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Industrial Emissions Directive

Radisson Blu Edwardian, Kenilworth, London

30th September 2014

teamtalk

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Safety & Wellbeing Focus Group

Autumn Safety

Introduction

Craig Dyke
Gas Network Development Manager

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Stakeholder Expectations

Objective	Met July	Met September	

• Impact of IED on industrial users
  • Flexibility in NTS – security of supply
  • Cost for IED
	
	✗
	✗
		
		✓
		✓
			Use of scorecard to present impact of options

• Impact on gas distribution networks (and gas distribution impact) – want to contribute to answer • Flex demand	 ✗	 ✓	Contact DNs before workshop to get thinking of options available
• Scale of problem, milestones – 2023 and 2015 milestones • NTS impact	 ✗ ✓	 ✓ ✓	Further detail on legislation including timing. More detail on options
• How to present this data to different audiences	✓	N/A	N/A
• Impact on gas emissions – may have bigger impact on emissions due to nature of the way compressors are operated, i.e. on and off rather than constant running – impact on sustainable policy?	✗	✓	Deeper dive on legislation and BAT
• Interactions with network flexibility • Cost effectiveness	✗ ✗	✓ ✓	Recognising flex and IED are linked, output of flex modelling included in final proposals
• Network capability	✓	✓	Deeper consideration of options against scorecard

Agenda

- Introduction
- Network Evolution Story
- System Flexibility

Coffee

- LCP compressor options

Lunch

- OCC tool introduction
- Additional elements of IED Legislation

Coffee

- IPPC potential sites
- Close

Network Evolution Story

Chris Wood
Operational Delivery Manager

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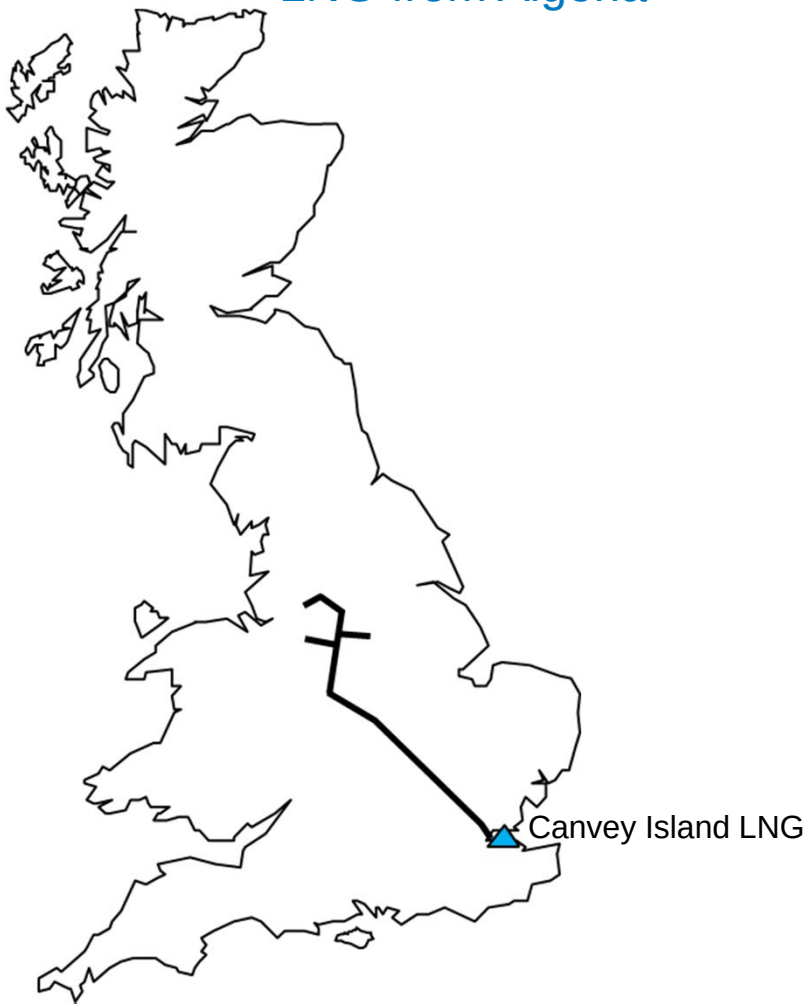
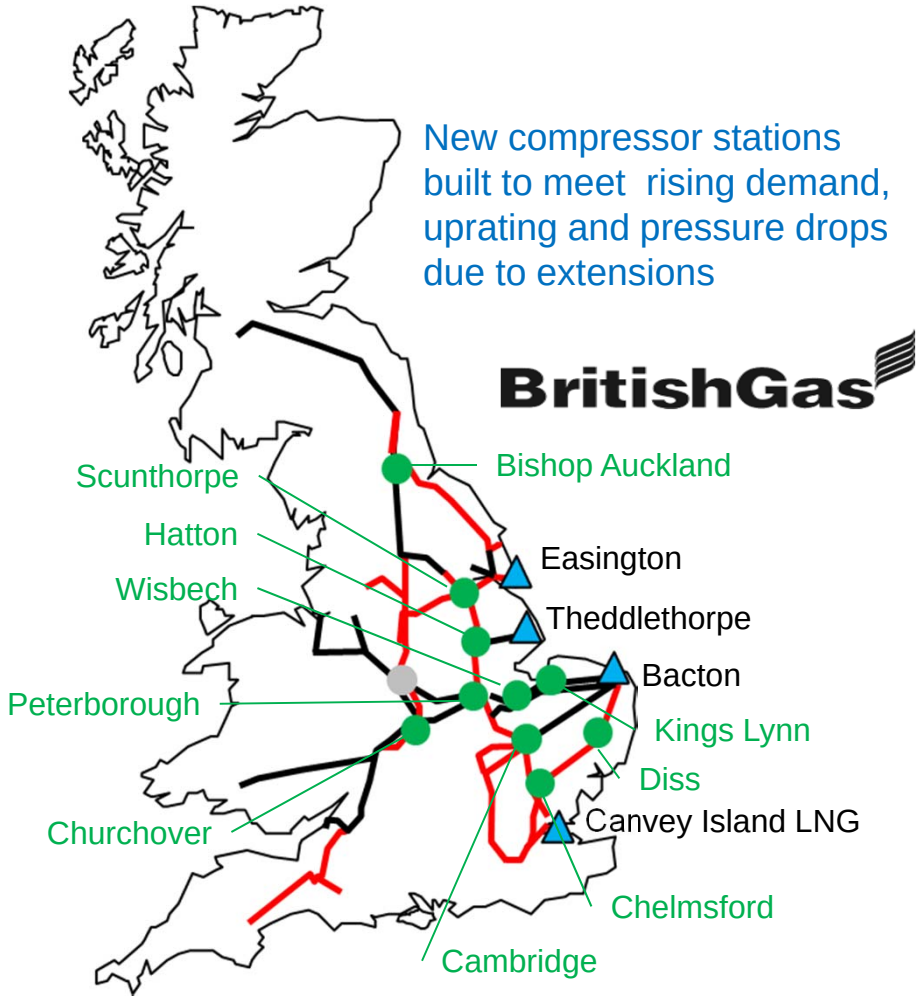
Network Evolution – First Gas, the early days

1964 – Natural gas arrives in GB
LNG from Algeria



1976 – Rapid grid expansion and uprating for new St Fergus flows

New compressor stations built to meet rising demand, uprating and pressure drops due to extensions



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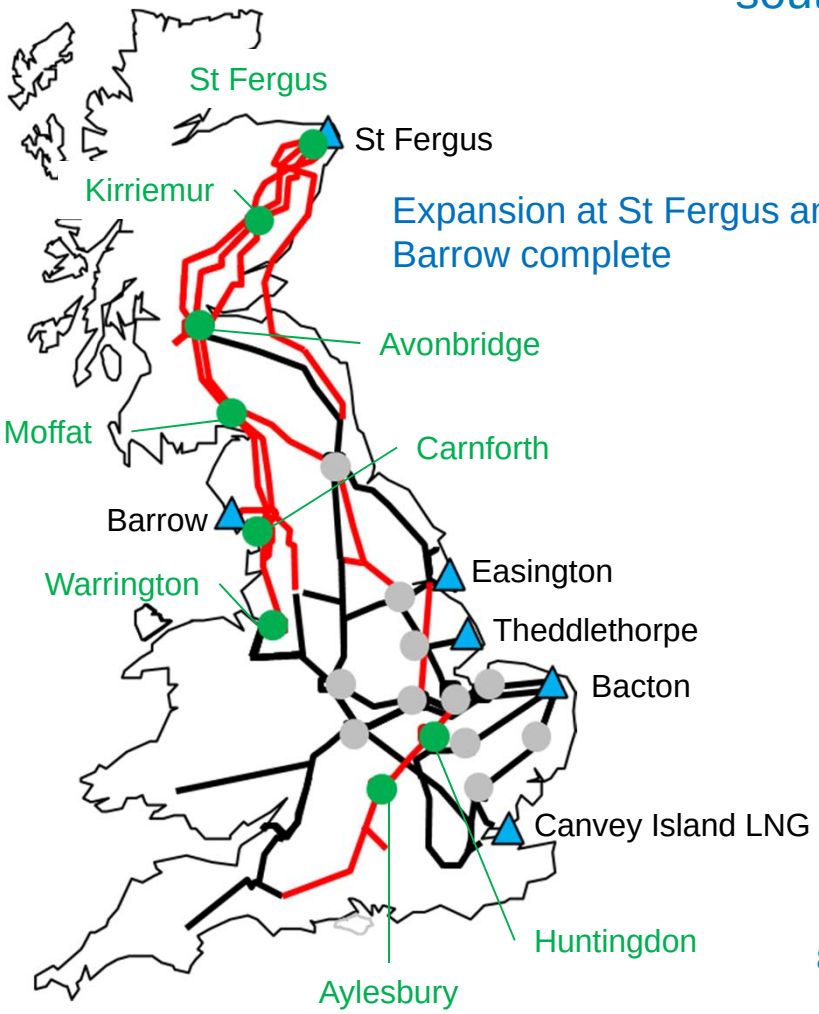
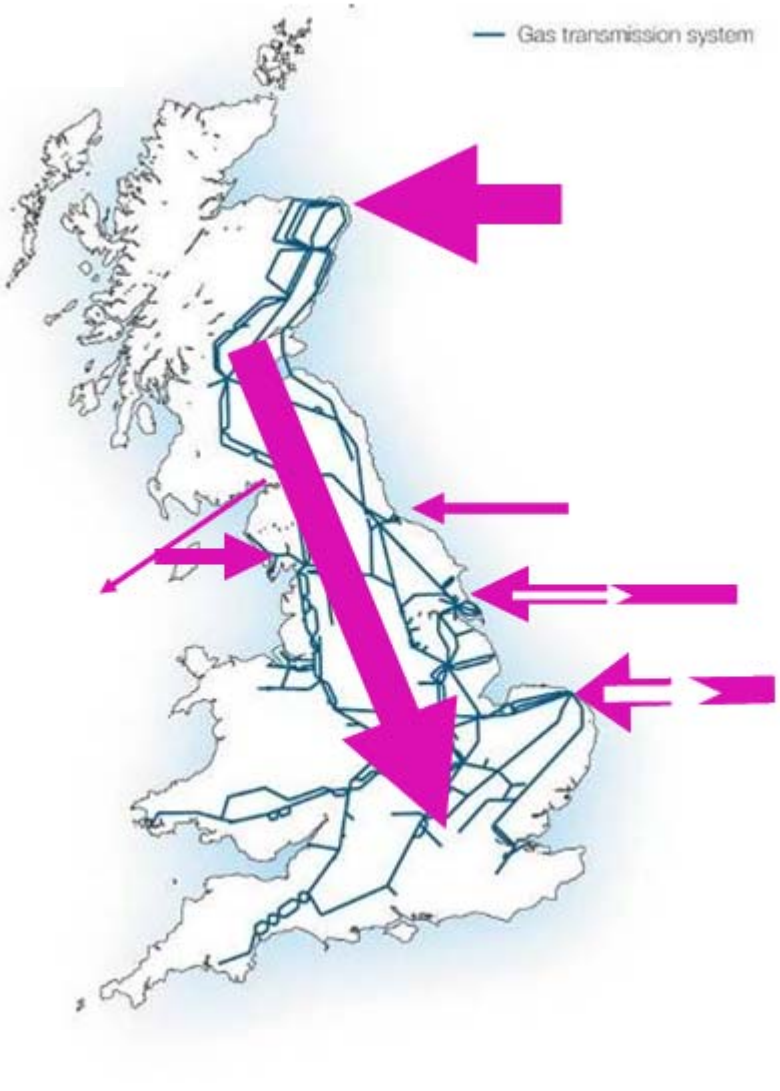
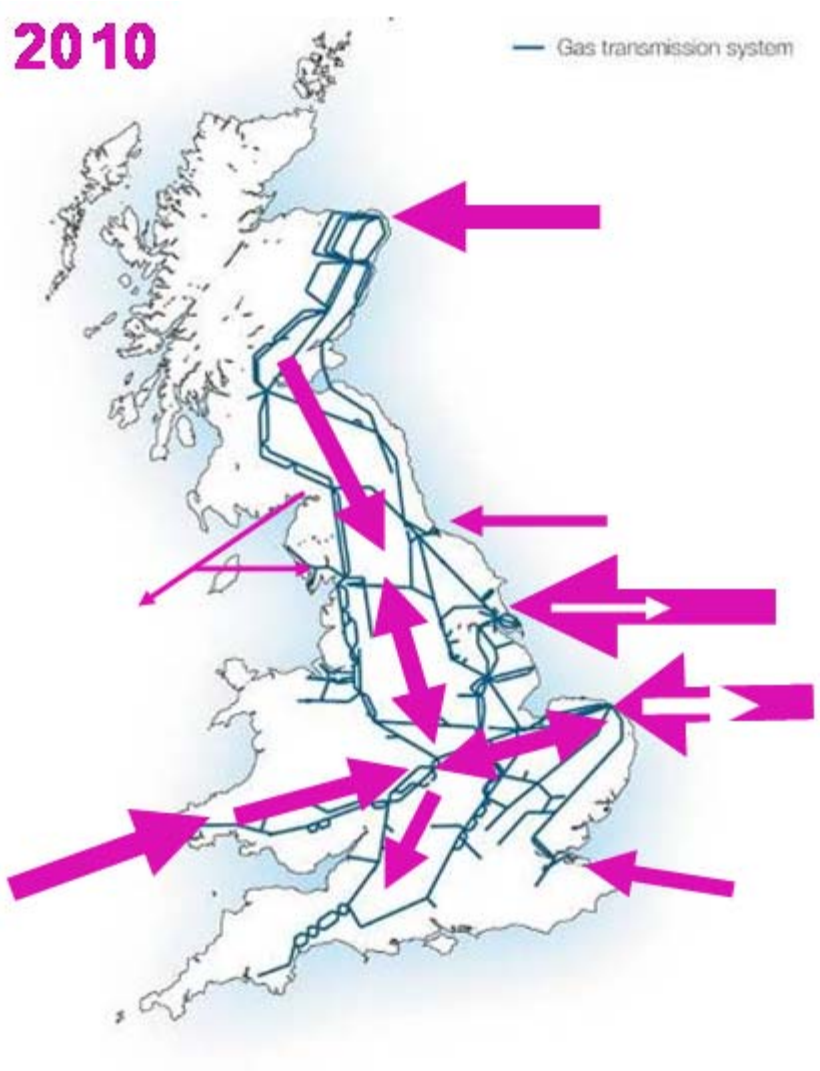
Network Evolution – Command and Control

Super Gas Highway – St Fergus to the south

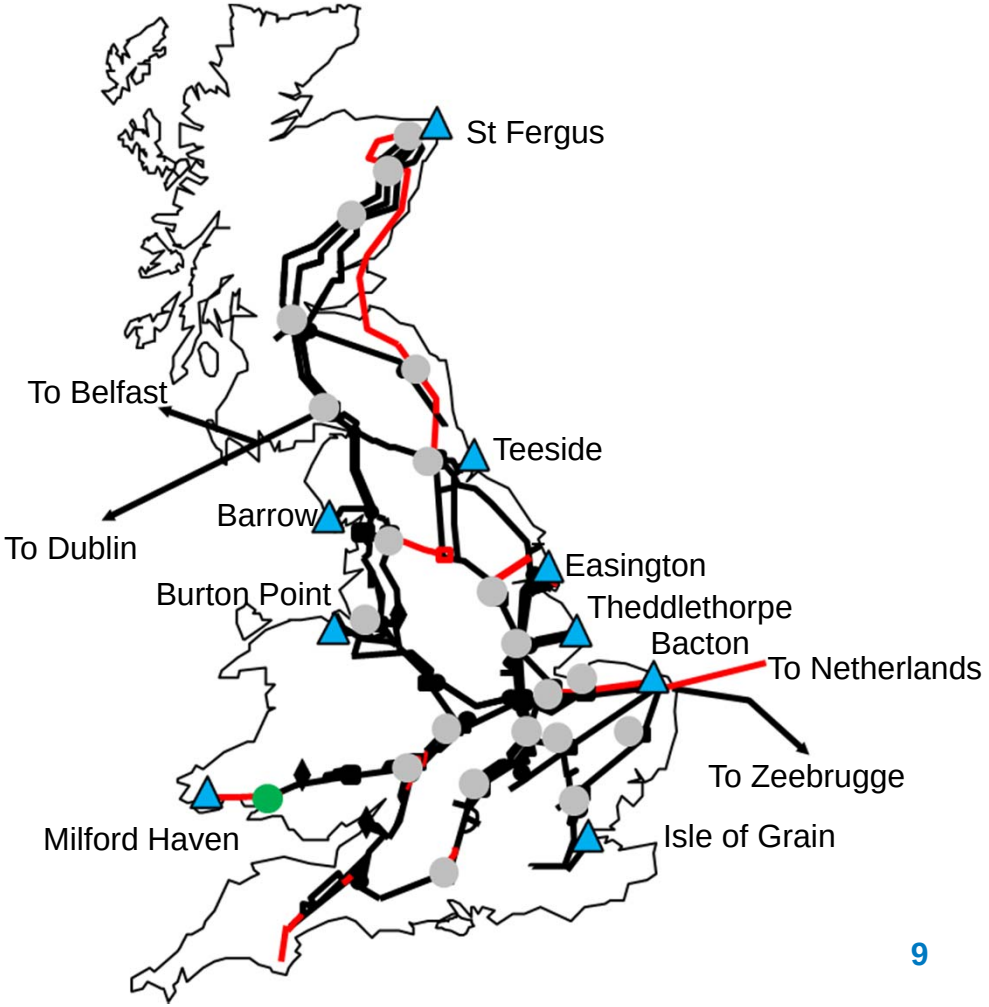




Network Evolution – Towards the modern Commercial world



2010 – New LNG importation and further interconnection to Europe



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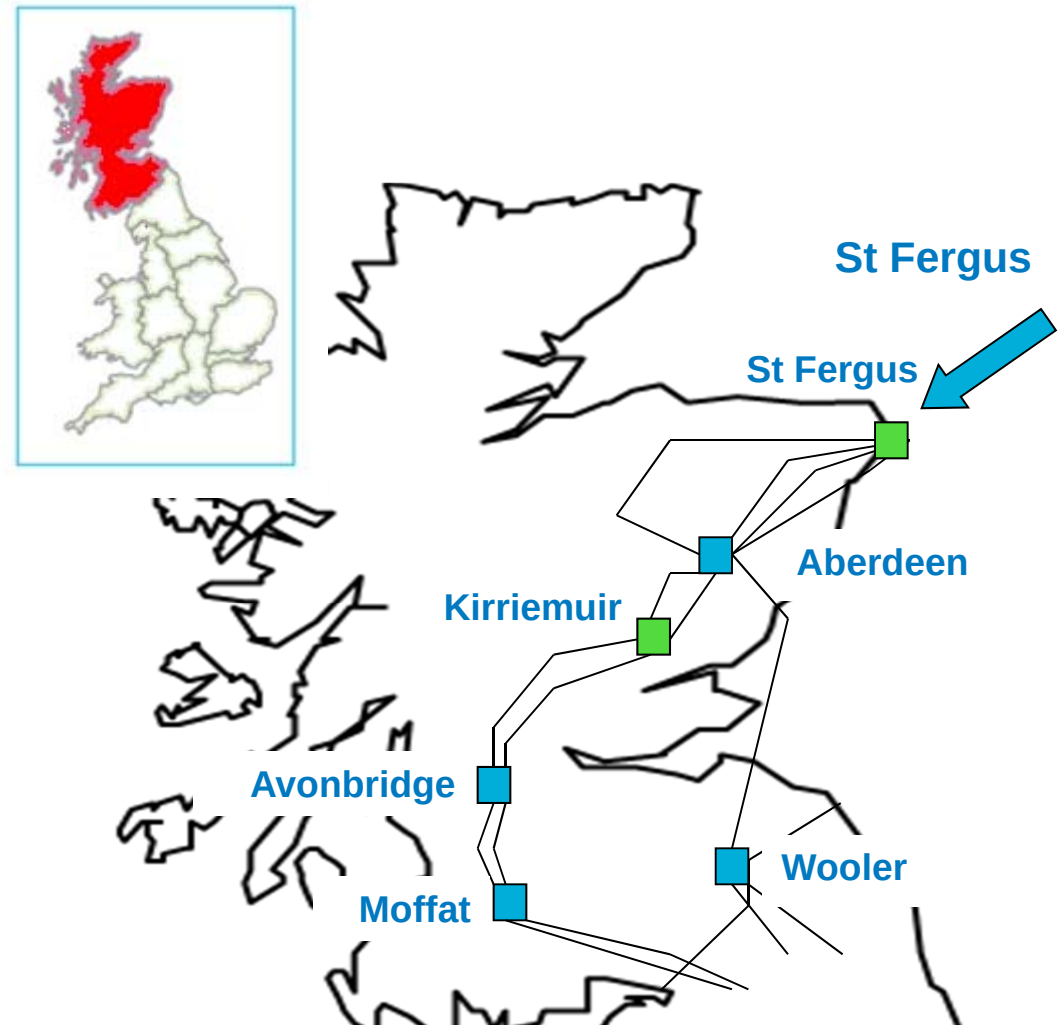
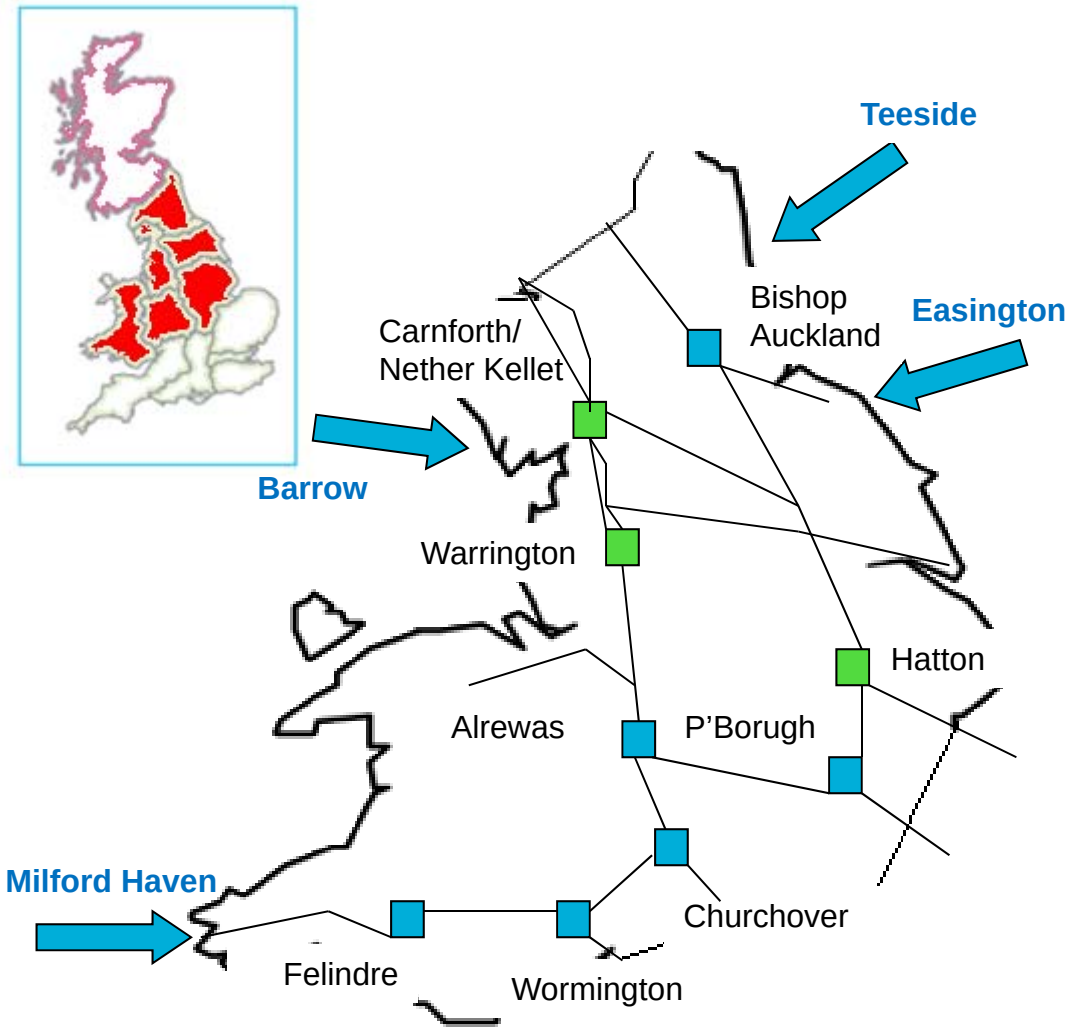
How we run our compressors - Scotland



