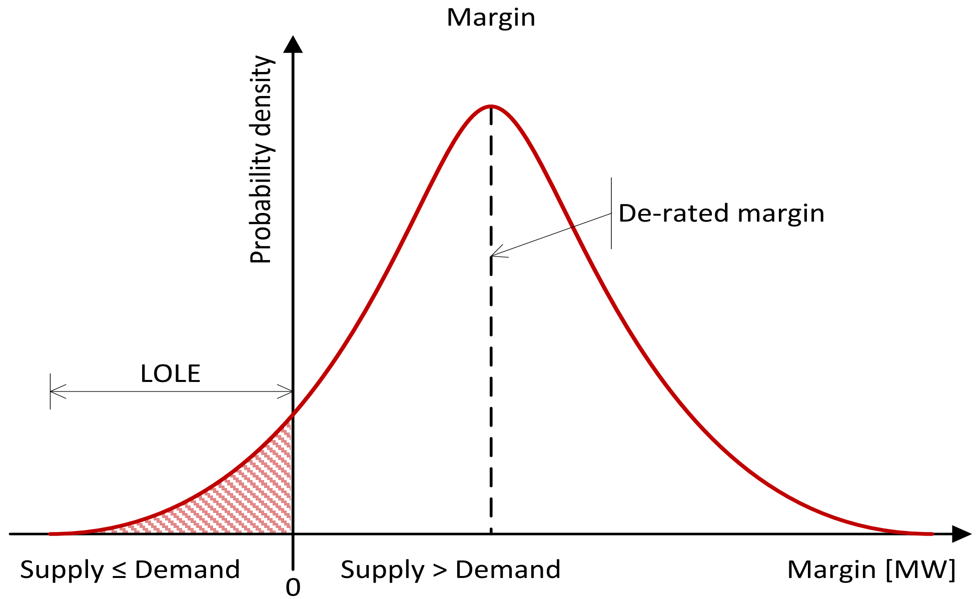


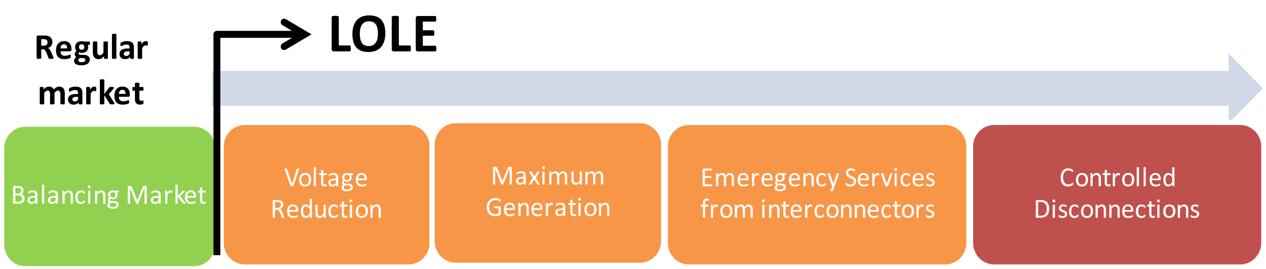

Source: Ofgem

- Risks to electricity security of supply increasing faster than previously expected
  - Deterioration of the supply side: closures, mothballing and limited investment
- Risks potentially decreasing in the second half of the decade
  - Demand reductions: uncertain
  - Some investment: mostly renewable
- Uncertainty:
  - Difficult to form a best view: Reference Scenario with sensitivities
  - Asymmetry of risk: important to evaluate downside risks

