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for all gas and electricity customers

Project Discovery Stress Tests

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Summary of Stress Tests

Title	Description	Period over which issue persists
Re-direction of LNG supplies	Re-direction of LNG supplies away from GB market due to higher prices in other global markets	1-in-20 severe winter
Russia-Ukraine dispute	Reverse gas interconnector flows resulting from a Russia-Ukraine gas dispute	1-in-20 severe winter
Bacton outage	Outage at GB gas import facility (Bacton)	1-in-20 peak demand day
No wind output	No output from GB wind generation fleet	1-in-20 peak demand day
Electricity interconnectors fully exporting	Reverse electricity interconnector flows due to sharper price signals in European countries	1-in-20 peak demand day

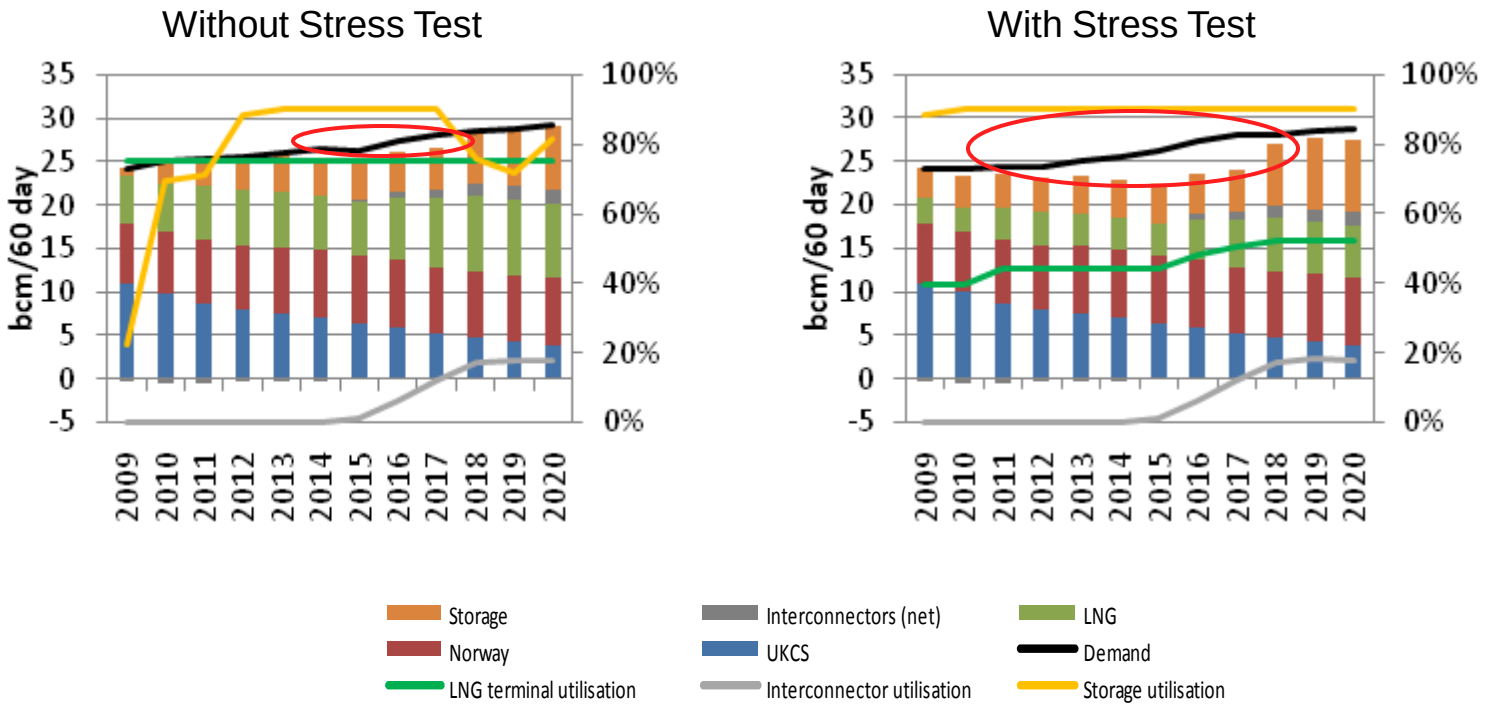
STRESS TESTS - TRAFFIC LIGHTS

Stress test	Period	Today	Green Transition	Green Stimulus	Dash for Energy	Slow Growth
Re-direction of LNG supplies	1-in-20 severe winter	🟢	🟡	🟡	🔴	🔴
Russia-Ukraine dispute	1-in-20 severe winter	🟡	🟡	🟡	🔴	🔴
Bacton outage	1-in-20 peak day	🟡	🟡	🟡	🟡	🟡
No wind output	1-in-20 peak day	🟢	🟡	🔴	🟢	🟢
Electricity interconnectors fully exporting	1-in-20 peak day	🟢	🔴	🔴	🟡	🟡