Site *(avg annual usage per site)*	Use
St Fergus *(11,500 hrs)*	Dependant on flows through terminal
Aberdeen *(2,073 hrs)*	Med – High St Fergus flows, maintain low pressures
Avonbridge *(1,996 hrs)*	Support Scottish LDZ pressures
Kirriemur *(1,454 hrs)*	High St Fergus flows, North to South
Wooler *(1,430 hrs)*	High Transmission Flows, reduce Scottish linepack to avoid constraints
Moffat (<734 hrs)	High Scottish north to South Flows

How we run our compressors – North & Midlands



Site *(avg annual usage per site)*	Use
Peterborough *(4,501 hrs)*	Transmission of gas south, East and West and system flexibility
Carnforth / Nether Kellet *(4,011 hrs)*	High flows north to South- High Easington flows
Hatton *(3,550 hrs)*	Used for System Flex, high Easington, high IUK export
Alrewas *(2,217 hrs)*	System Flexibility for MH flows
Wormington *(<2,068 hrs)*	High MH flows/Low MH (East to West) flows to support Welsh pressures
Churchover *(1,331 hrs)*	High MH flows or low MH flows to support welsh pressures
Bishops Auckland (371 hrs)	High Teesside/ Easington gas
Warrington (17 hrs)	Specific activities e.g. Maintenance, resilience

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How we run our Compressors – SW and SE

Site *(avg annual usage per site)*	Use
Huntingdon (*2,416 hrs*)	Flows South to SE and SW on high demands
Kings Lynn (*1,163 hrs*)	High-low Bacton, IUK east, to west
Lockerly (*678 hrs*)	South West Pressure support during high demands
Wisbech (*330 hrs*)	High Transmission Flows, back up to Peterborough
Diss (*223 hrs*)	High Bacton Flows or high SE demands, low Grain
Aylesbury (*212 hrs*)	South West Pressures, high demands
Chelmsford (131 hrs)	High Bacton Flows
Cambridge (171 hrs)	High Grain flows

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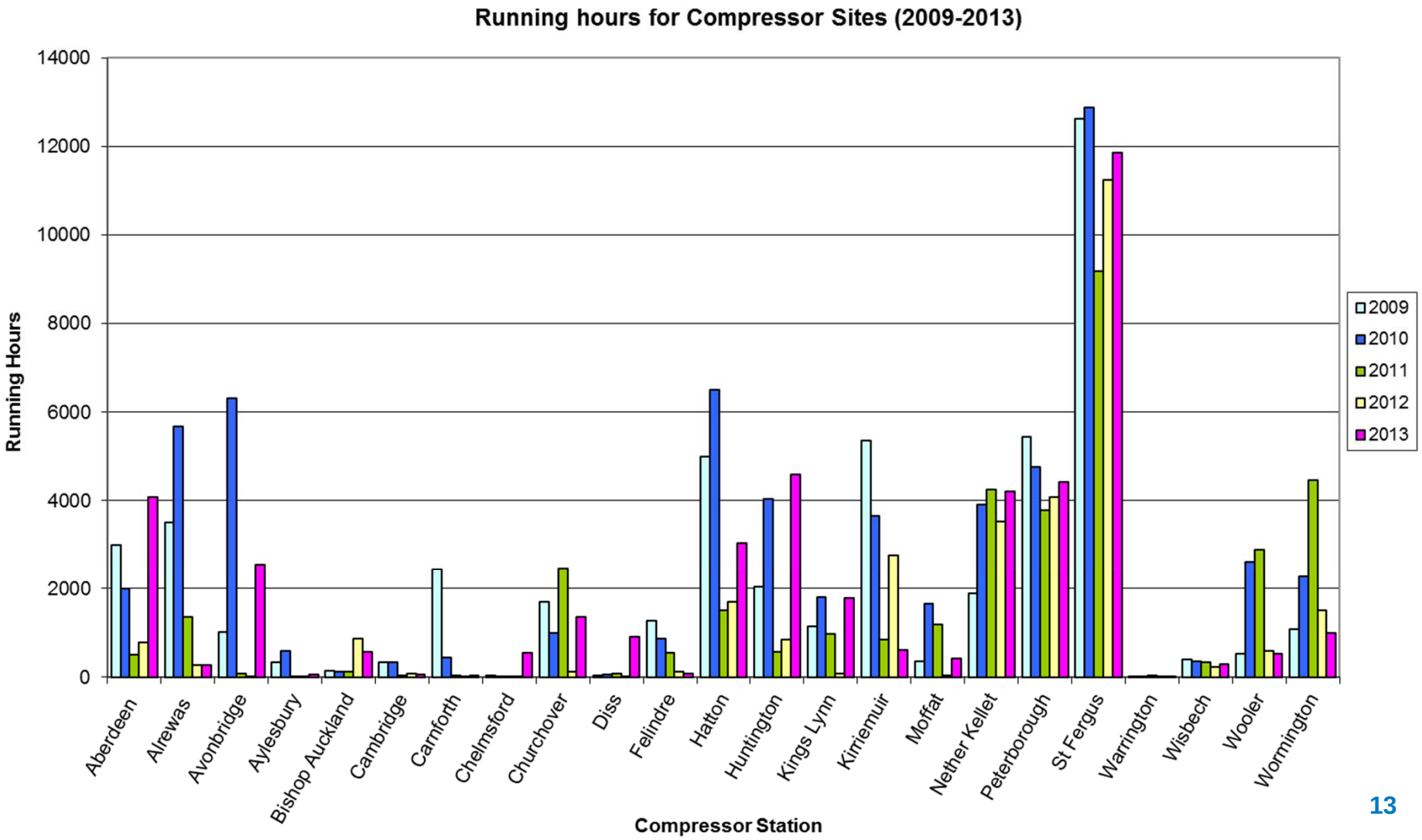
Compressor Running Hours



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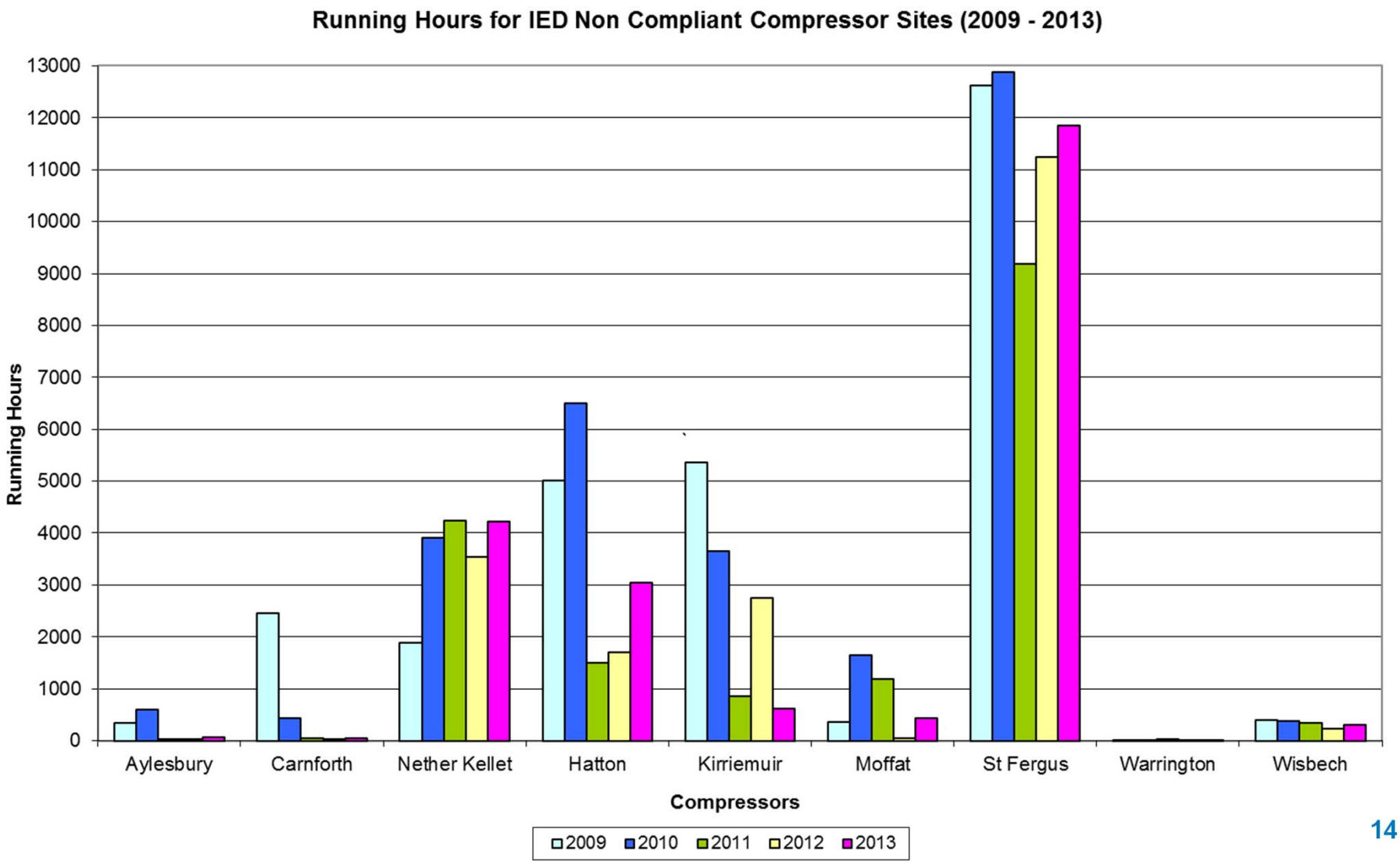
IED Impacted Units



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Summary

- We use our Compressors for a variety of reasons
  - Transport Gas
  - System Flexibility
  - Meet Exit pressures
  - Occasional use to facilitate maintenance etc
- Some Supply/Demand patterns occur more then others
- Within day Swing now prevalent on the network
  - In some circumstances causes compression use increase
- Operationally Plan our network for peak Winter demand
  - Requiring use of more compression
- Incentives to improve efficiency and reduce costs

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System Flexibility

Eddie Blackburn
Gas Network Capability Manager

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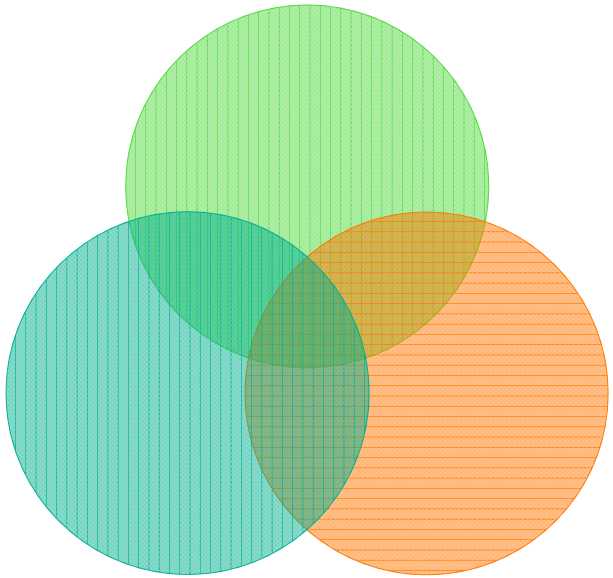
How do we define System Flexibility?

3 key components

“Within-day Linepack variation”



“Geographic Supply & Demand Distribution”

“Adaptability/ Configurability”

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What do we mean by System Flexibility?

The ability of the system to cater for….

"Within-day Linepack variation"	"Geographic Supply & Demand Distribution"	"Adaptability/ Configurability"
… varying daily supply and demand profiles and imbalances through variations in system linepack and pressures	… supply and demand scenarios which occur away from the 1-in-20 peak demand and maximum supply levels	… changes in the geographic distribution of supply and demand which result in changes in the direction of gas flow

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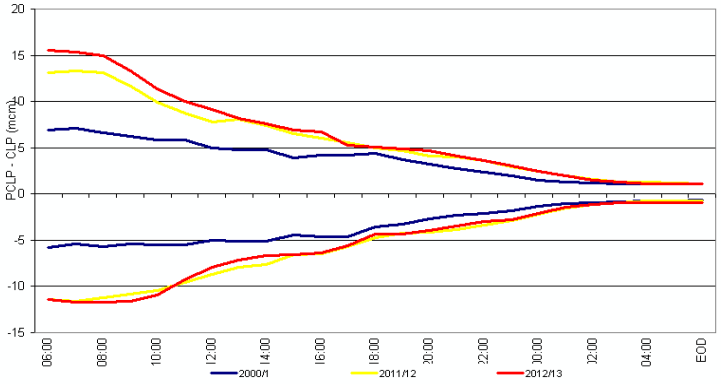
What do we mean by System Flexibility?

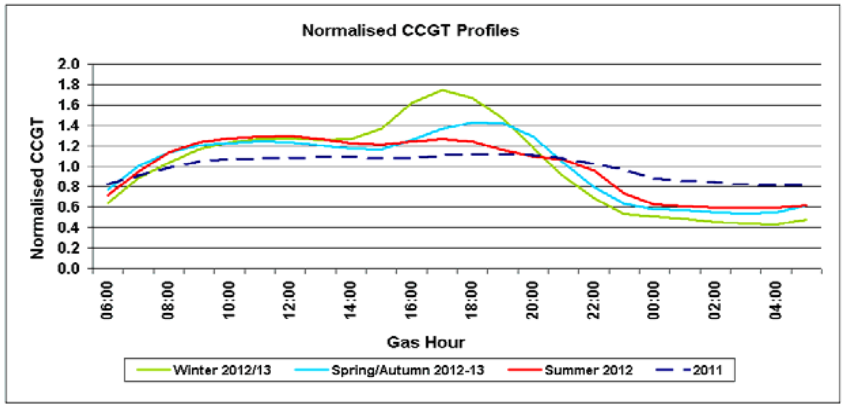
The ability of the system to cater for….

"Within-day Linepack variation"

… varying daily supply and demand profiles and imbalances through variations in system linepack and pressures

Linepack = Pipe volume x pressure





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What do we mean by System Flexibility?

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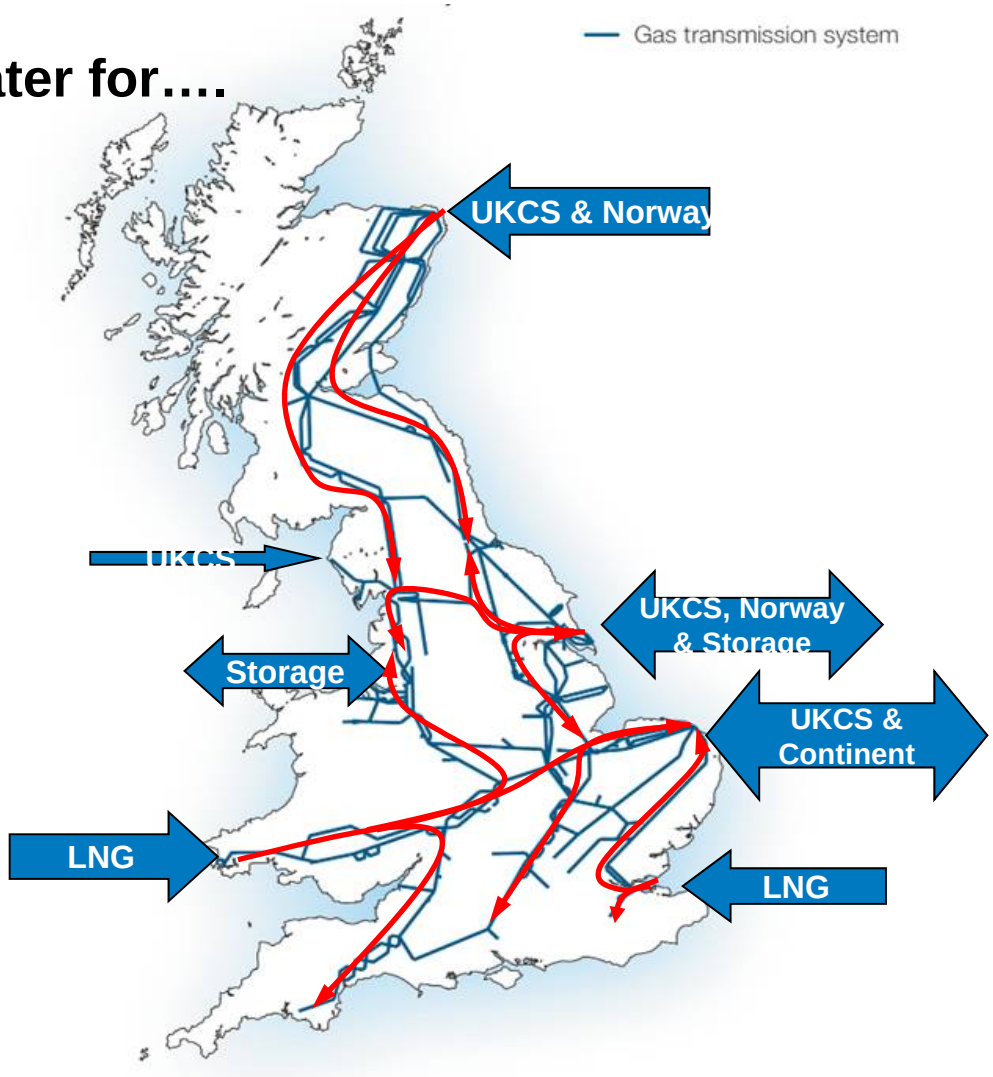

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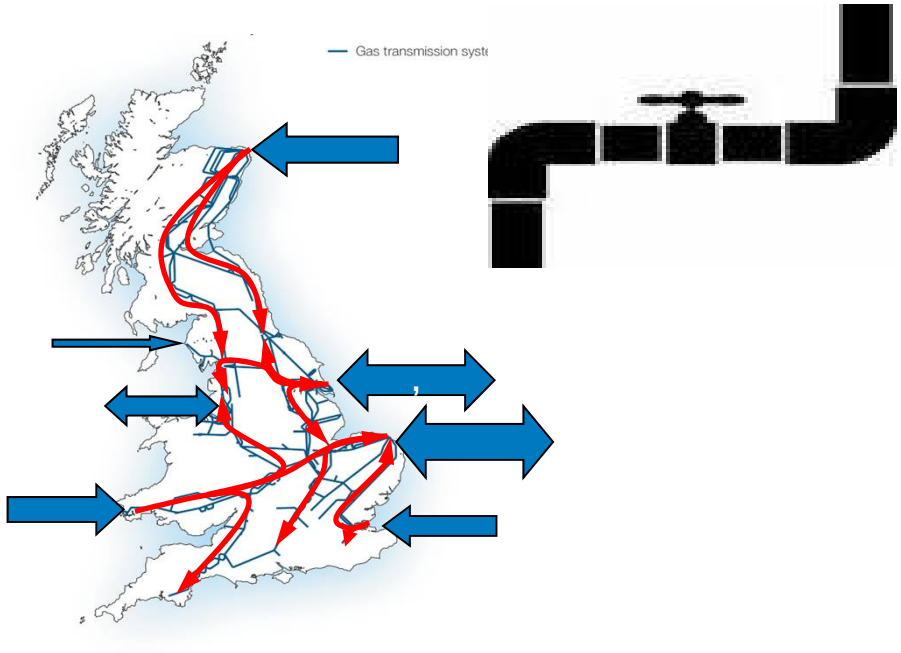

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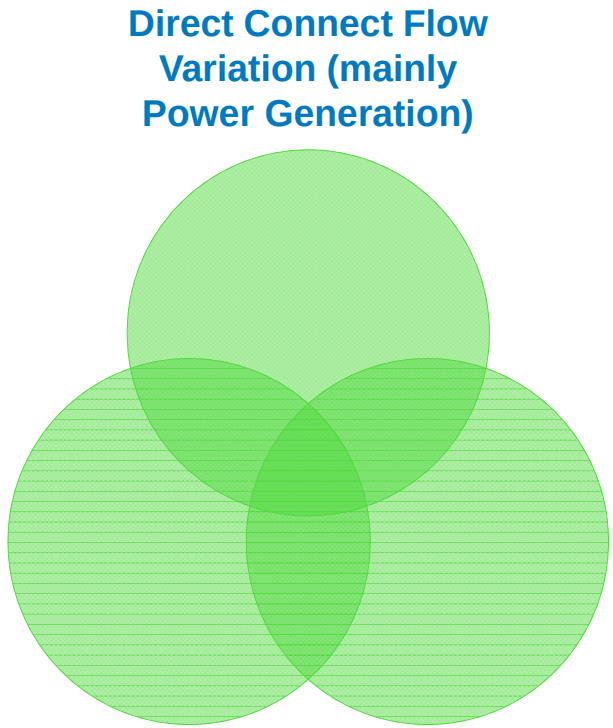
How do we plan for System Flexibility?