# Loss of Load Expectation

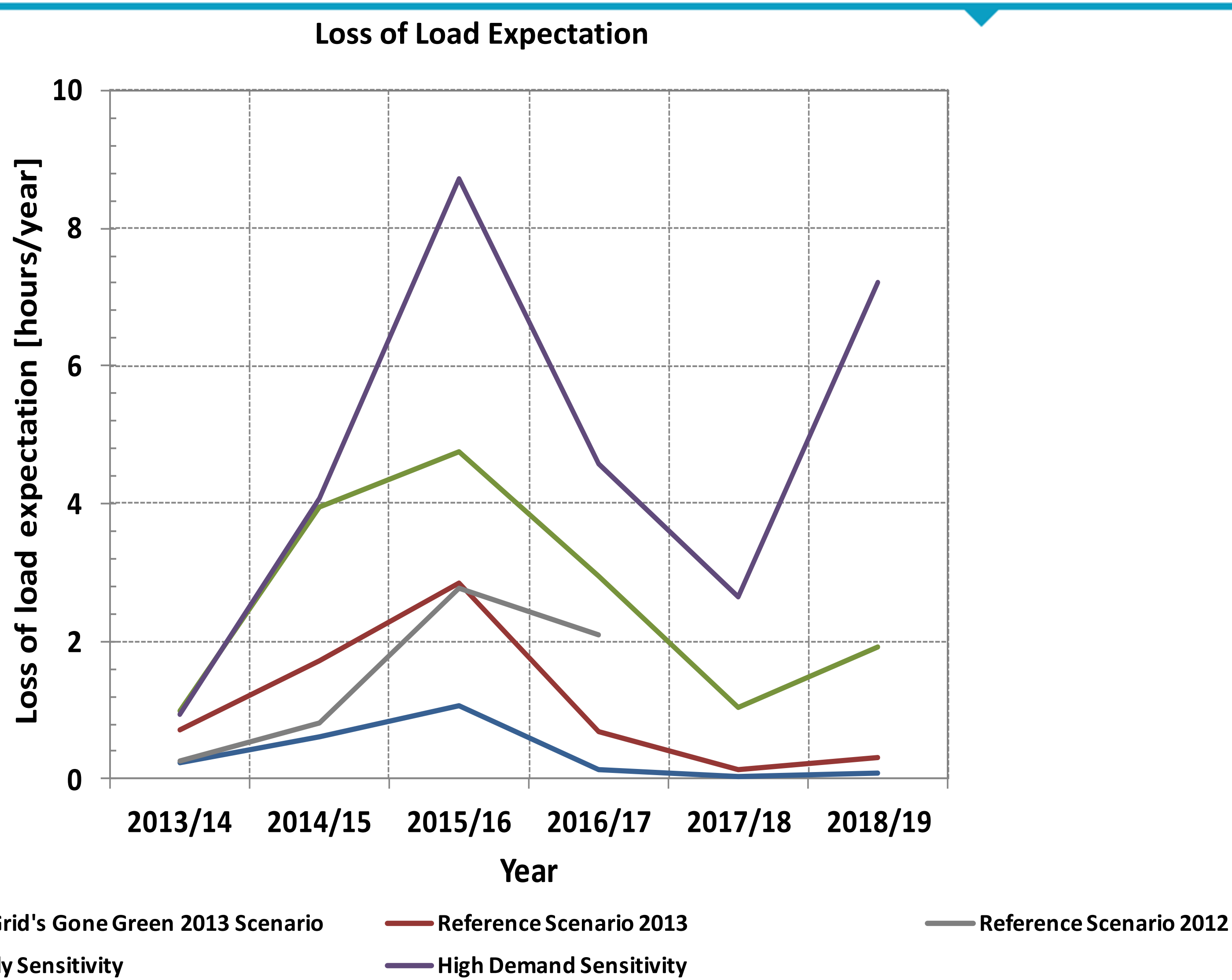
- The expected number of hours per year when supply is lower than demand **under normal operation of the system**




*LOLE does not mean customer disconnections*

# Capacity Assessment 2013 - LOLE




Source: Ofgem

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# Sources of uncertainty

- Short-term sensitivity to assumptions:
  - **Demand**: economic growth, energy efficiency
  - **Supply**: closures, new investment, plant availability
  - **Interconnectors**: policy developments

- Developments since publication of  CA2013:
  - **Policy**: new balancing services, Capacity Market implementation
  - **Demand**: growth forecasts
  - **Supply**: de-mothballing, closures

# Policy Solutions

- NG's mid decade balancing products
  - **Demand Side Balancing Reserve:** large consumers paid to reduce demand when needed
  - **Supplemental Balancing Reserve:** contracts with plant for use in emergencies
- Electricity Balancing Significant Code Review
  - Make cash-out price reflective of the costs of balancing
  - Incentivise an efficient level of security of supply
- Electricity market reform
  - Capacity Market: Ensure market can deliver security of supply

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Ofgem is the Office of Gas and Electricity Markets.