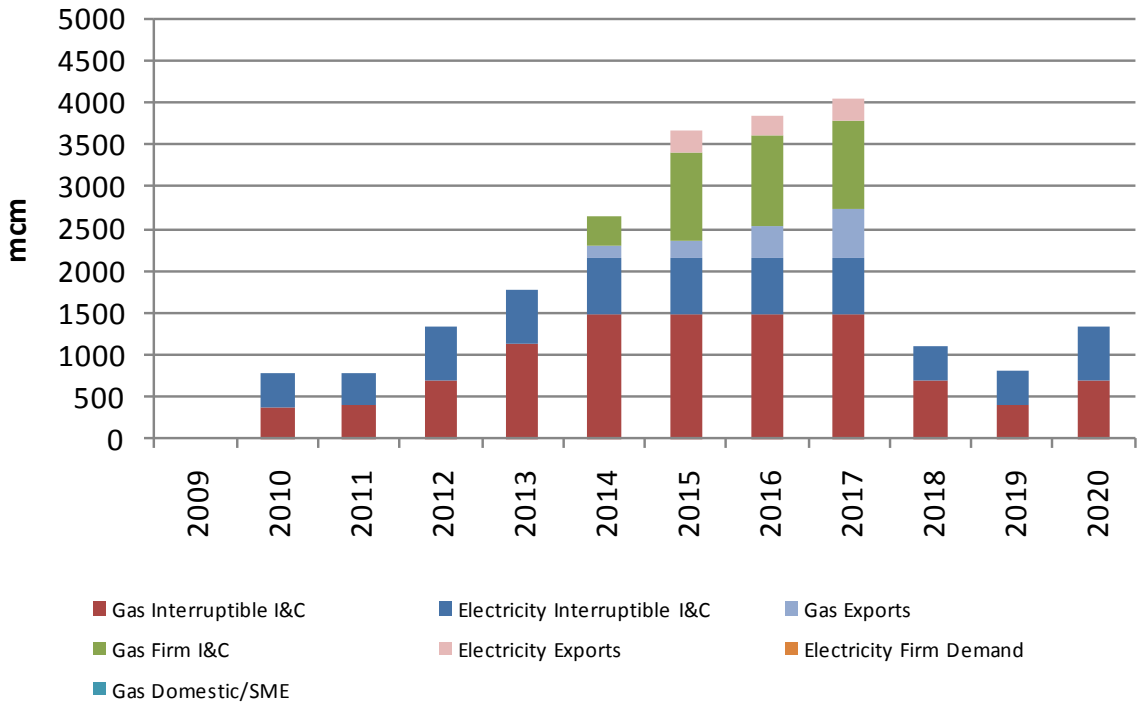
Low impact 🟢 Moderate impact 🟡 High impact 🔴

THE "REDS" CURRENTLY OUTWEIGH "GREENS"

Reduction of LNG Supplies in a 1-in-20 Winter Dash for Energy Scenario

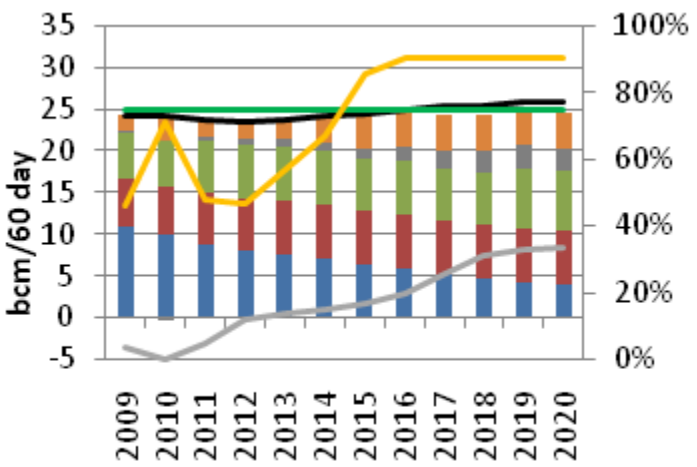


Reduction of LNG Supplies in a 1-in-20 Winter Dash for Energy Scenario: Demand Curtailment