"Within-day Linepack variation"	"Geographic Supply & Demand Distribution"	"Adaptability/ Configurability"
▪ DN flex bookings and assumed direct connect profiles ▪ Design Margin ▪ Operating Margins	▪ Scenario analysis to identify capability and constraints	▪ Scenario analysis ▪ Equipment assessment and design

Within-day/Linepack Flexibility

We are working with our consultants Baringa to quantify the 3 components of within-day/ linepack variation



- Linepack is managed through adherence to contractual rules (flow change notice periods) when required.
- Enforcement of the rules (rejection of offtake profile notices) has occurred and may be more frequent in the future.
- We recognise that customers value freedom to exceed limits.

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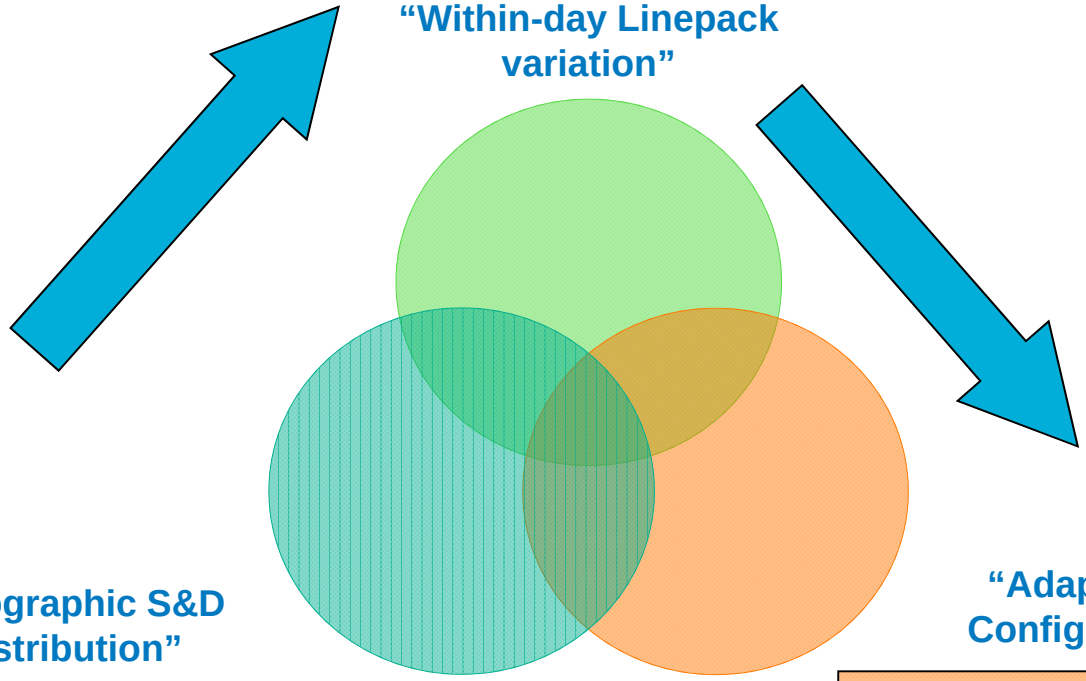
System Flexibility

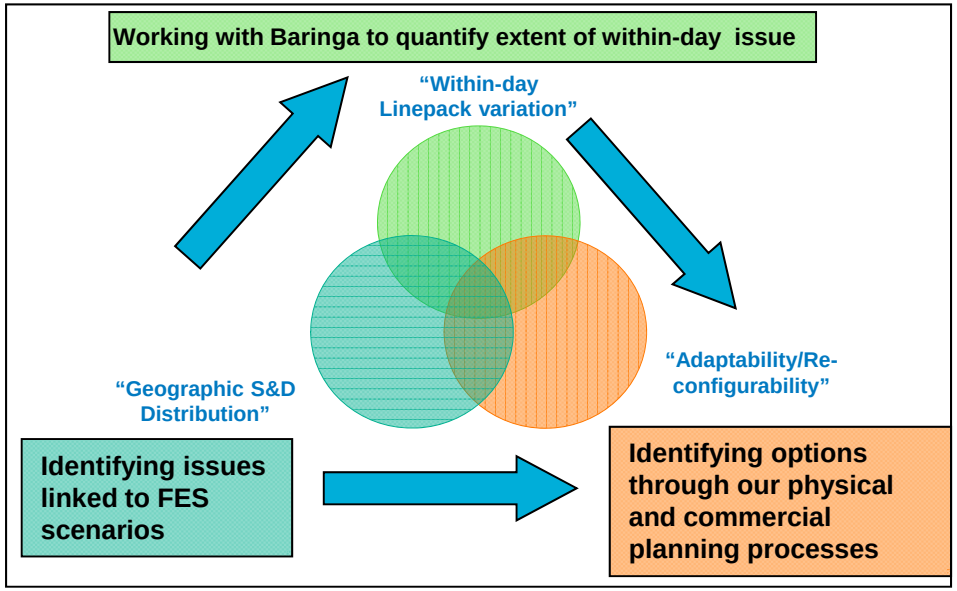
Working with Baringa to quantify extent of within-day issue



Identifying issues linked to FES scenarios

Identifying options through our physical and commercial planning processes

System Flexibility



- Stakeholder Engagement
  - GTYS
  - UNC Tx Workstream
  - IED Events
  - Bespoke Events
- RIIO mid-period review

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Questions

- Does this match your understanding of System Flexibility?
- Are there any areas or issues that we have missed?
- Do you have any specific requirements that need to be captured?
- How would you like to be engaged with on system flexibility?

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Coffee Break

LCP Compressor Options

James Whiteford
Gas Network Strategy Manager

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Session Aims

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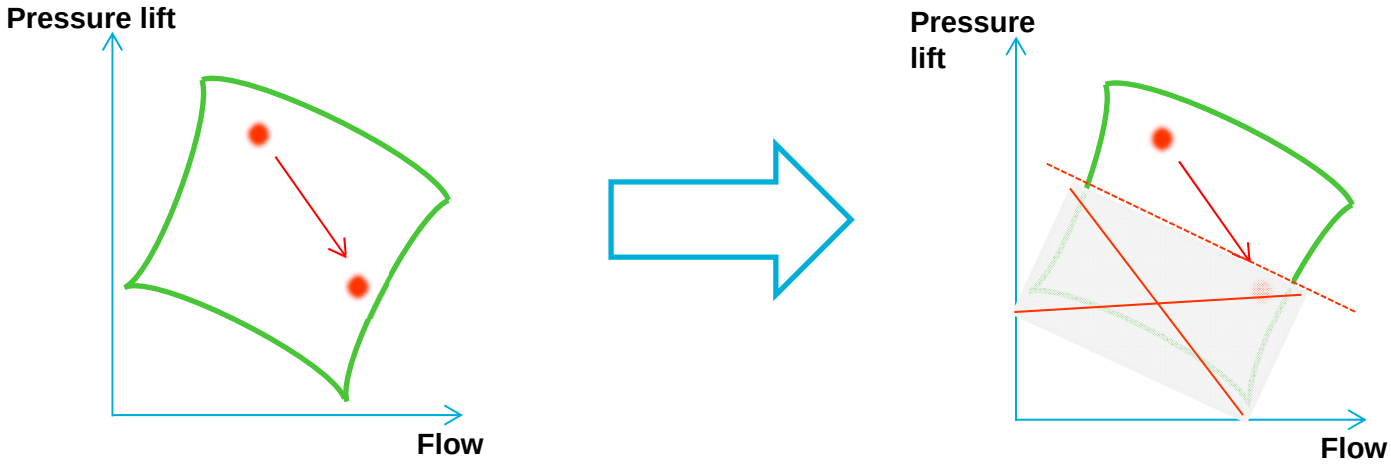
Available Options

Options being considered

- Retain Units
  - Retain units and use derogation
    - Lifetime limit of 17,500hrs until 2023
    - 500hrs/yr – must be applied for by the end of 2015
- Replace units
  - e.g. replicate capability of existing machines at site
  - Capability requirement based on forecast flows, operating strategy and legal obligations
  - Procurement process allows manufacturers to tender to meet these requirements
    - May not be same number of machines as currently due to technology changes

Options being considered

- Due to new emissions limits for new technology, the operating range of compressors could be significantly reduced



- This can be addressed through the installation of multiple smaller units

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Options being considered

- Decommission Units plus one or combinations of the following:
  - Improve resilience elsewhere on the network
  - Reinforce the network elsewhere
  - Manage commercial risk through long term contracts
  - Manage commercial risk through locational buy and sell actions on the day
  - Manage commercial risk by reducing baselines
  - Change the UNC rules to manage constraints

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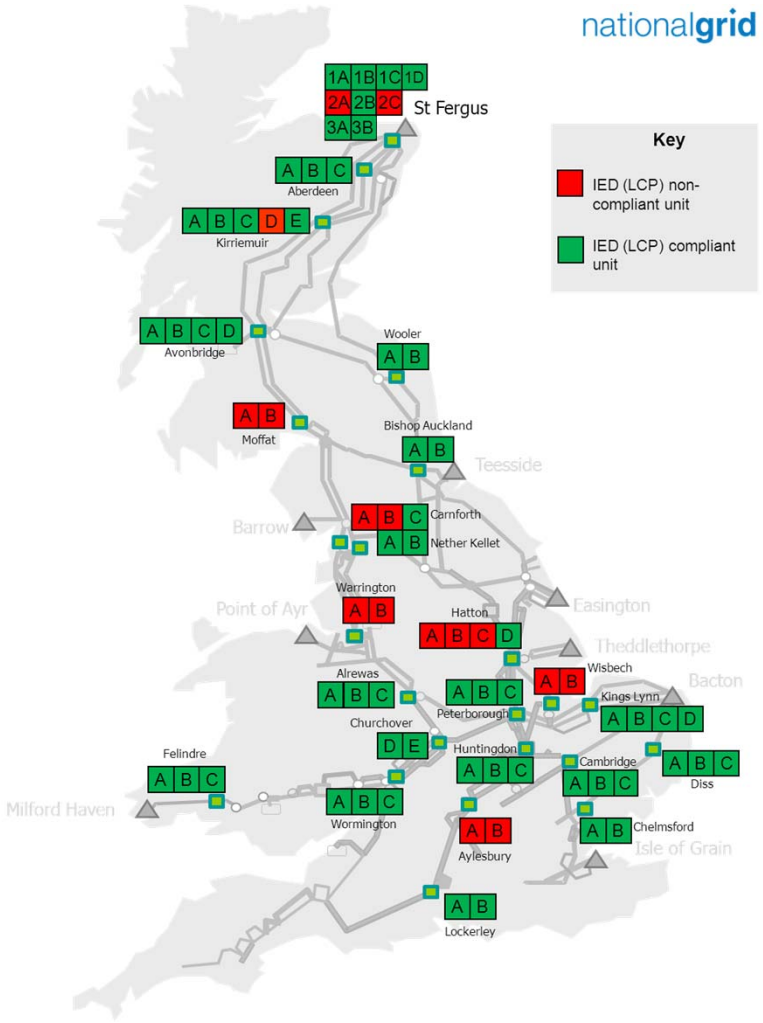
Extremity Options

Do Nothing Option



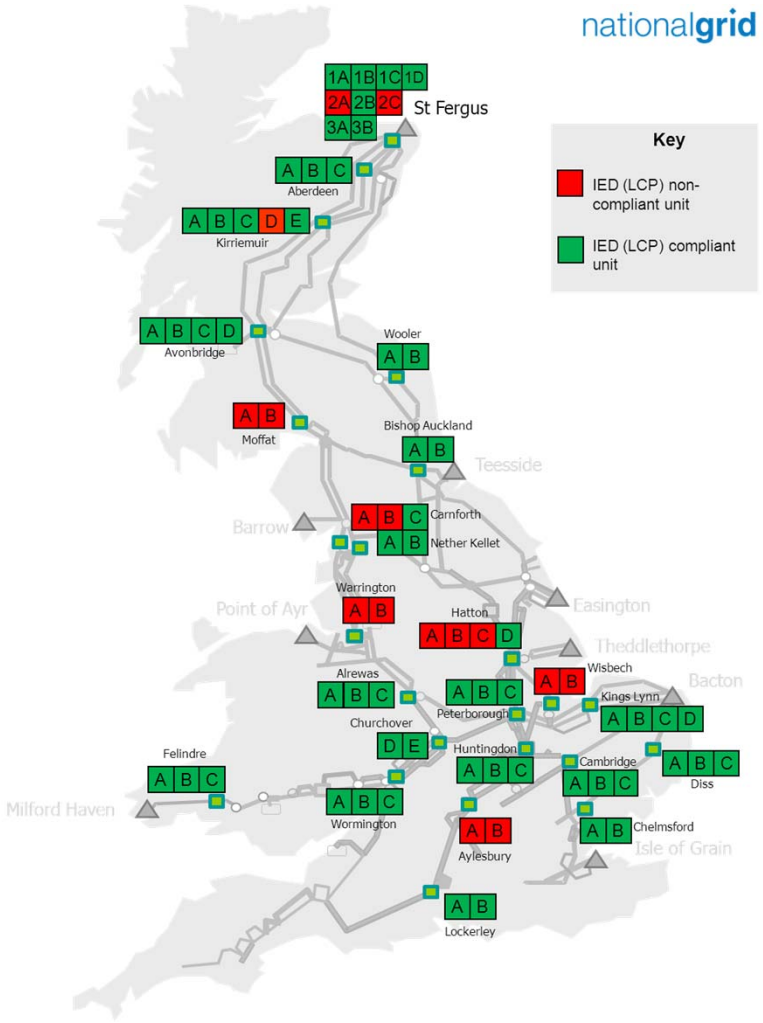
- Do Nothing option defined as removing all of the non-compliant units from the network
- Decommissioning multiple sites and reducing capability at other sites

Do Nothing Option

Yes — No

Criteria	Importance (from 1 to 10)	Key Question	
Sensitivity analysis beyond FES supply and demand scenarios	0 5 10 / 4 6 8	Does the Do Nothing option allow the network to be operated in sensitivities beyond FES?	
Entry Capacity Obligations	4 7 9	Can National Grid meet Entry Capacity obligations considering the Do Nothing option?	
Exit Capacity Obligations (incl impact down the curve for DNs)	5 8 10	Can National Grid meet Exit Capacity obligations considering the Do Nothing option?	
Current Utilisation (Capacity, Pressure and Flexibility)	5 8 10	Does the Do Nothing option allow National Grid to retain current capability?	
Future Flexibility (Profiling and balancing behaviour)	8 9 10	Does the Do Nothing option allow National Grid to meet future flexibility requirements?	
Resilience (incl. Maintenance outages & pipeline inspections)	5 7 9	Does the Do Nothing option represent an appropriate level of resilience on the network?	
Impact on customer charges	6 8 9	Does the Do Nothing option have a negligible impact on customer charges?	
Encouraging new investment (removing barriers)	**9**	Does the Do Nothing option remove barrier for encouraging new investment?	
Future Proofing (including stricter emissions legislation)	7 8 9	Is the Do Nothing option future proof?	
Gas Quality	5	Does the Do Nothing option allow the network to be operated under a broad range of Gas Qualities?	N/A

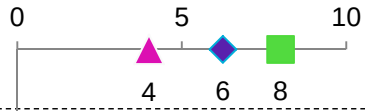
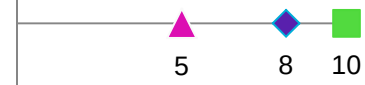
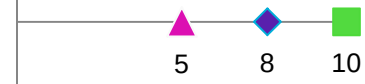
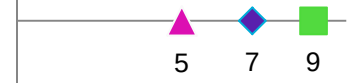
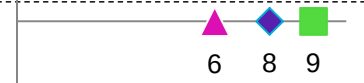
Like-for-Like Replacement



- The Like-for-Like replacement option considers that each IED (LCP) non-compliant unit will be replaced by a similar sized unit
- This will cost in the region of £650m
- The impact of this on the end consumer bill is £0.70 per annum (from a gas transmission total of £17 per annum, ~4% increase)

Like-for-Like replacement

Yes — No

Criteria	Importance (from 1 to 10)	Key Question	
Sensitivity analysis beyond FES supply and demand scenarios		Does like-for-like replacement allow the network to be operated in sensitivities beyond FES?	
Entry Capacity Obligations		Can National Grid meet Entry Capacity obligations considering like-for-like replacement?	
Exit Capacity Obligations (incl impact down the curve for DNs)		Can National Grid meet Exit Capacity obligations considering like-for-like replacement?	
Current Utilisation (Capacity, Pressure and Flexibility)		Does like-for-like replacement allow National Grid to retain current capability?	
Future Flexibility (Profiling and balancing behaviour)		Does like-for-like replacement allow National Grid to meet future flexibility requirements?	
Resilience (incl. Maintenance outages & pipeline inspections)		Does like-for-like replacement represent an appropriate level of resilience on the network?	
Impact on customer charges		Does like-for-like replacement have a negligible impact on customer charges?	
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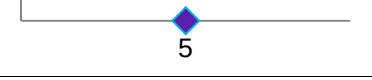
Future Proofing (including stricter emissions legislation)		Is like-for-like replacement future proof?	
Gas Quality		Does like-for-like replacement allow the network to be operated under a broad range of Gas Qualities?	N/A

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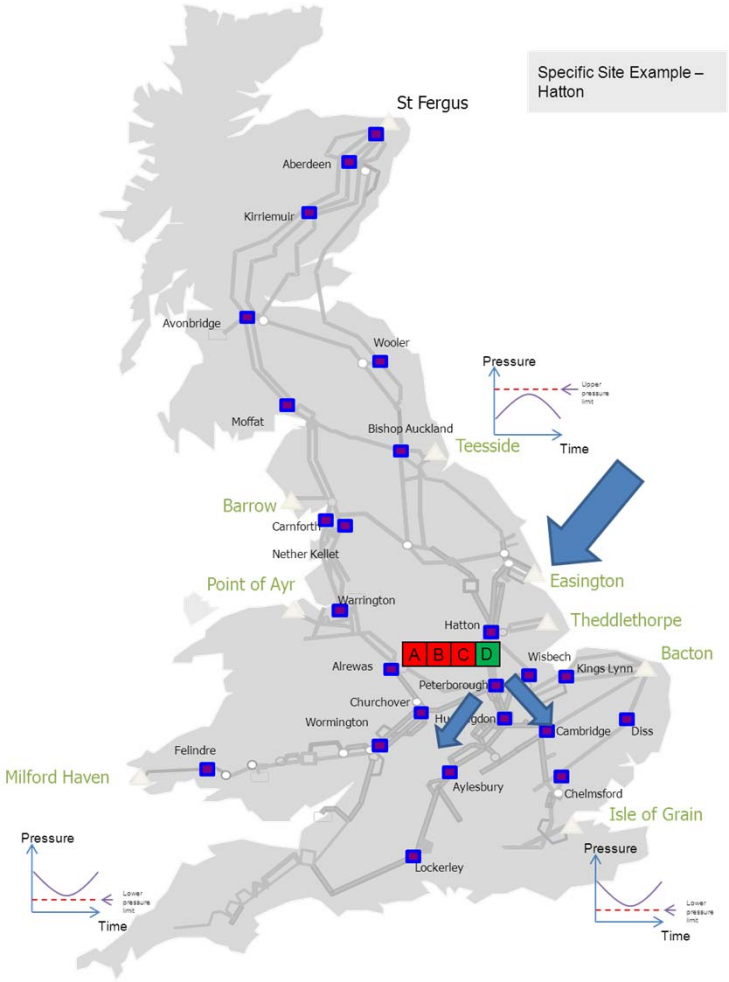
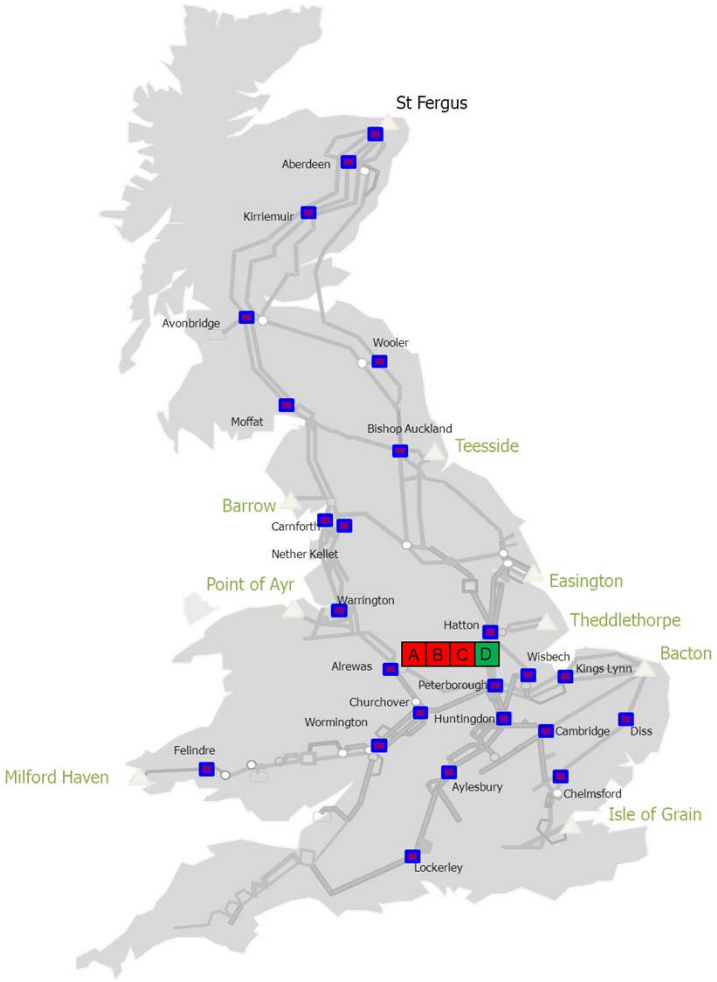
Example Sites