Our priority is to protect and to make a positive difference for all energy consumers. We work to promote value for money, security of supply and sustainability for present and future generations. We do this through the supervision and development of markets, regulation and the delivery of government schemes.

We work effectively with, but independently of, government, the energy industry and other stakeholders. We do so within a legal framework determined by the UK government and the European Union.

# Annex

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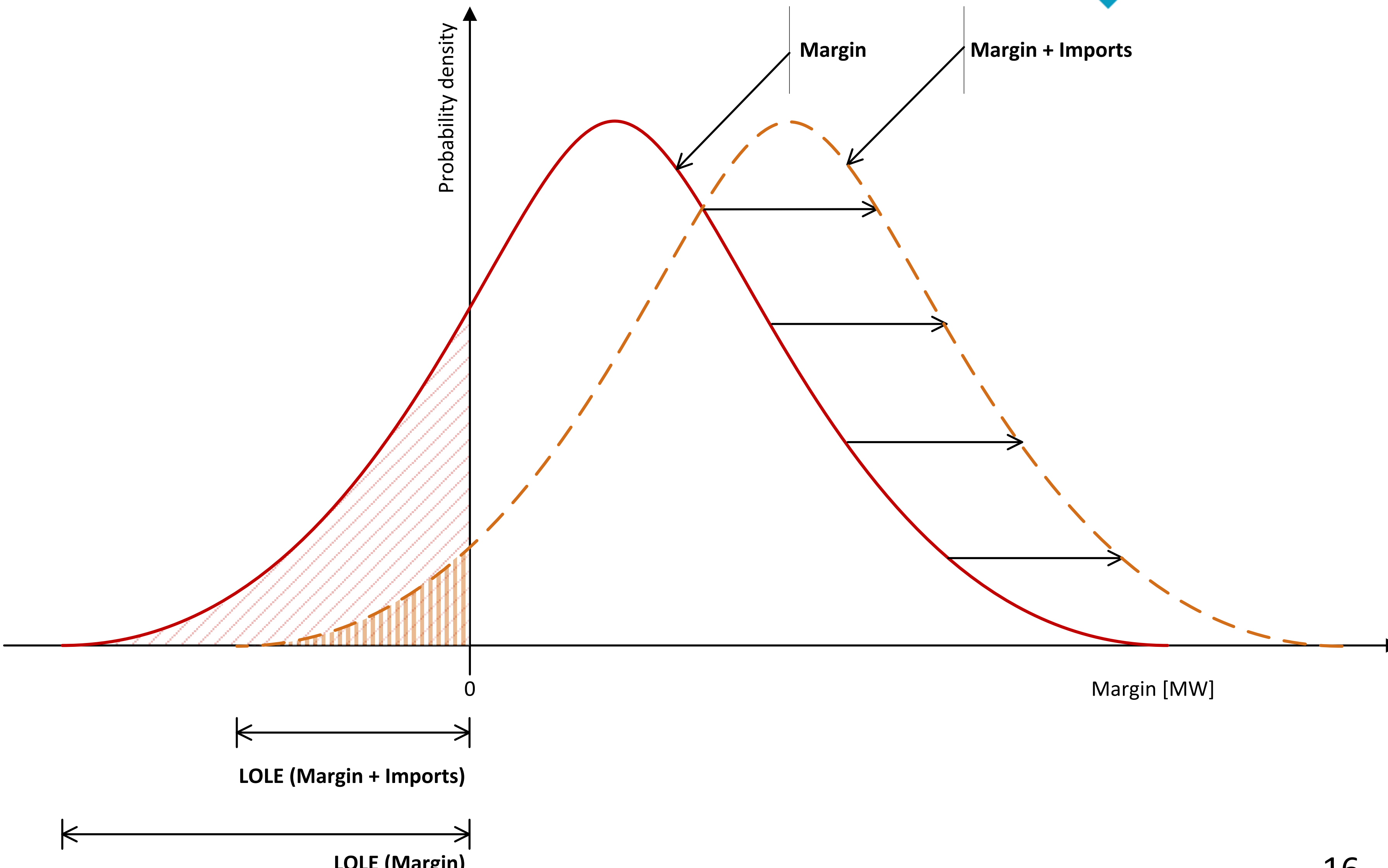
# Interconnectors



# Demand Assumptions