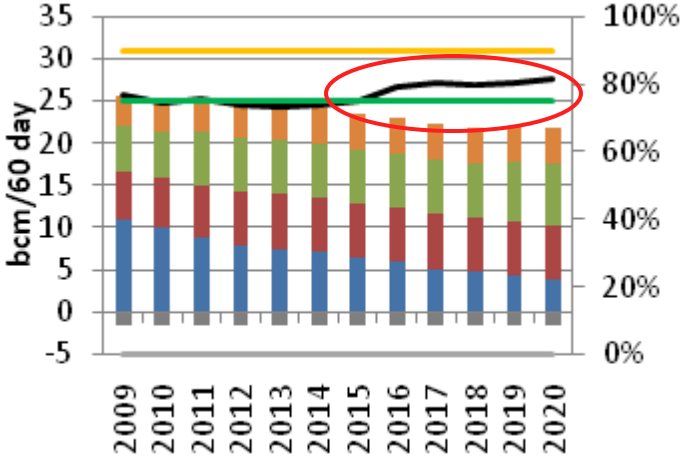


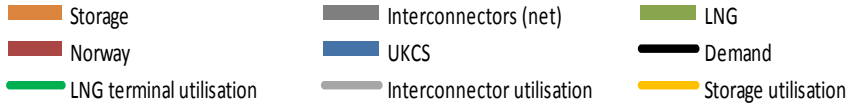
Russia-Ukraine Dispute in a 1-in-20 Winter Slow Growth Scenario

Without Stress Test



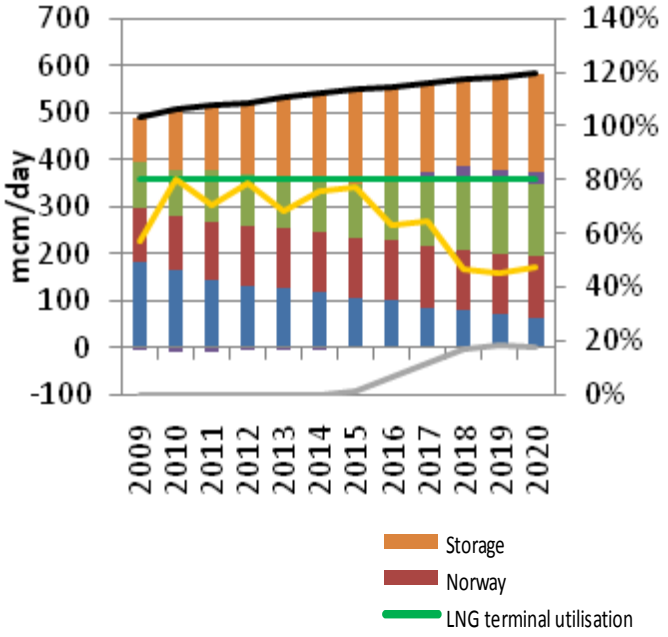
With Stress Test





Bacton Outage on Peak Demand Day Dash for Energy Scenario

Without Stress Test



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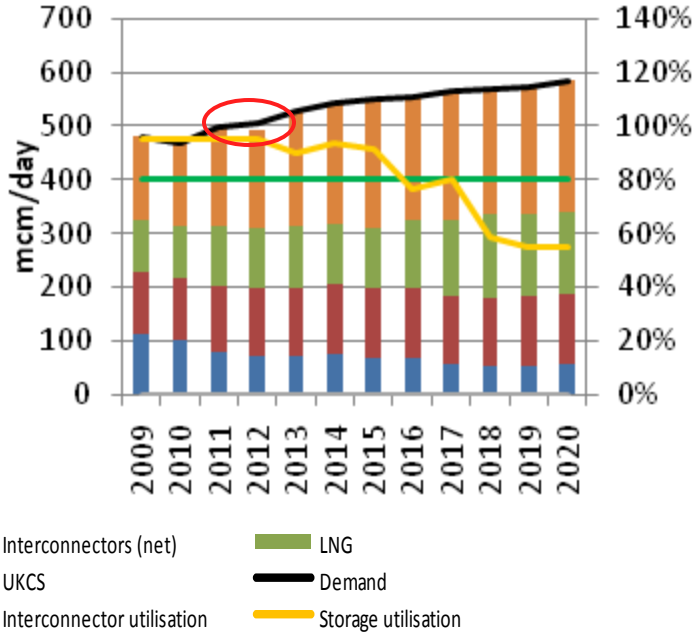
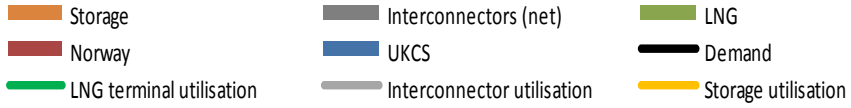
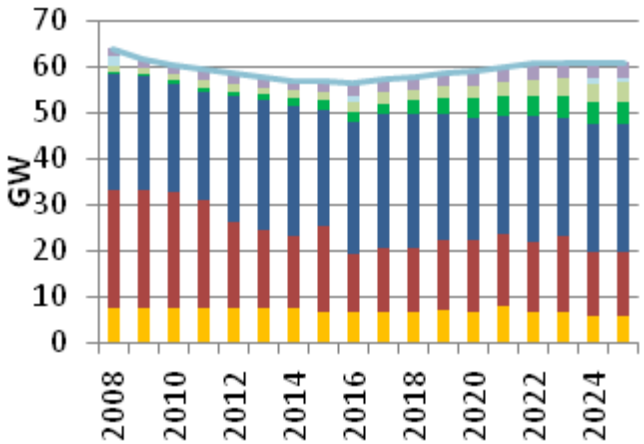