Specific Site Example - Hatton



- Hatton compressor station is required to maintain pressures below safe operating limits at Easington supply terminal and also to support South West and South East pressures to ensure they are above safety and contractual limits

Hatton - Context



- Hatton consists of 4 compressor units and was constructed in 1989:
- 3 * RB211 25.3 MW machines (installed in 1989, units A, B and C) **- IED non-compliant**
- 1 * VSD 35 MW machine (yet to be fully commissioned and proven, unit D) **- IED compliant**

Running Hours

	2009	2010	2011	2012	2013
RB211	5371	5207	1169	1705	2936

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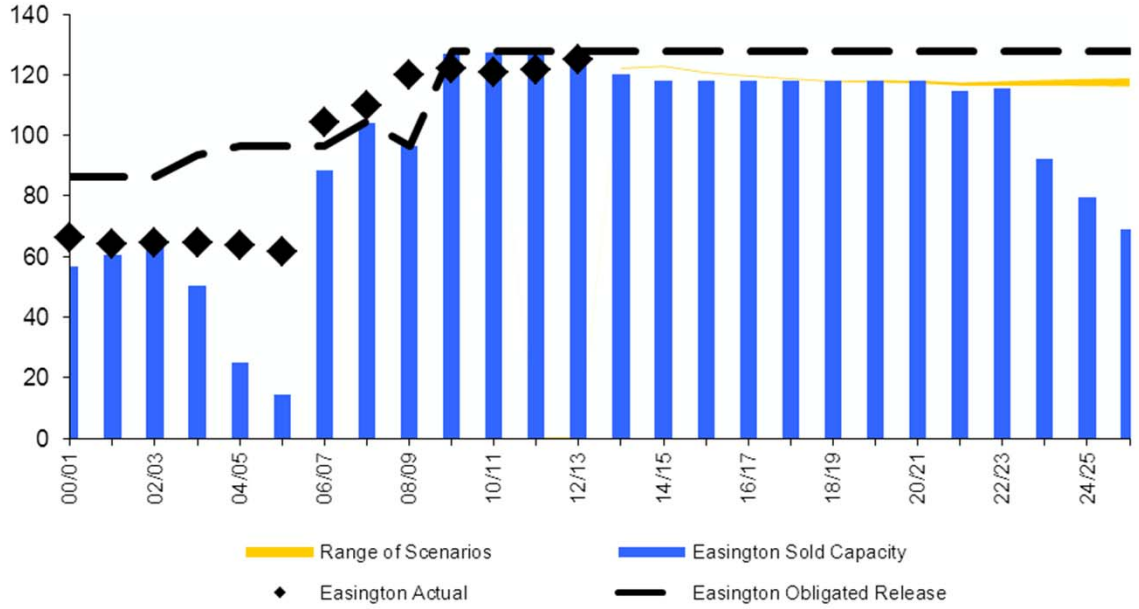
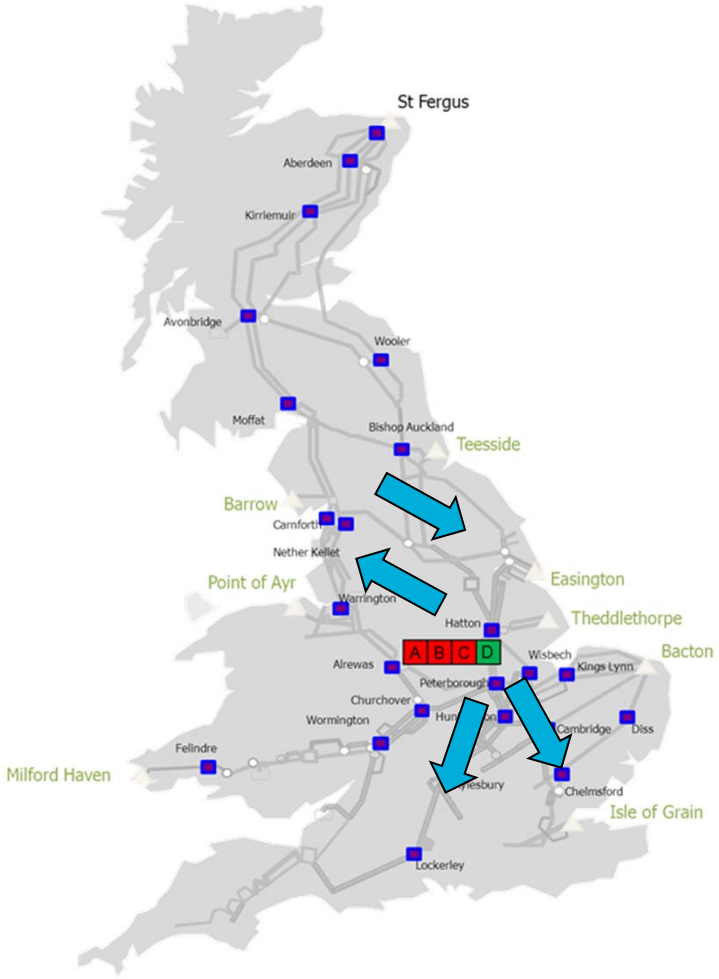
Hatton Capability Requirements - Entry

- Hatton is required to manage high input flows into the Easington terminal as well as high levels of storage injection into the network in the surrounding area.

Peak Easington Scenarios (mscm/d)

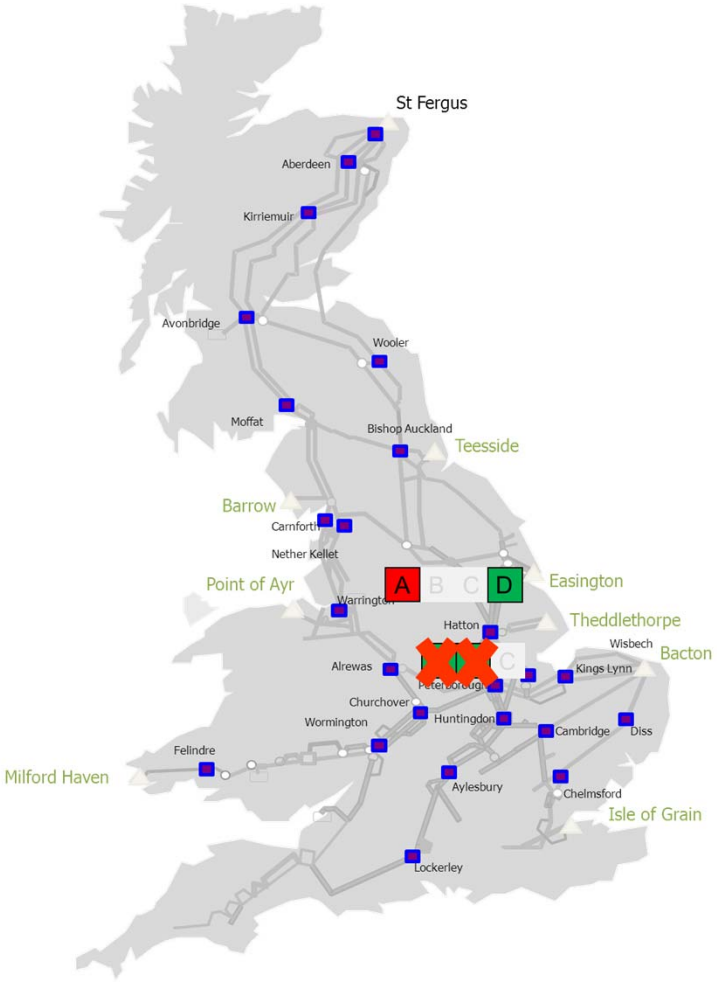


Hatton Capability Requirements - Exit



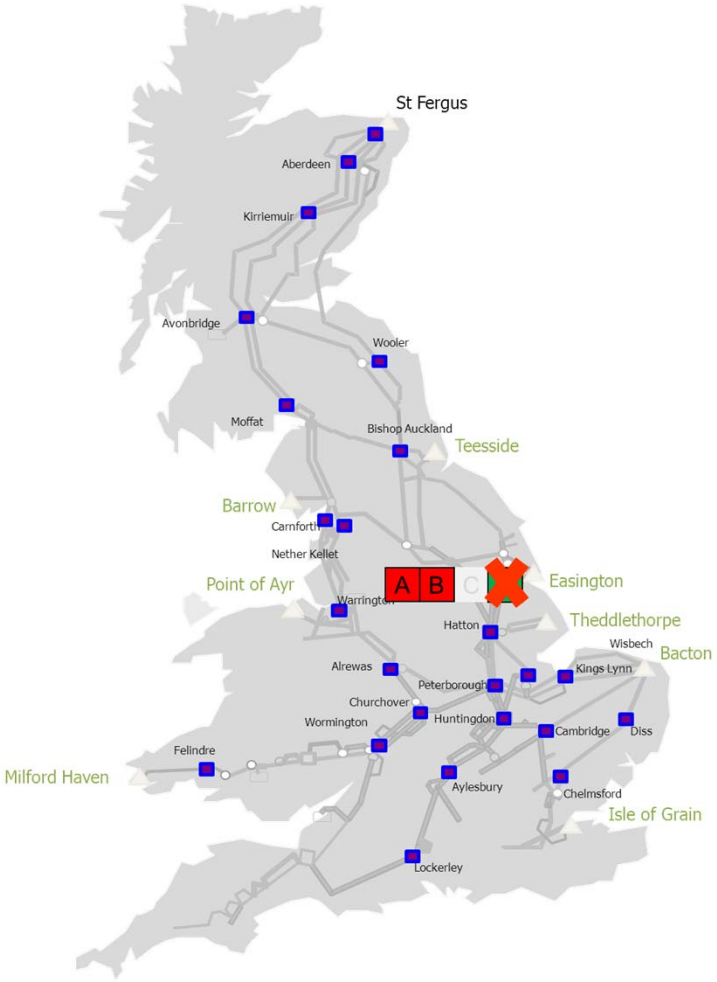
- Hatton is required to support the suction side of Peterborough compressor and support the southern Feeder as well as towards the South East of the system – specifically to support low Bacton/low Isle of Grain flows or IUK exporting into Europe
- Hatton can also be required to transport gas across the trans-pennine pipeline due to the North West storage filling however use of Hatton to transport gas down the East coast is preferred to West coast transmission due to the uncertainty of North West filling (unexpectedly changing from filling to injecting into the network within-day)

Hatton Capability Requirements - Resilience



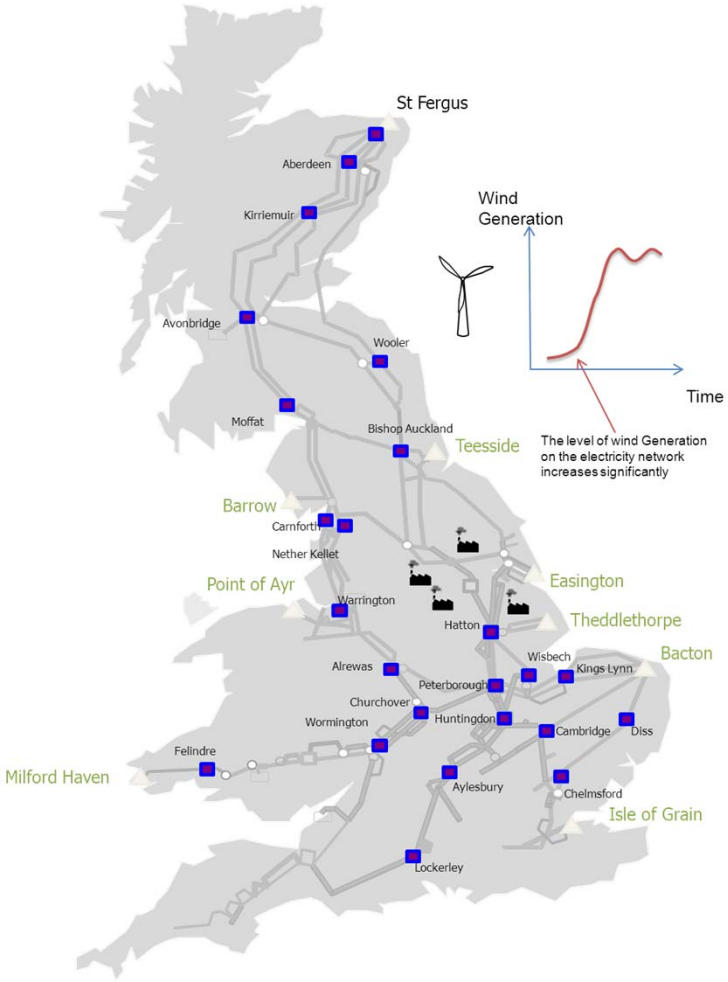
- Under Certain scenarios Hatton is required to act as back-up for compression at Peterborough

Hatton Capability Requirements - Resilience



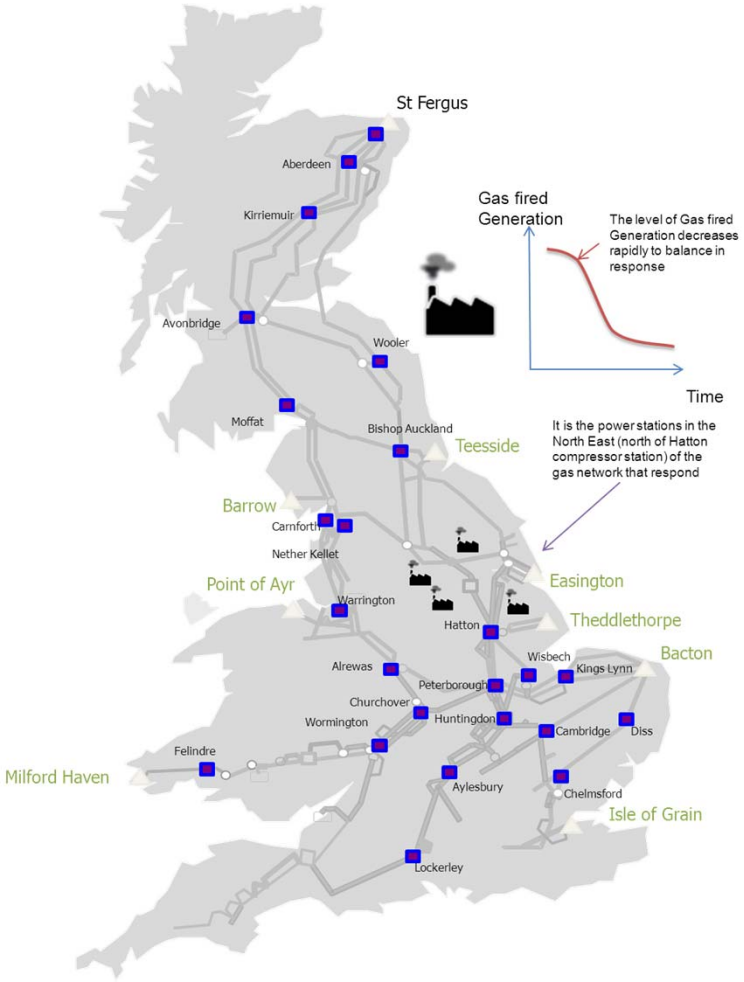
- If units A, B and C are all decommissioned and no new units are installed there will be no back-up to unit D, which does not allow for an appropriate level of resilience on the network
- If the lead unit at a site is forecast to operate into the future for more than 500 hours then the remaining units on site that offer back-up should not be restricted to 500 hours.

Hatton Capability Requirements - Flexibility



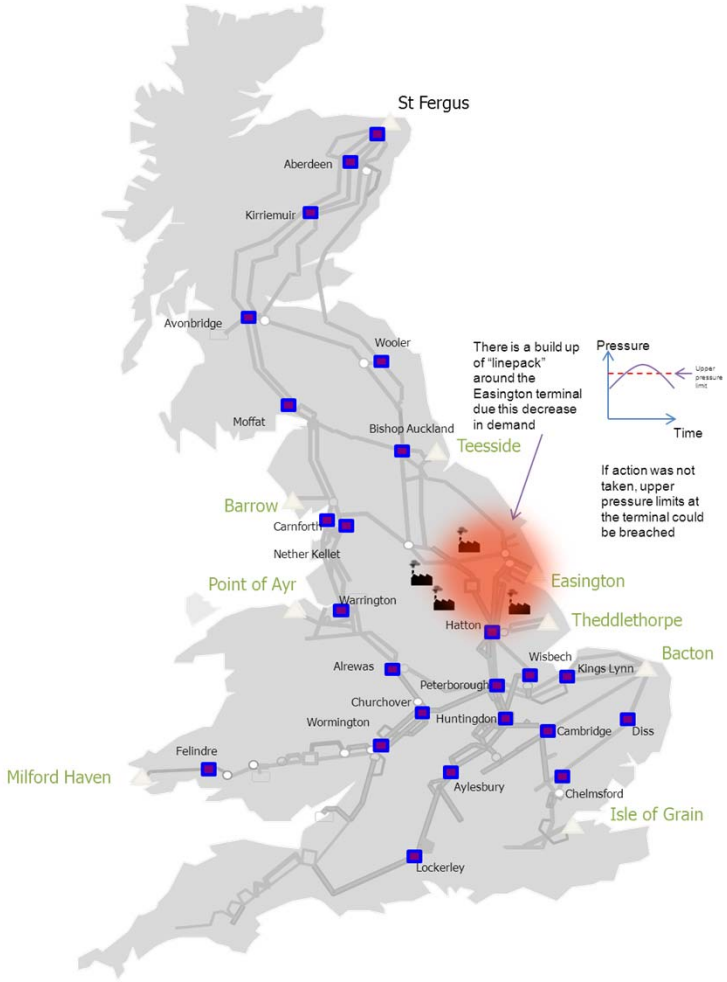
- Component 1 of Flexibility – Within-day linepack variation

Hatton Capability Requirements - Flexibility



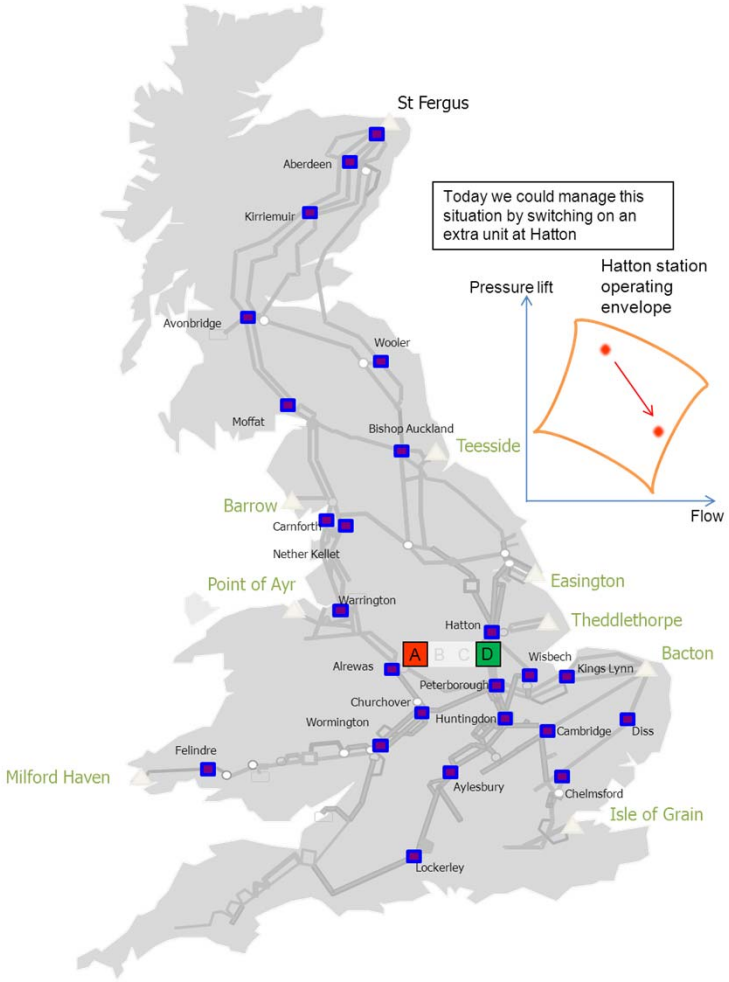
- Component 1 of Flexibility – Within-day linepack variation

Hatton Capability Requirements - Flexibility



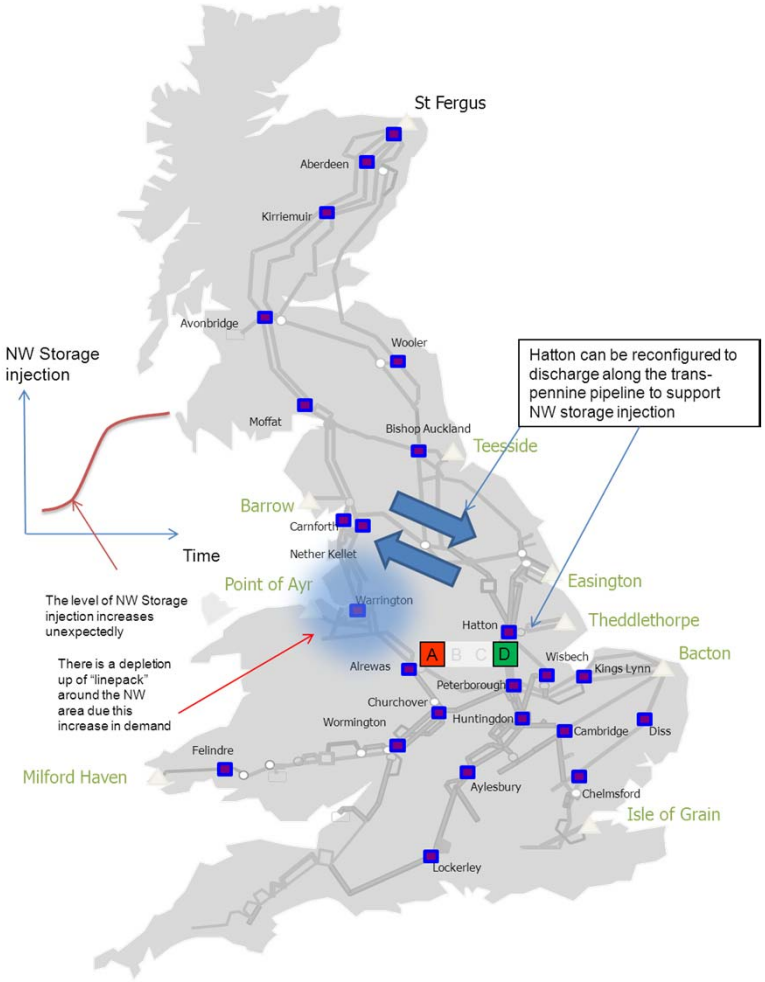
- Component 1 of Flexibility – Within-day linepack variation

Hatton Capability Requirements - Flexibility



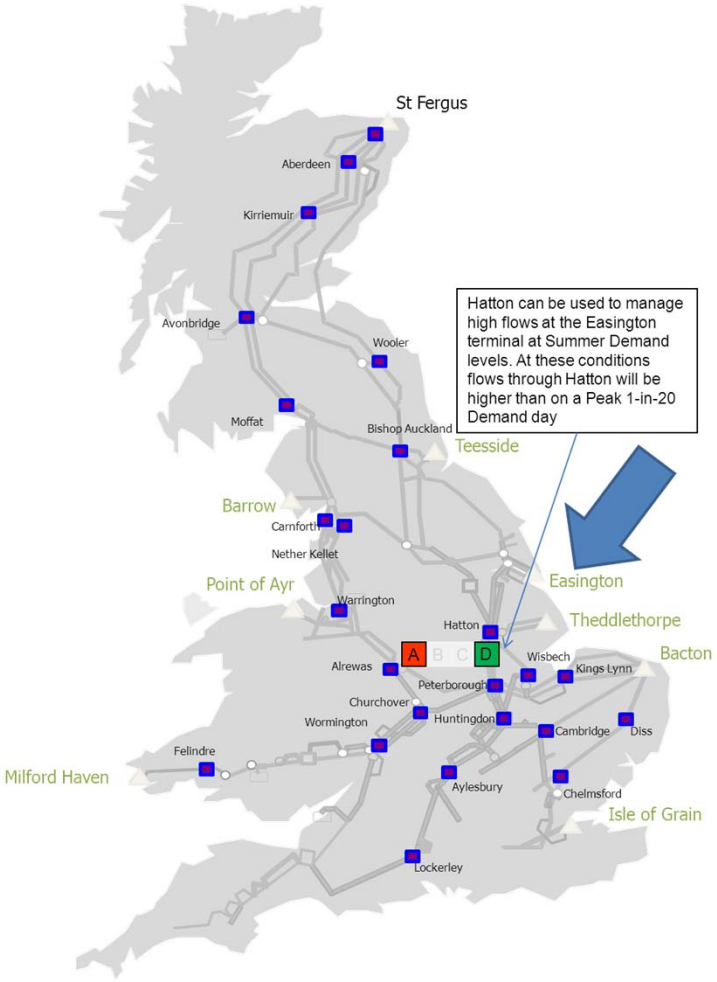
- Component 1 of Flexibility – Within-day linepack variation

Hatton Capability Requirements - Flexibility



- Component 2 of Flexibility – Adaptability/ Configurability

Hatton Capability Requirements - Flexibility



- Component 3 of Flexibility – Geographic Supply and Demand Distribution

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Hatton Capability Requirements - Scenarios

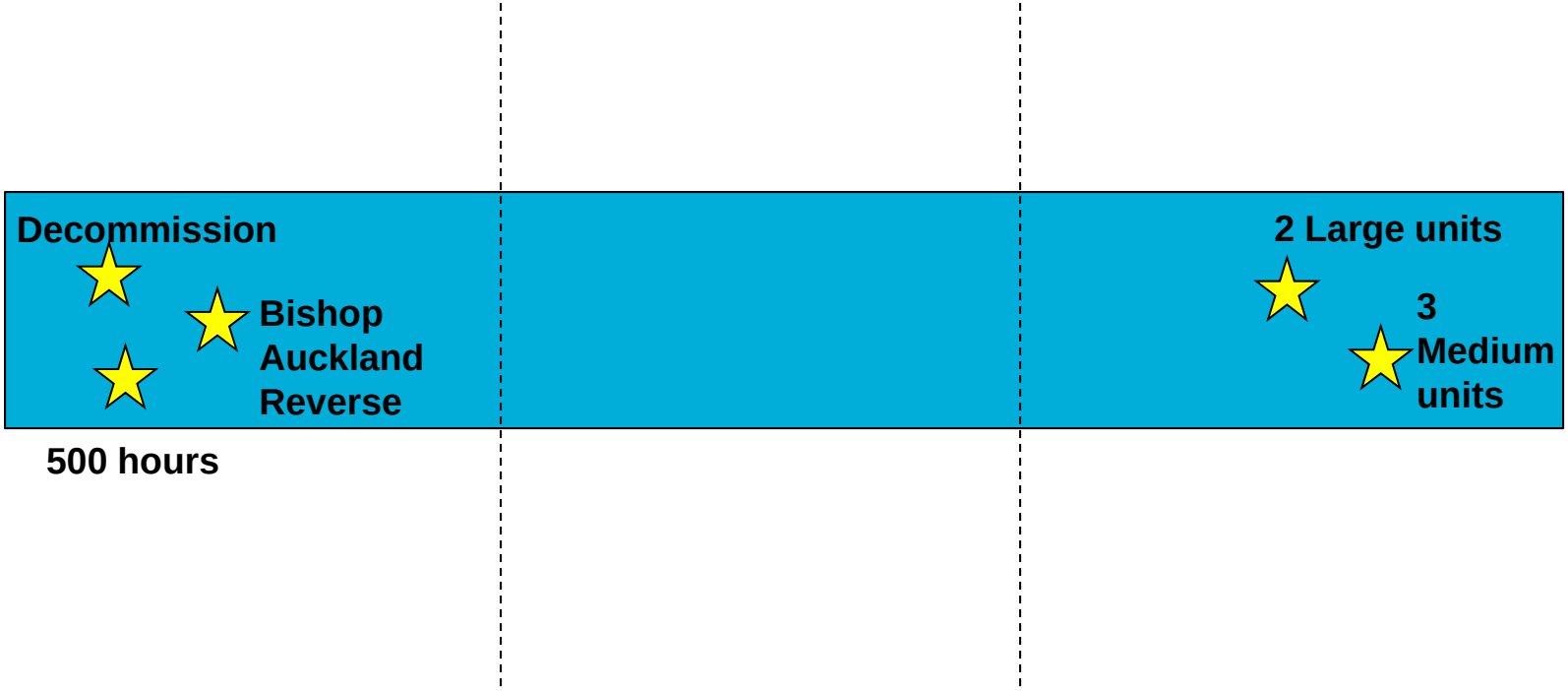
	GG Peak	SP Peak	SP Peak – High Easington	SP D1A – High Easington	Exit Capacity Sensitivity Peak	SP Peak – Easington Baseline	SP D1A – Easington Baseline	SP Peak – Theddlethorpe Baseline	SP D1A – Theddlethorpe Baseline
National Demand (mcm/d)	*450*	*490*	*490*	*395*	*522*	*490*	*395*	*490*	*395*
Hatton A/B/C (bulk duty)	✗	✗	✓	✓	✓	✓	✓	✓	✓
Hatton A/B/C (backup)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Hatton Options

Yes — No

Key Questions	Importance (from 1 to 10)	500 hours	Decommission	Bishop Auckland Reversal	2 Large new units	3 Medium new units
Does this option allow the network to be operated in sensitivities beyond FES?	0 5 10 — 4 6 8					
Can National Grid meet Entry Capacity obligations considering this option?	4 7 9					
Can National Grid meet Exit Capacity obligations considering this option?	5 8 10					
Does this option allow National Grid to retain current capability?	5 8 10					
Does this option allow National Grid to meet future flexibility requirements?	8 9 10					
Does this option represent an appropriate level of resilience on the network?	5 7 9					
Does this option have a negligible impact on customer charges?	6 8 9					
Does this option remove barrier for encouraging new investment?	**9**					
Is this option future proof?	7 8 9					
Does this option allow the network to be operated under a broad range of Gas Qualities?	5	N/A	N/A	N/A	N/A	N/A

Hatton Options - Costs



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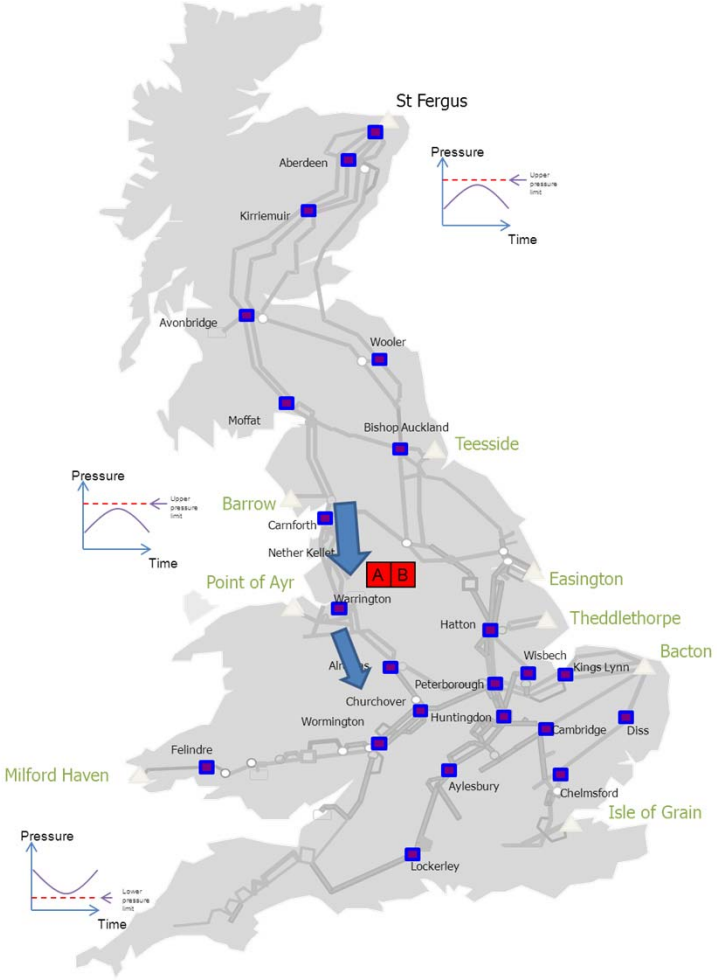
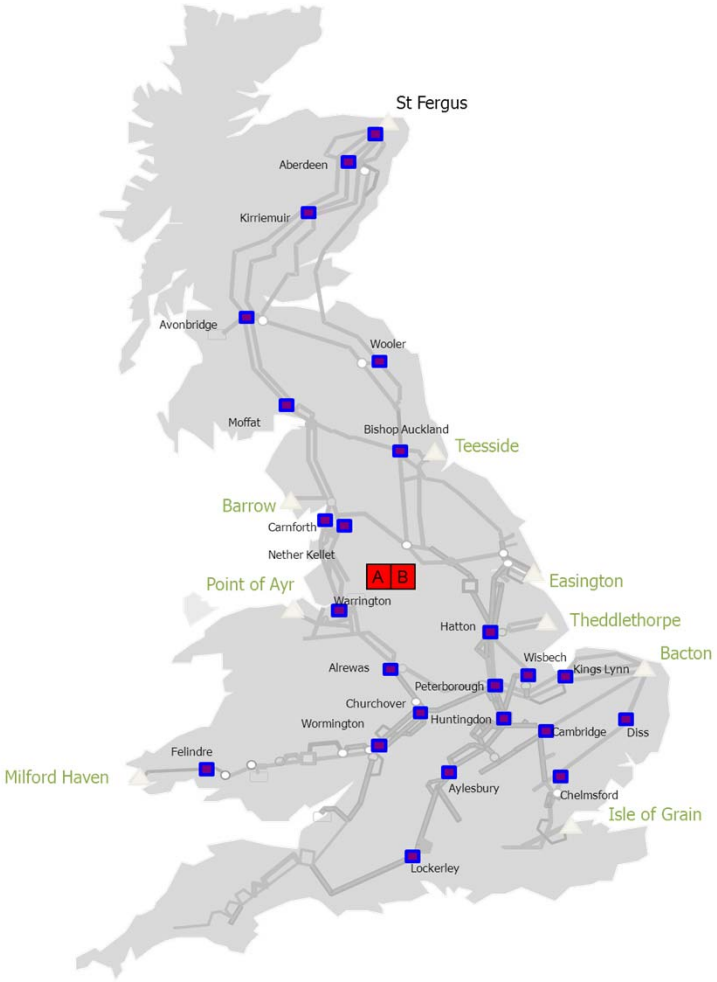
Discussion

Specific Site Example - Warrington



- Historically, Warrington has been required to support assured pressures at North West, West Midlands, East Midlands and South Wales offtakes and maximise St. Fergus and Barrow Entry capability

Warrington - Context

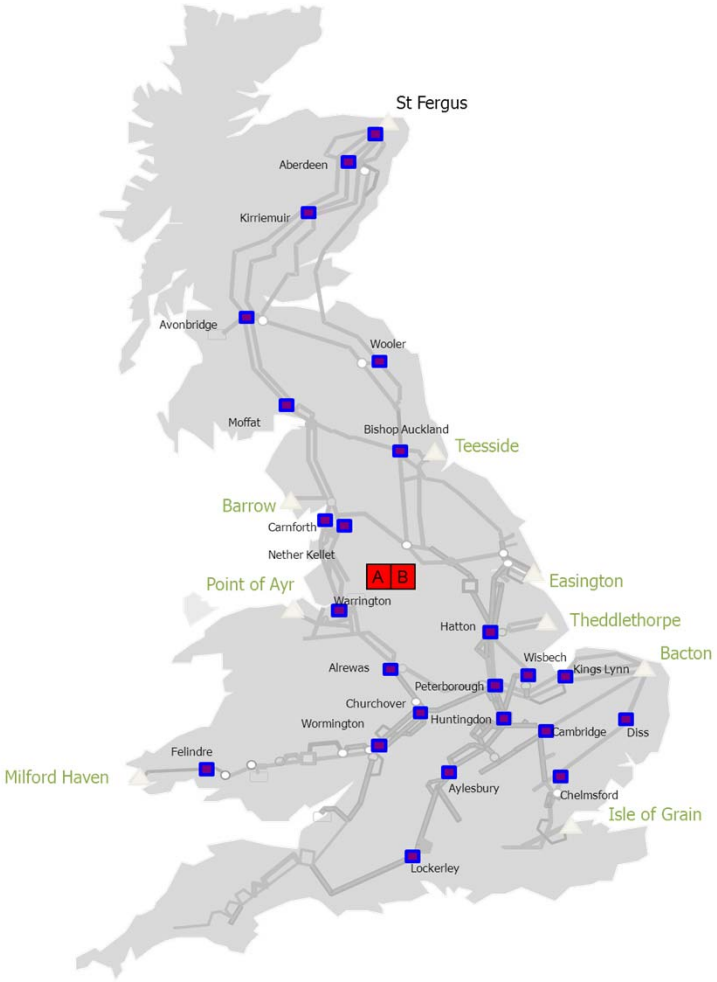


- Warrington consists of 2 compressor units and was constructed in 1983
- 2 * RB211 22.3 MW machines (units A and B) **- IED non-compliant**

Running Hours

	2009	2010	2011	2012	2013
RB211	91	25	51	16	13

Warrington - Context

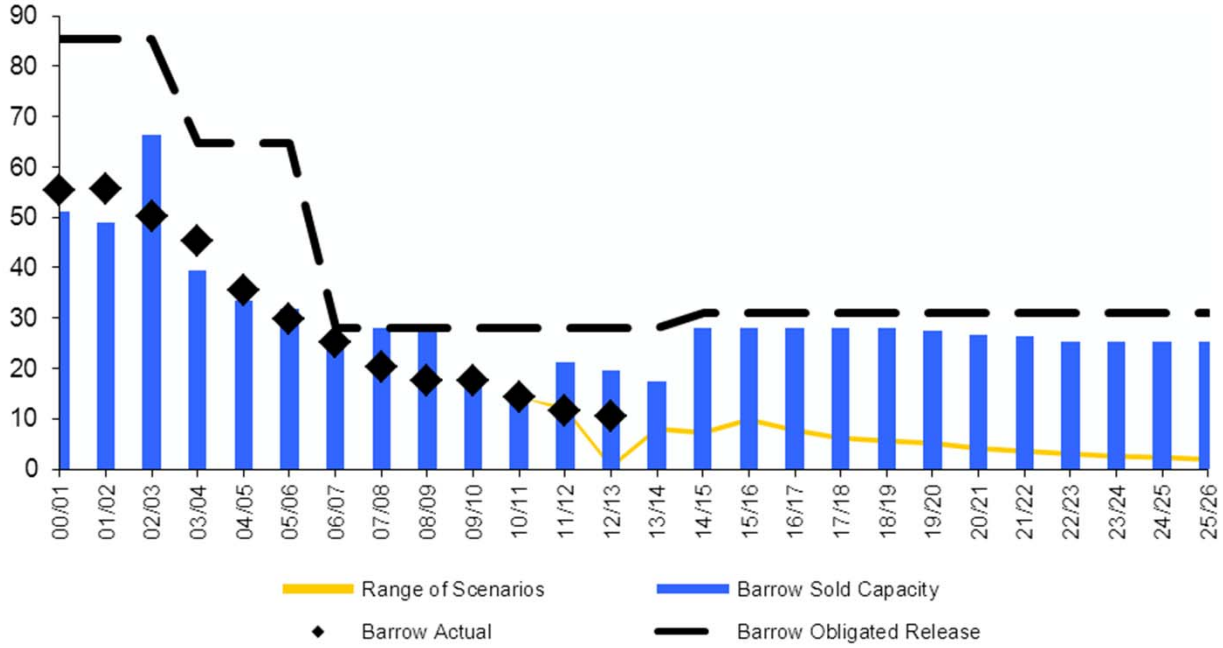


- Since the installation of Warrington in the network, entry flows have significantly decreased from St. Fergus and Barrow (the baseline has significantly reduced following a review in 2007) and the Milford Haven terminal has been constructed. There has also been a number of storage sites added to the North West of the network, south of Warrington that will provide support for Exit in the area on high demand days. This has considerably reduced the requirement for compression at Warrington

Warrington Capability Requirements - Entry

- Due to the decline in flows from the St. Fergus terminal and the Barrow terminal, Warrington is not required to support Entry capability on the network.