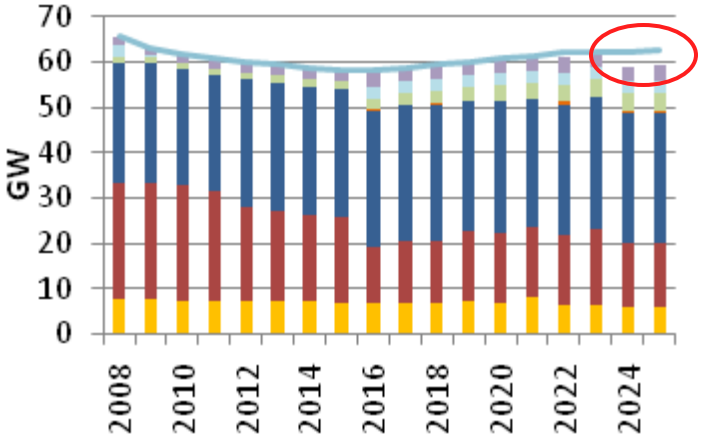


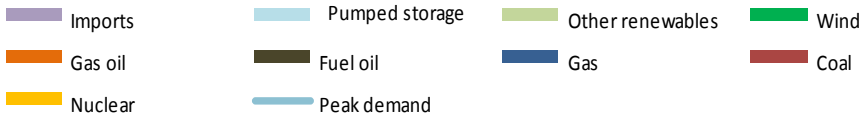
No Wind Output on Peak Demand Day
Green Stimulus Scenario