Peak Barrow Scenarios (mscm/d)



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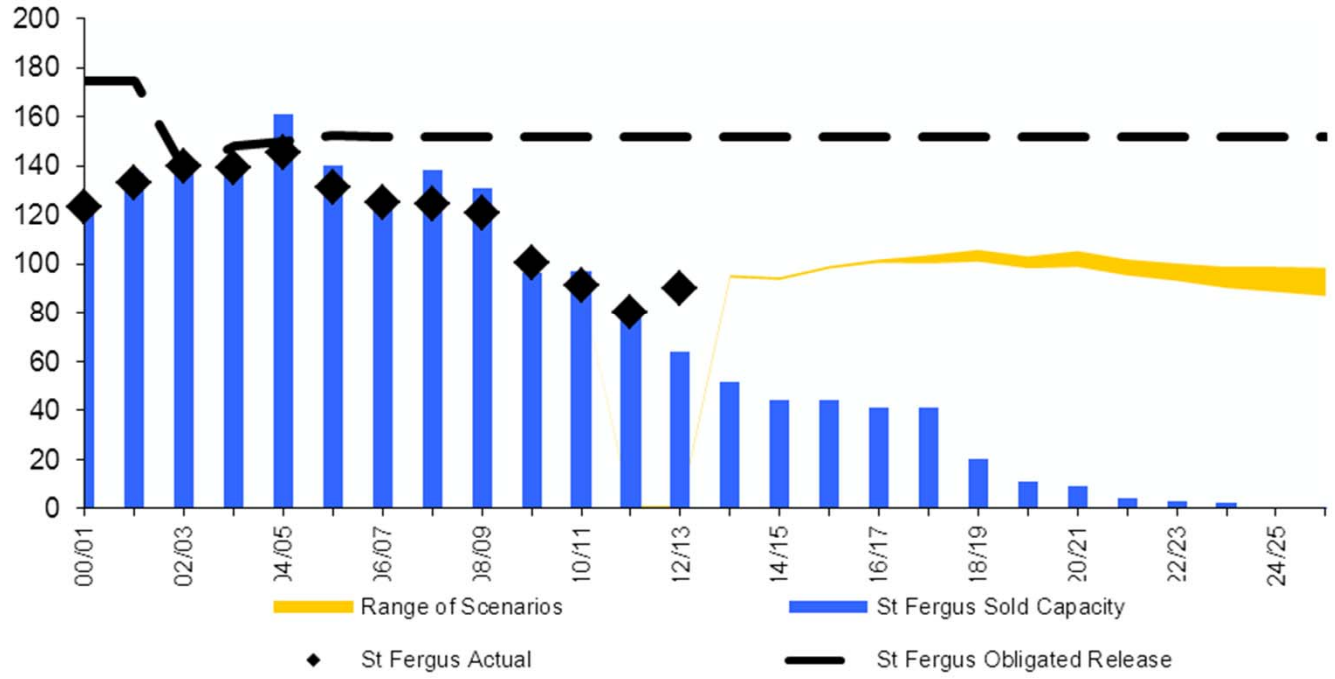
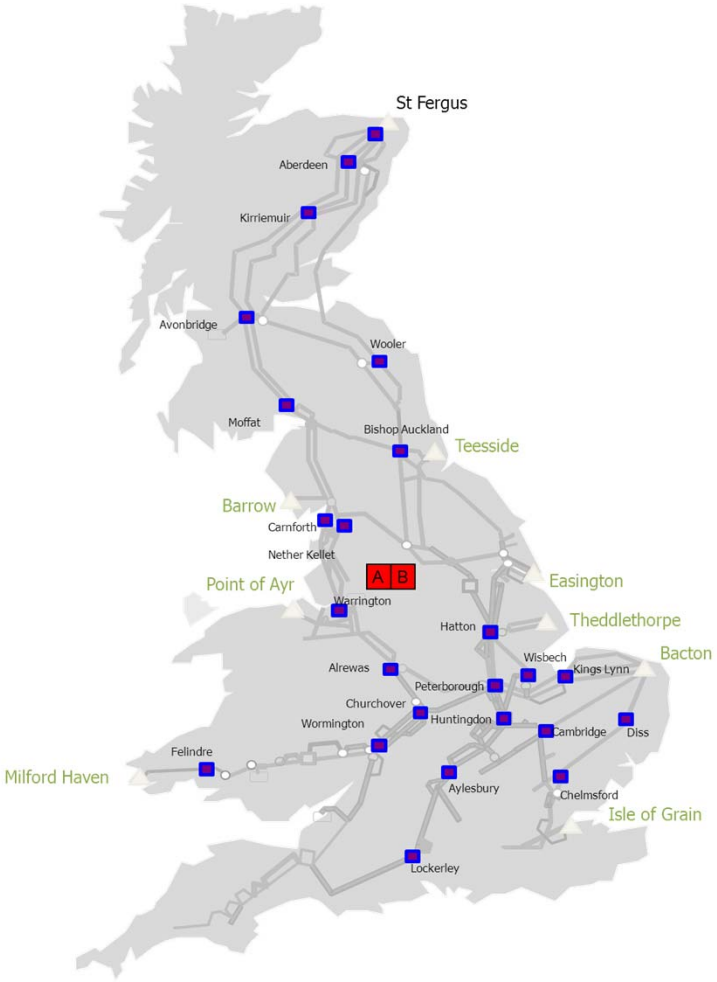
Warrington Capability Requirements - Entry

Peak St. Fergus Scenarios (mscm/d)

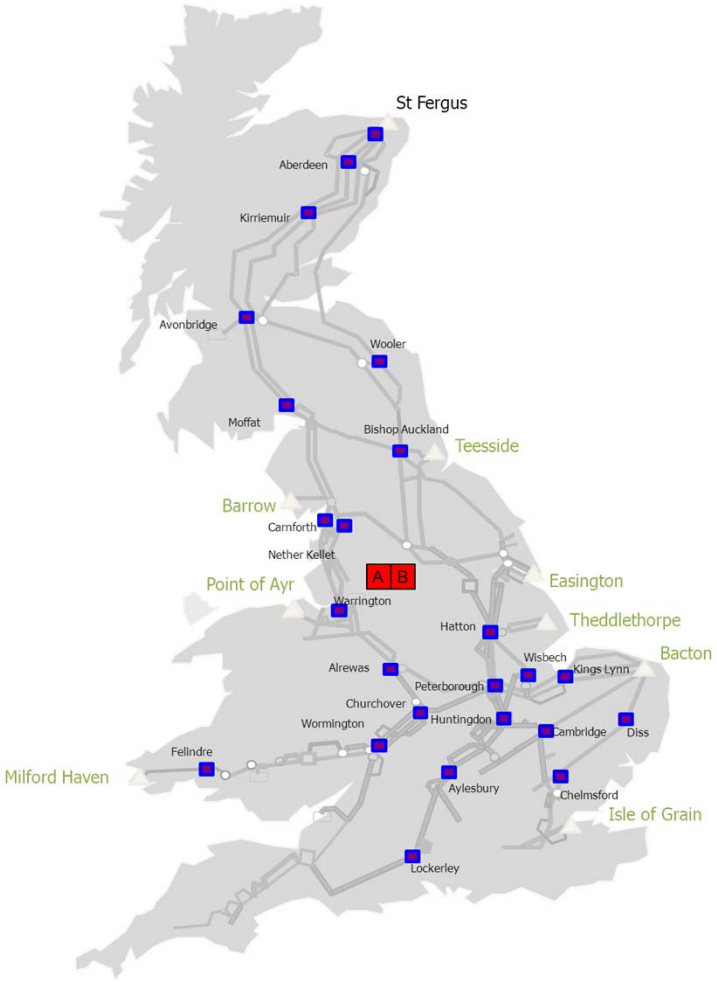


Warrington Capability Requirements - Exit



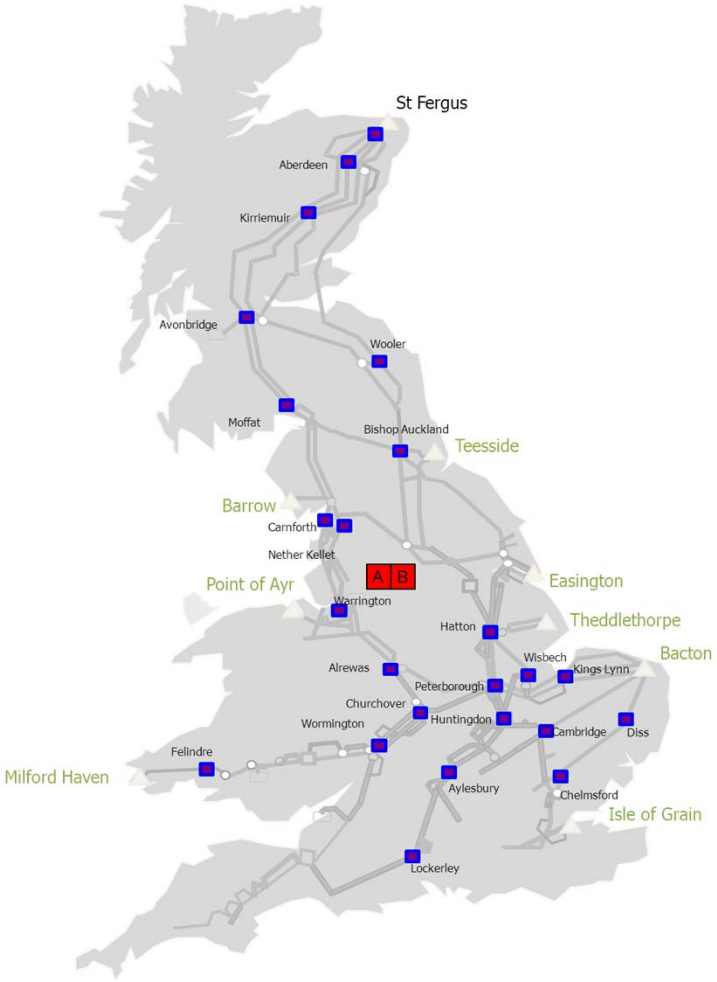
- Warrington is not required to support Exit due to new storage sites in the area supporting Exit points at high demands and the new LNG terminal at Milford Haven

Warrington Capability Requirements - Resilience



- Warrington can be used to support Inline Inspections of the pipelines in the area by creating a favourable flow pattern
- Warrington is not required to act as back-up for any other compressor site on the system

Warrington Capability Requirements - Flexibility



- Warrington is not required to meet current or future predicted unexpected and expected within day changes at any supply or demand point on the system
- Unexpected changes in storage behaviour at the storages sites south of Warrington can be supported by Carnforth, Nether Kellet and Alrewas

Warrington Capability Requirements - Scenarios

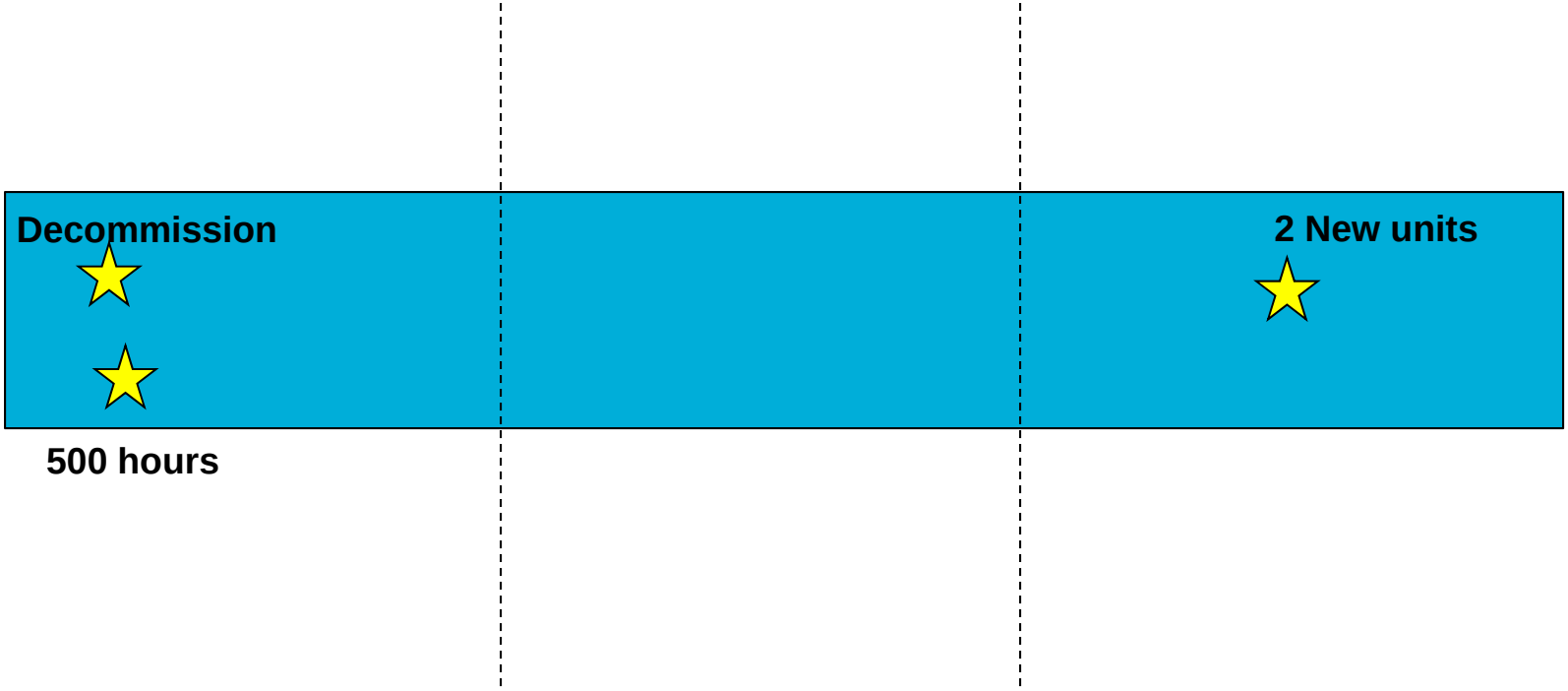
	GG Peak	SP Peak	SP Peak - St Fergus maximised	Exit Capacity Sensitivity Peak	SP Peak - St Fergus Baseline	SP D1A - St Fergus Baseline	SP D1A - St Fergus + Barrow Baseline
National Demand (mcm/d)	*450*	*490*	*490*	*522*	*490*	*395*	*395*
Warrington (bulk duty)	✘	✘	✘	✘	✘	✘	✓

Warrington Options

Yes — No

Key Questions	Importance (from 1 to 10)	500 hours	500 hours + Reduce St. Fergus obligation	Decommission	Decommission + Reduce St. Fergus obligation	2 new units
Does this option allow the network to be operated in sensitivities beyond FES?	0 5 10 / 4 6 8					
Can National Grid meet Entry Capacity obligations considering this option?	4 7 9					
Can National Grid meet Exit Capacity obligations considering this option?	5 8 10					
Does this option allow National Grid to retain current capability?	5 8 10					
Does this option allow National Grid to meet future flexibility requirements?	8 9 10					
Does this option represent an appropriate level of resilience on the network?	5 7 9					
Does this option have a negligible impact on customer charges?	6 8 9					
Does this option remove barrier for encouraging new investment?	9					
Is this option future proof?	7 8 9					
Does this option allow the network to be operated under a broad range of Gas Qualities?	5	N/A	N/A	N/A	N/A	N/A

Warrington Options - Costs



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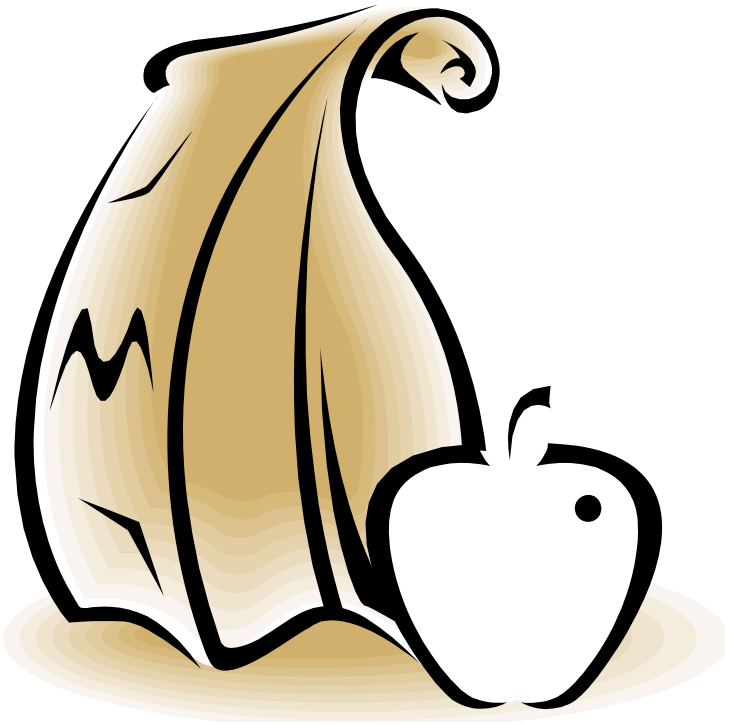
Discussion

Lunch



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Additional Elements of IED Legislation

Neil Dawson
Environmental Engineering Manager

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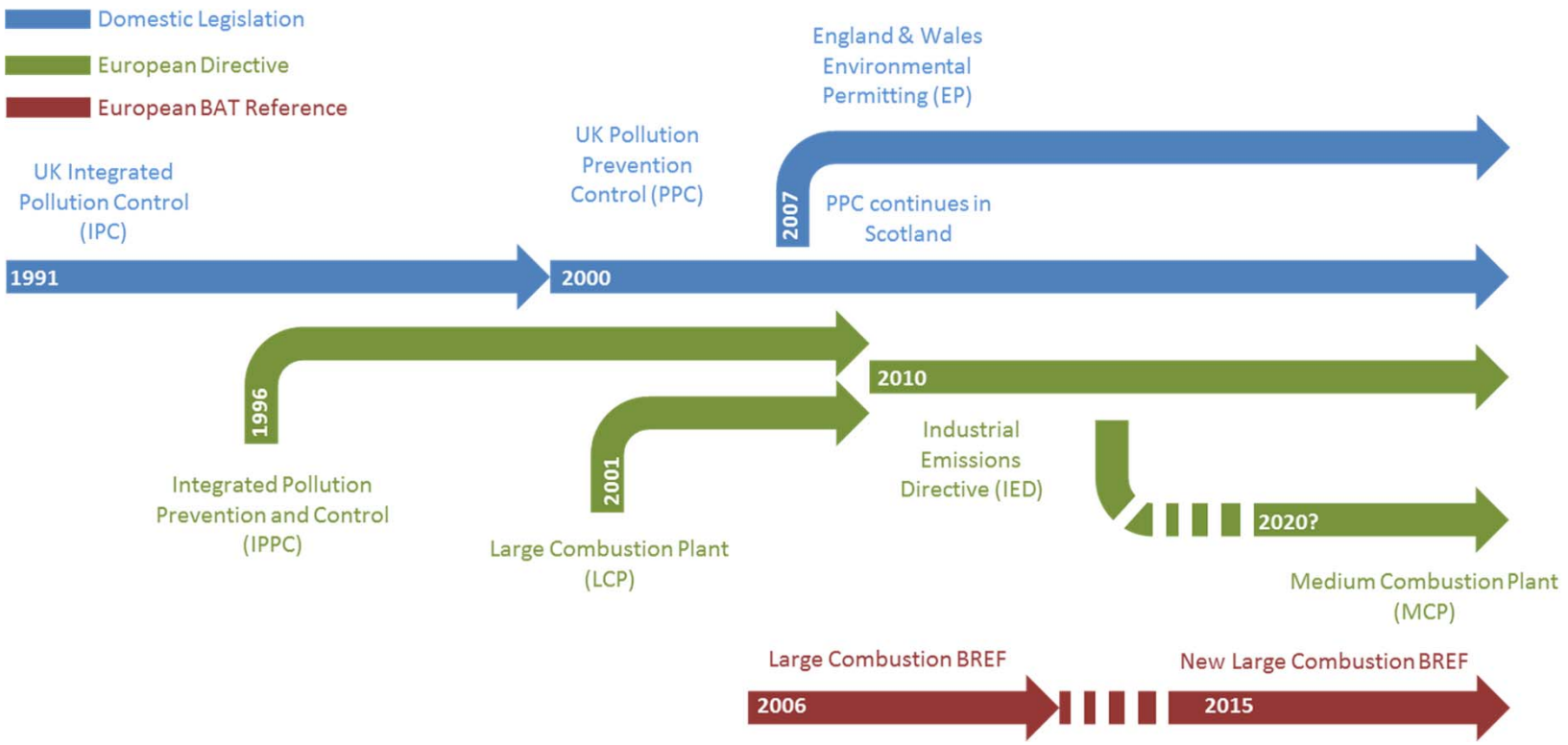
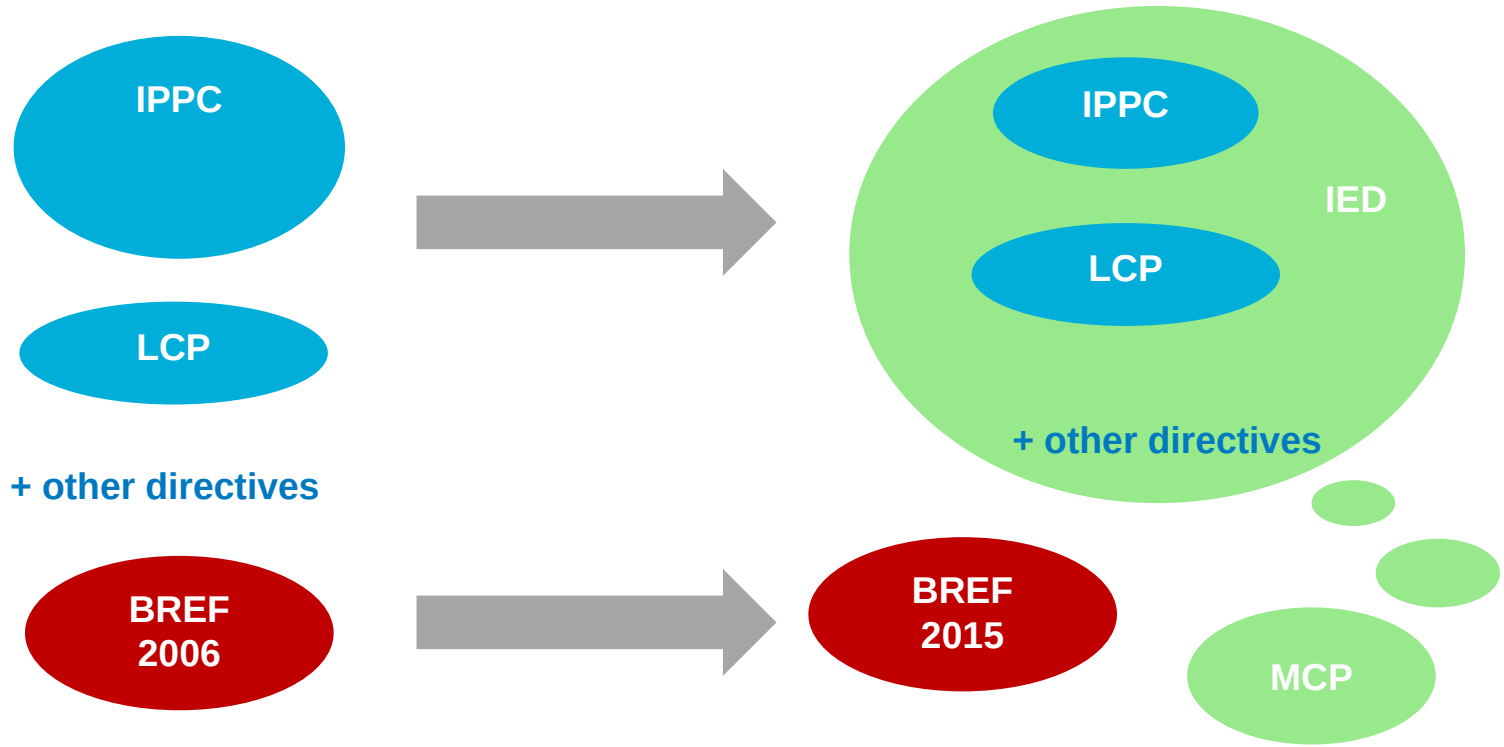
Aims and Objectives

1. Provide an overview of key legislation
2. Introduce new emission
3. To explain the current emission limit values and how they apply
4. Environment Driven Projects

Current and Forthcoming Legislation

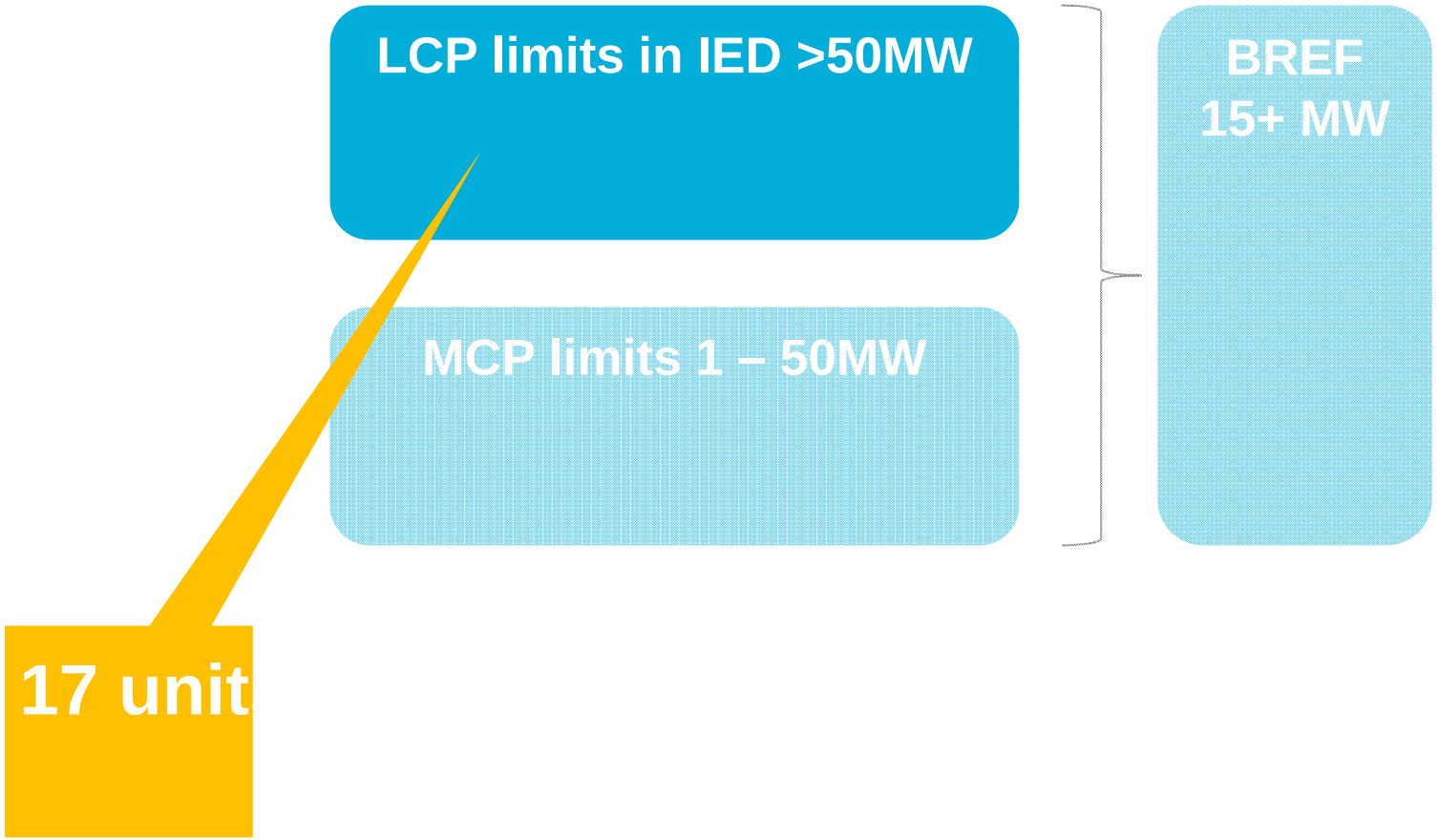


IED all encompassing

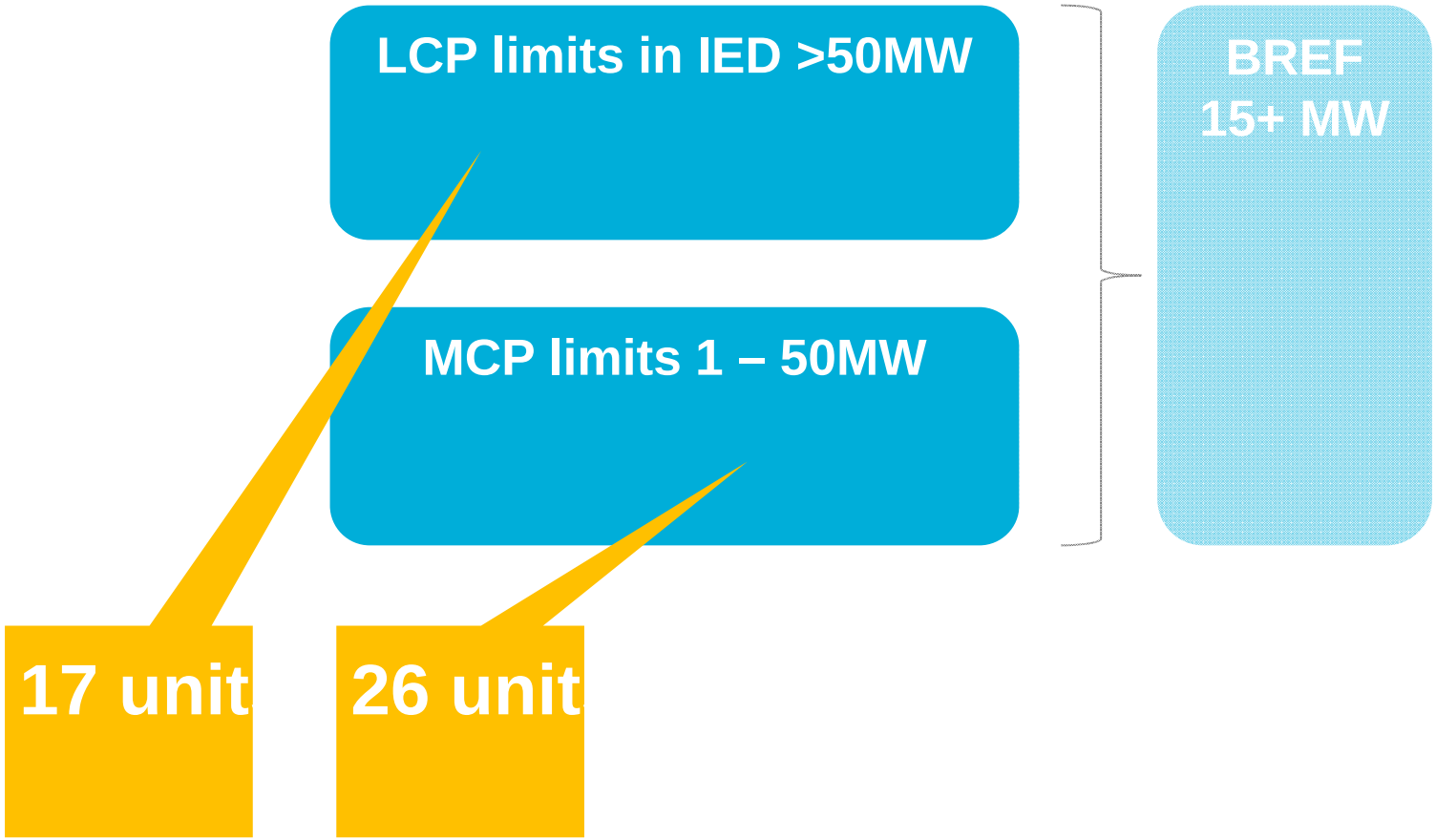


Applicability

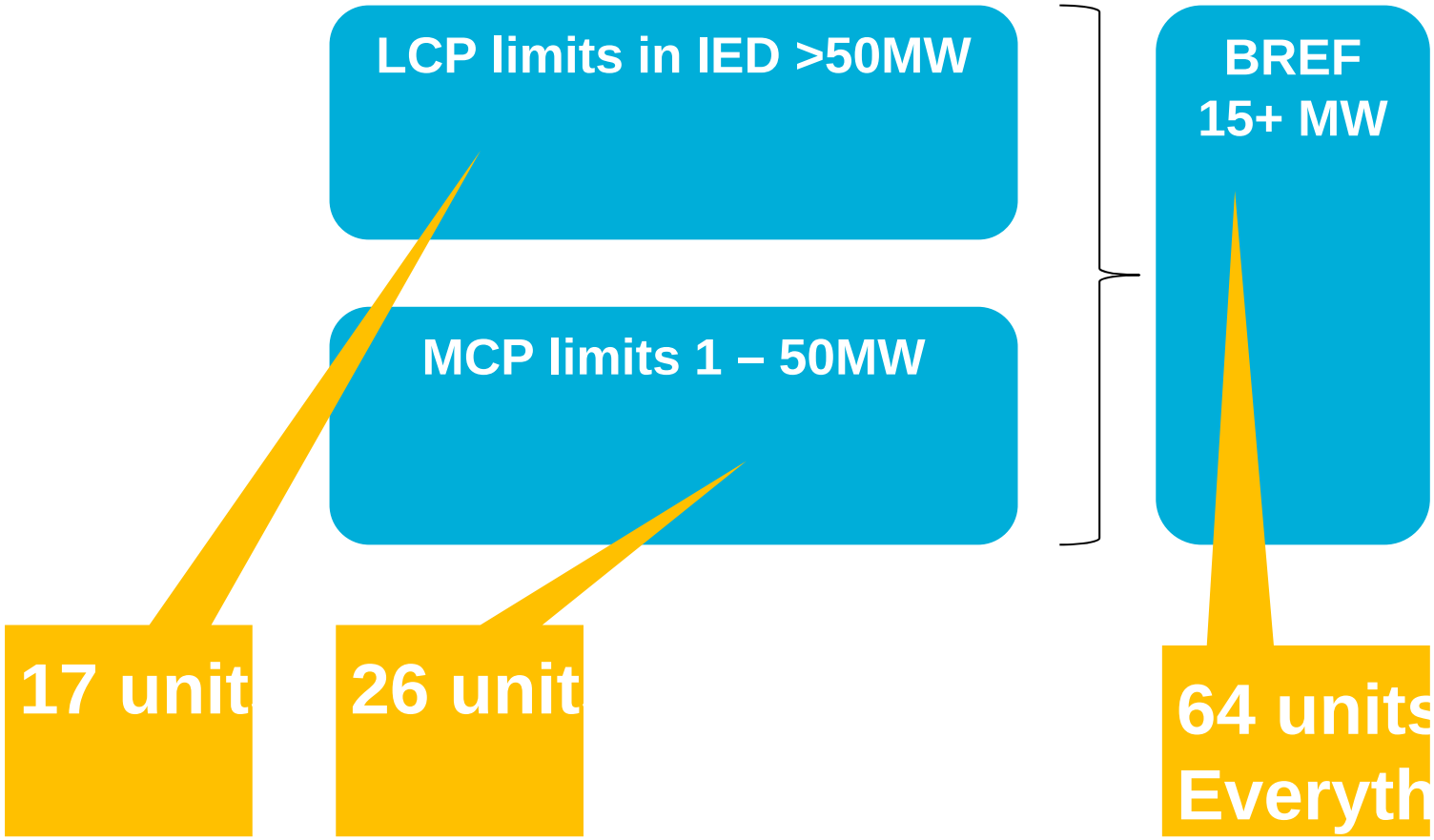
Applicability



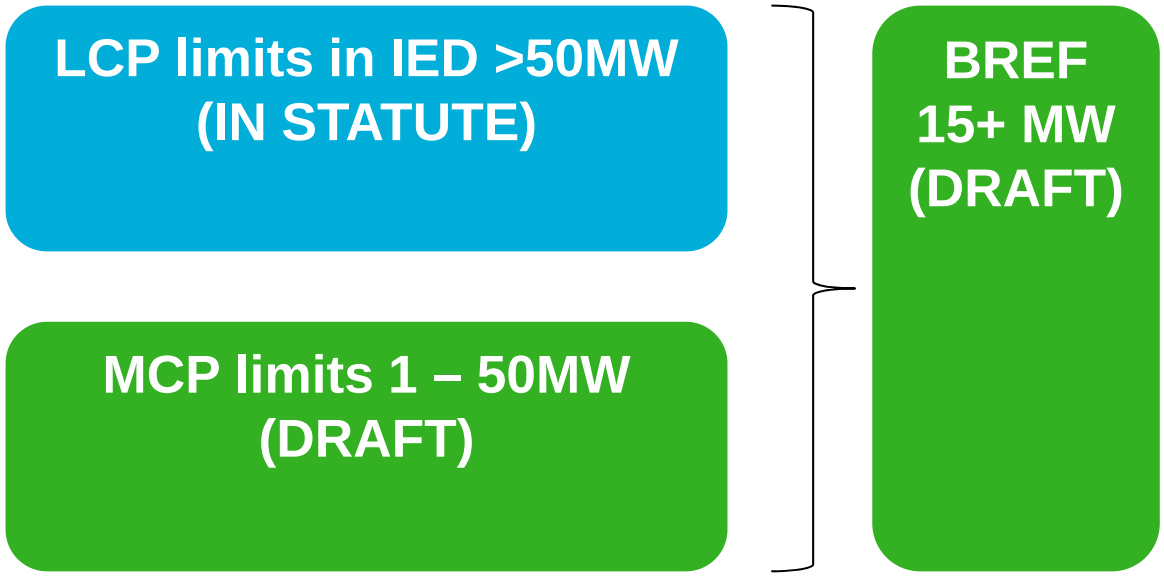
Applicability



Applicability



Current Status



LCP

LCP limits in IED >50MW

Plant	NOx	CO
Existing	75	100
New	50	100

MCP limits 1 – 50MW

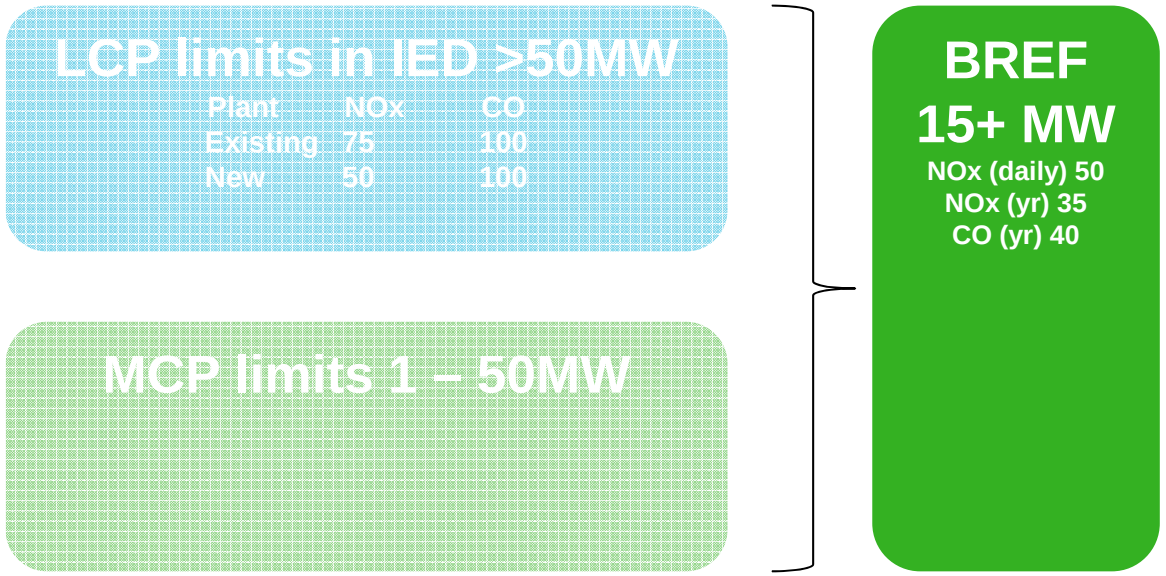
BREF 15+ MW

- Large Combustion Plant limits are implemented in the IED Directive – sets targets for new and existing plant

In statute

In draft

BREF



- BREF describes acceptable techniques (e.g DLE, SCR)
- BREF sets associated limits to be incorporated into site permits
- Compliance 4 years after BREF is adopted

In statute

In draft

MCP

LCP limits in IED >50MW

Plant	NOx	CO
Existing	75	100
New	50	100

MCP limits 1 – 50MW

Plant	Nox
Existing	150
New	50

BREF 15+ MW

NOx (daily) 50
NOx (yr) 35
CO (yr) 40

- Draft MCP sets limits for new and existing plant
- 5 – 20MW limits for GTs are key for NG
- Limits will be implemented via site permits

In statute

In draft

Summary

LCP limits in IED >50MW

Plant	NOx	CO
Existing	75	100
New	50	100

MCP limits 1 – 50MW

Plant	Nox
Existing	150
New	50

BREF
15+ MW
NOx (daily) 50
NOx (yr) 35
CO (yr) 40

- Overall picture is complex and discrepancies exist between BREF and LCP/MCP emission limit values
- Significant uncertainty over applicable operating range…

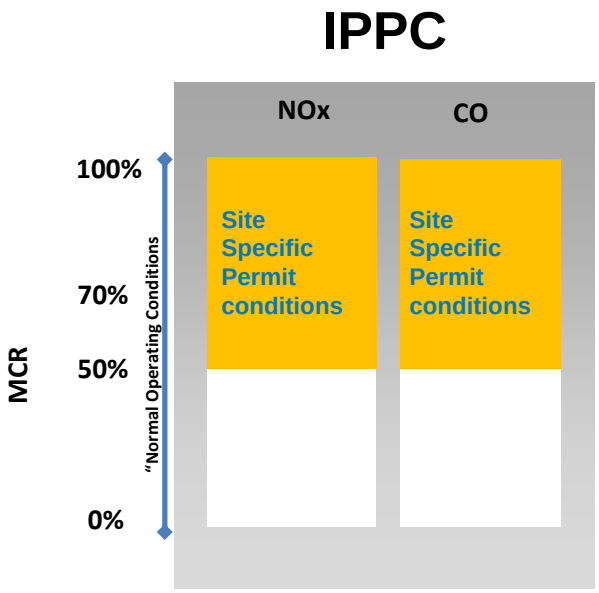
In statute
In draft

Applicable Operating Range

- MCP / LCP emission limits only apply over 70% MCR of the gas turbine
- Therefore MCP / LCP emission limits may not apply all of the time, but EA/SEPA have stated that deliberate running under 70% to avoid compliance with limits is illegal
- But IED introduces the term ‘normal operating range’ in determining when BREF limits are applicable…so what applies and over what power range?

3. Current Emission Limits

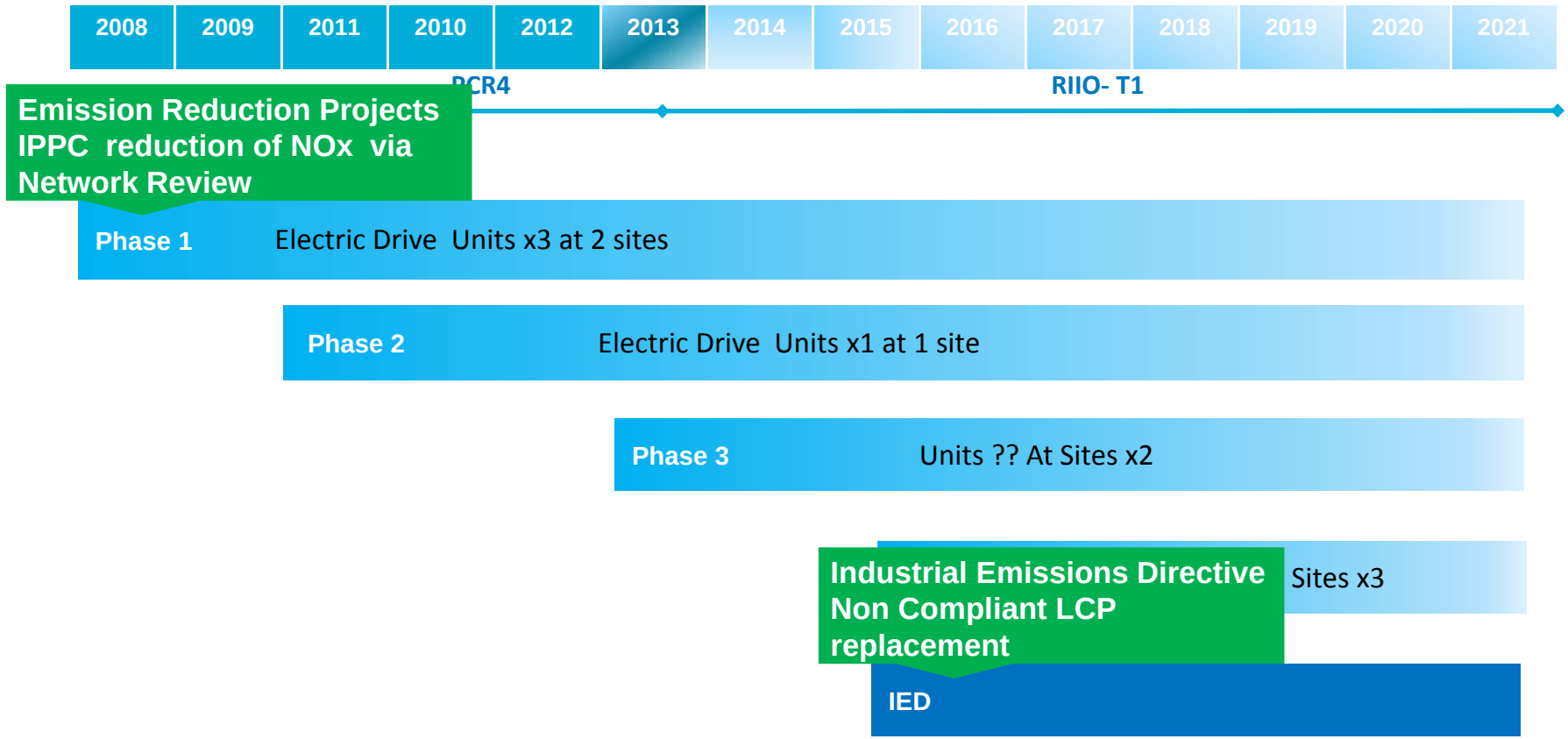
Where we are now



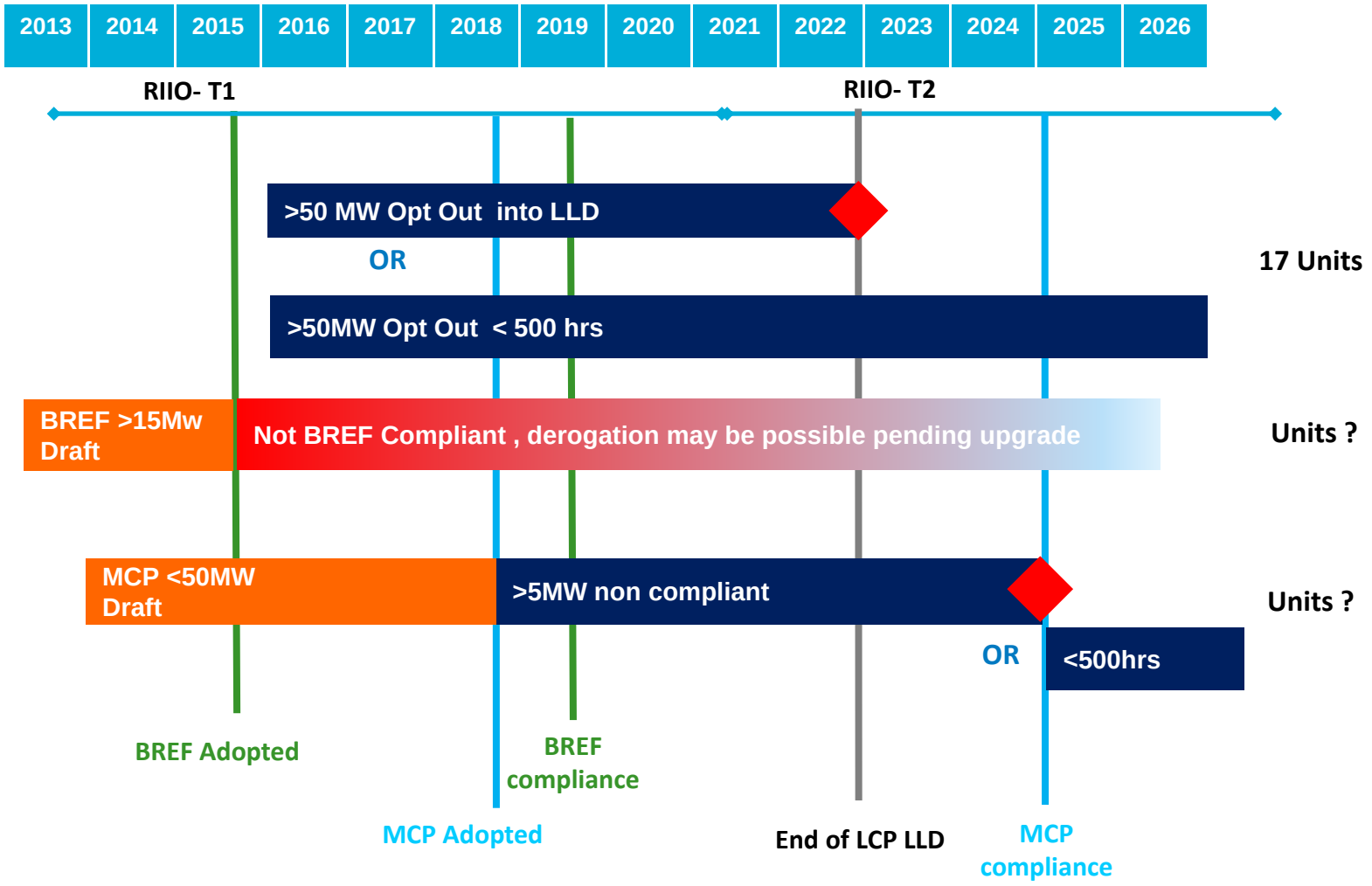
- Applies to all site in aggregate >50MW input (all gas turbine compressor installations)
- We are regulated under the existing site EPR permits c 55 – 100% MCR
- Permit set site specific ELVs, which range from 75 to 400mg/Nm3 NOx and up to 2000mg/Nm3 for CO!