Without Stress Test

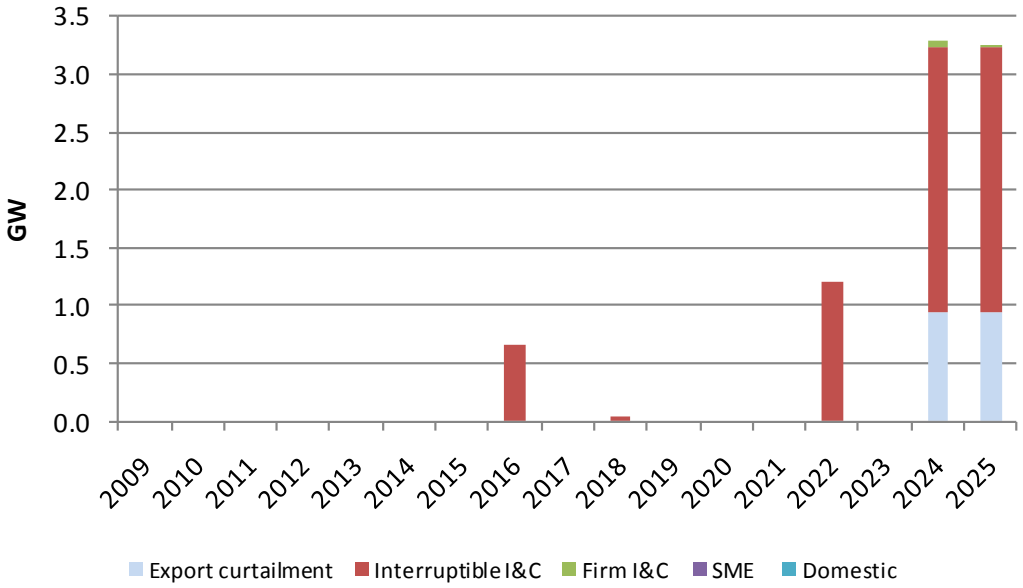


With Stress Test

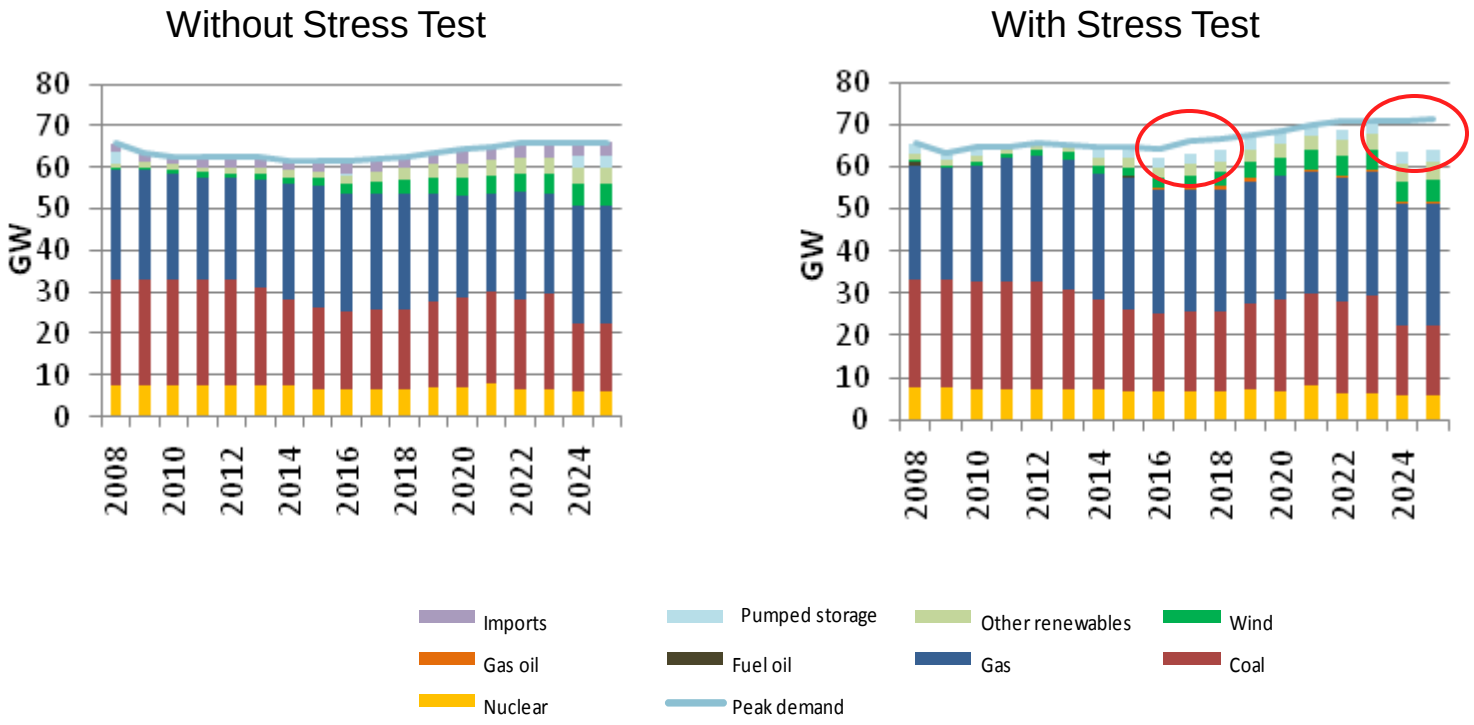




No Wind Output on Peak Demand Day
Green Stimulus Scenario: Demand Curtailment



Electricity Interconnectors Fully Exporting on Peak Demand Day - Green Transition Scenario



Insights from the scenario work

GB markets will be severely tested

- Each scenario shows that energy supplies can be maintained, but the analysis exposes real risks to supplies, potential price rises and varying carbon impacts.
- Investment needs to be **ramped** up - up to £200 billion may be required by 2020.
- Consumer bills are likely to be higher:
  - Carbon prices, fuel costs and occasional price spikes.
  - Investment requirements and environmental subsidies.
- We highlight some **specific risks** to secure and sustainable energy supplies.

- Maintaining gas supplies in a severe winter is the biggest risk we see.
- Investments need to be made in a timely fashion.
- Gas dependency and intermittency in power generation will present a challenge.
- Potential risks to meeting climate change objectives.

THERE IS A HUGE RANGE OF UNCERTAINTY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