4. Environment Driven Projects

IPPC & IED



What future could look like



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Coffee Break

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IPPC Potential Sites

Neil Sorrell
Lead Gas Transmission Network Analyst

IPPC Phase IV

- IED also includes the IPPC legislation
- As part of the May re-opener we will also request funding for 3 units under IPPC Phase IV
- IPPC is about reducing overall emissions at a site

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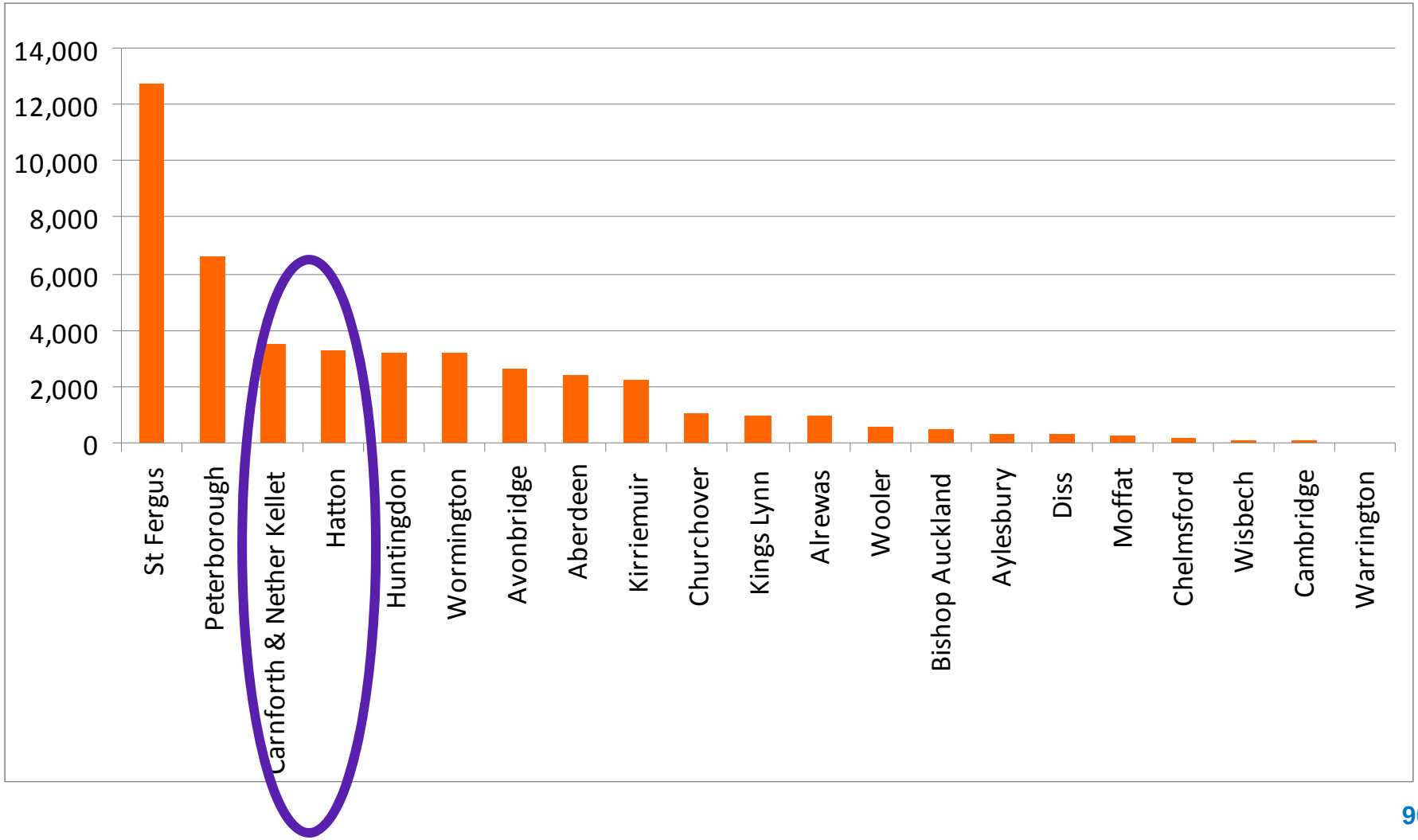
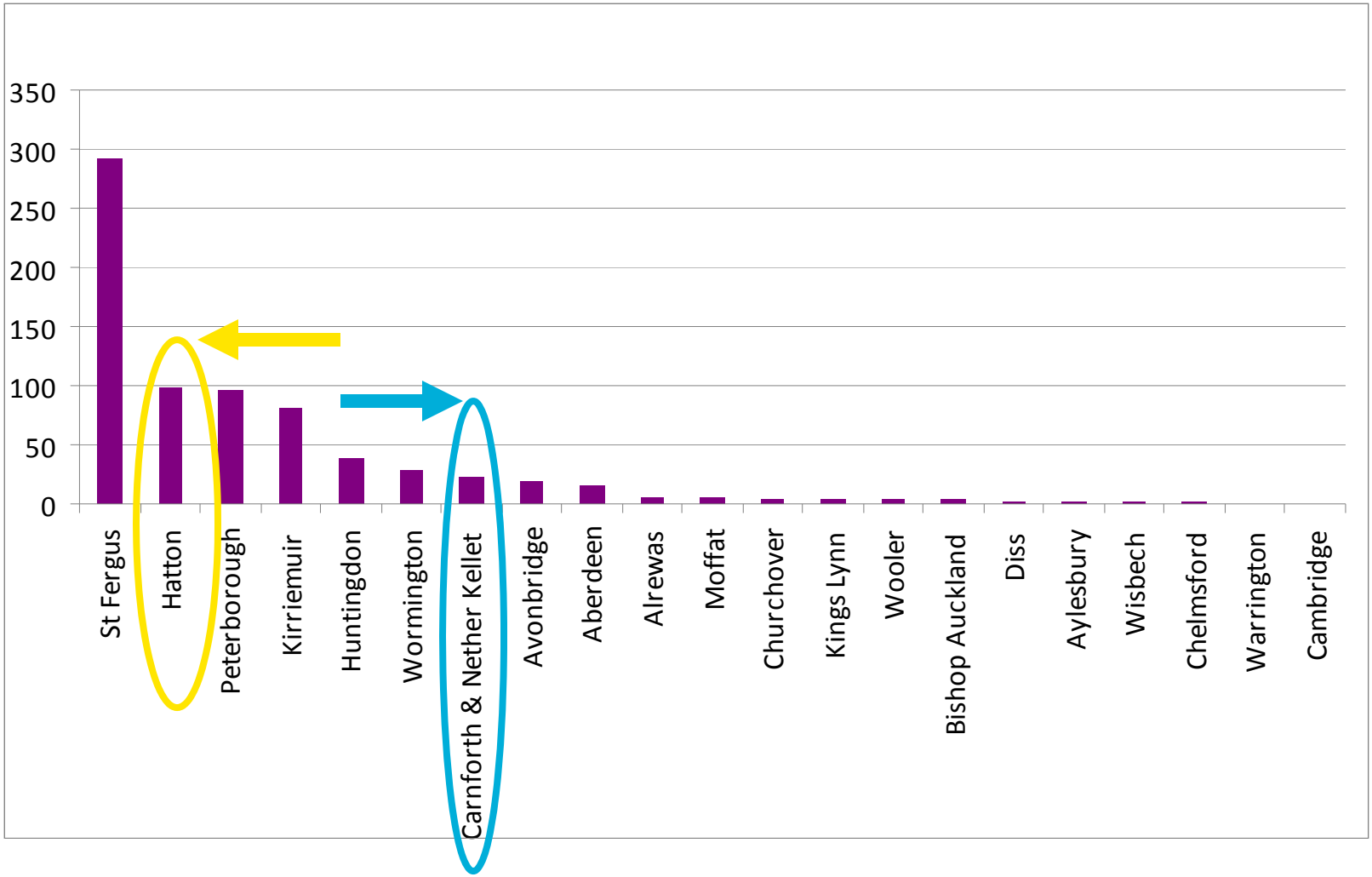
Aims

- Provide an overview of current compressor usage
- Show expected reductions following IPPC Phase I-III
- Agree the next 3 sites for submission under IPPC Phase IV

5 year running averages – all sites



NOx levels - all sites



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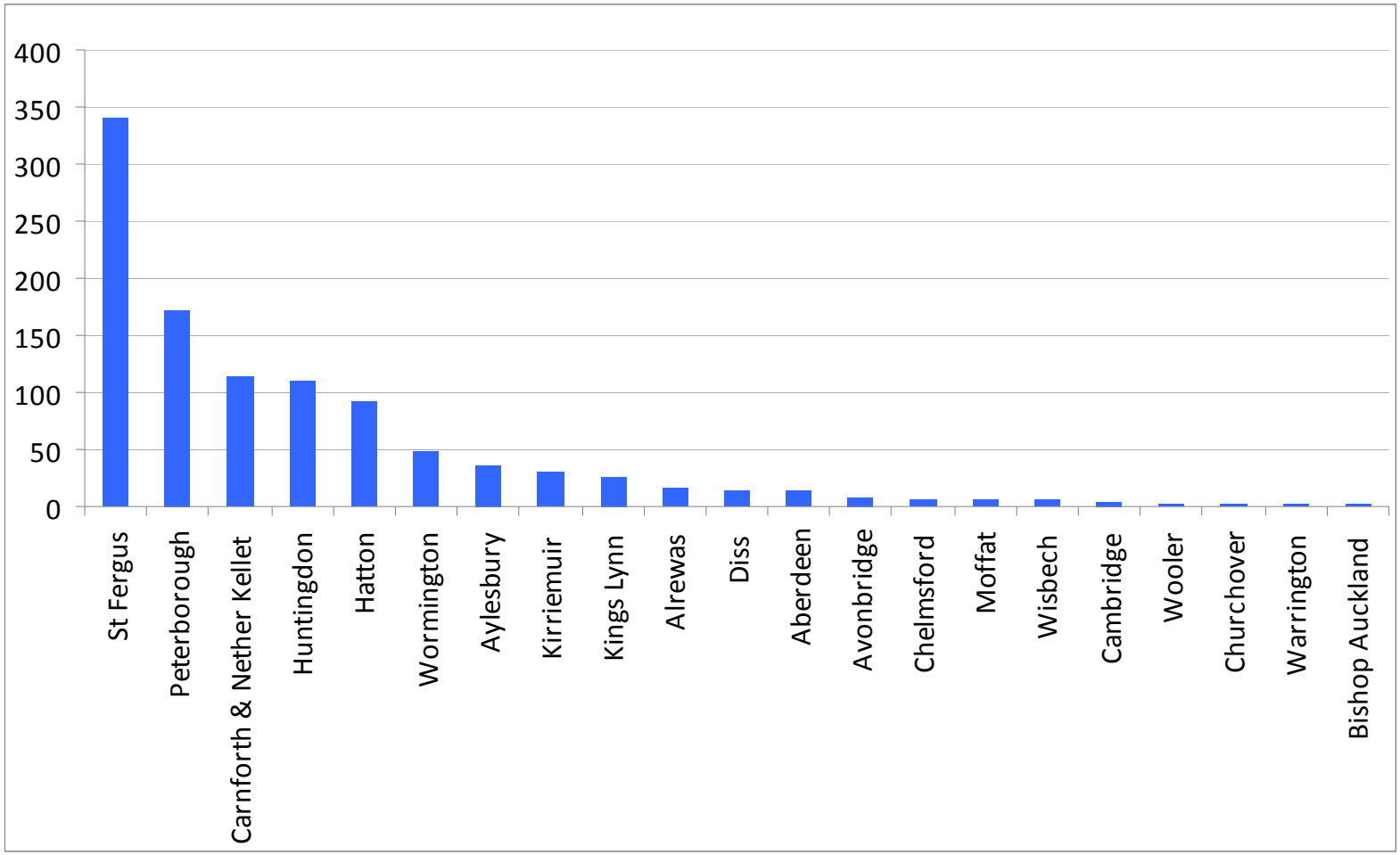
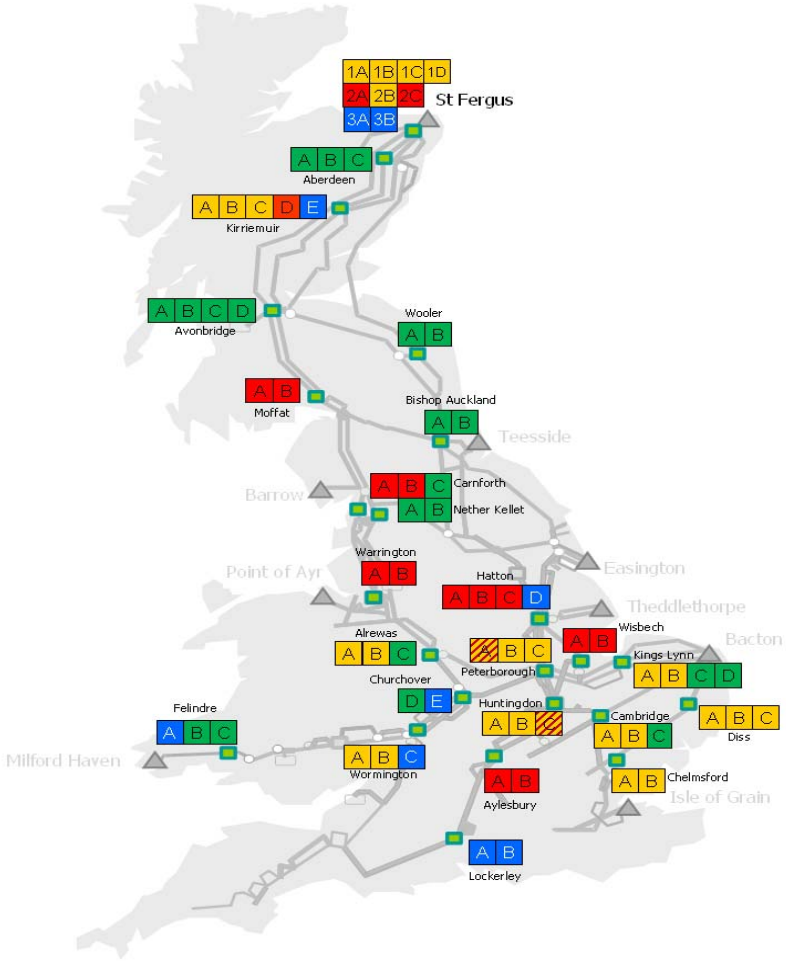
CO levels - all sites



Units within scope



- Those shown in red are non-LCP compliant
- The blue and green units are electric or LCP compliant units
- Peterborough and Huntingdon are part of IPPC phase III
  - Will replace the current parallel operation duty
- Those in orange are all IED exempt but fall into the scope of IPPC phase IV

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Impact of previous IPPC phases

- St Fergus
  - The 2 electric drives will take most of the duty for the existing 25MW RB211's
  - The RB211's will remain on site with the 5 Avon's that are used for start-up, single operation and back-up
- Kirriemuir
  - The new electric drive will take most of the duty for the 25MW RB211
  - The RB211 remains with the 3 Avon's used for single operation and back-up
- Hatton
  - The new electric drive will take most of the duty for the site
  - The 3 25MW RB211's on site fall under the scope of the Industrial Emission Directive
- Peterborough & Huntingdon
  - Will provide most of the duty for parallel operation once commissioned
  - The 6 remaining Avon's will continue to provide single unit operation, back-up and are required to hit other points on the envelope

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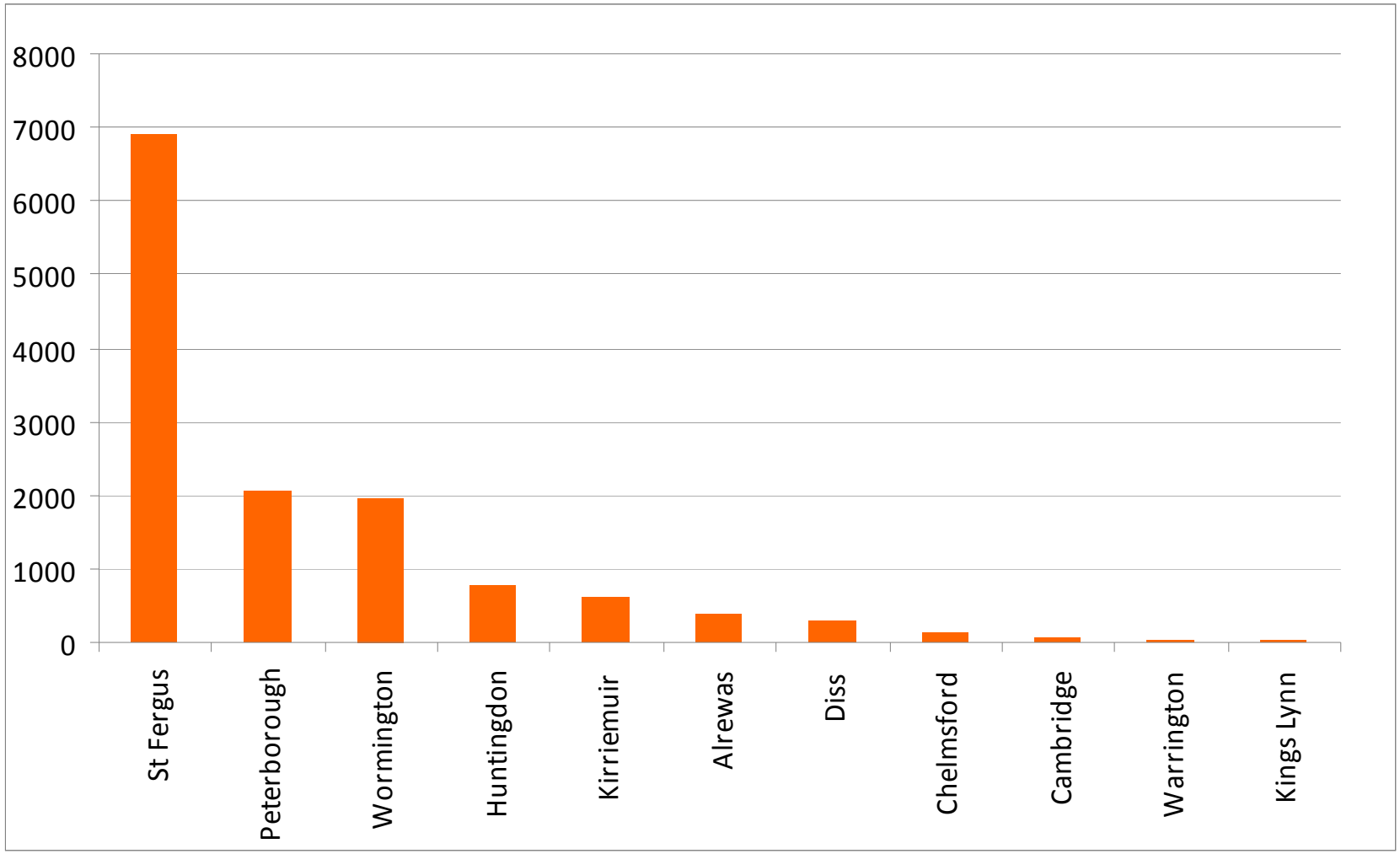
Adjusted 5 year running averages



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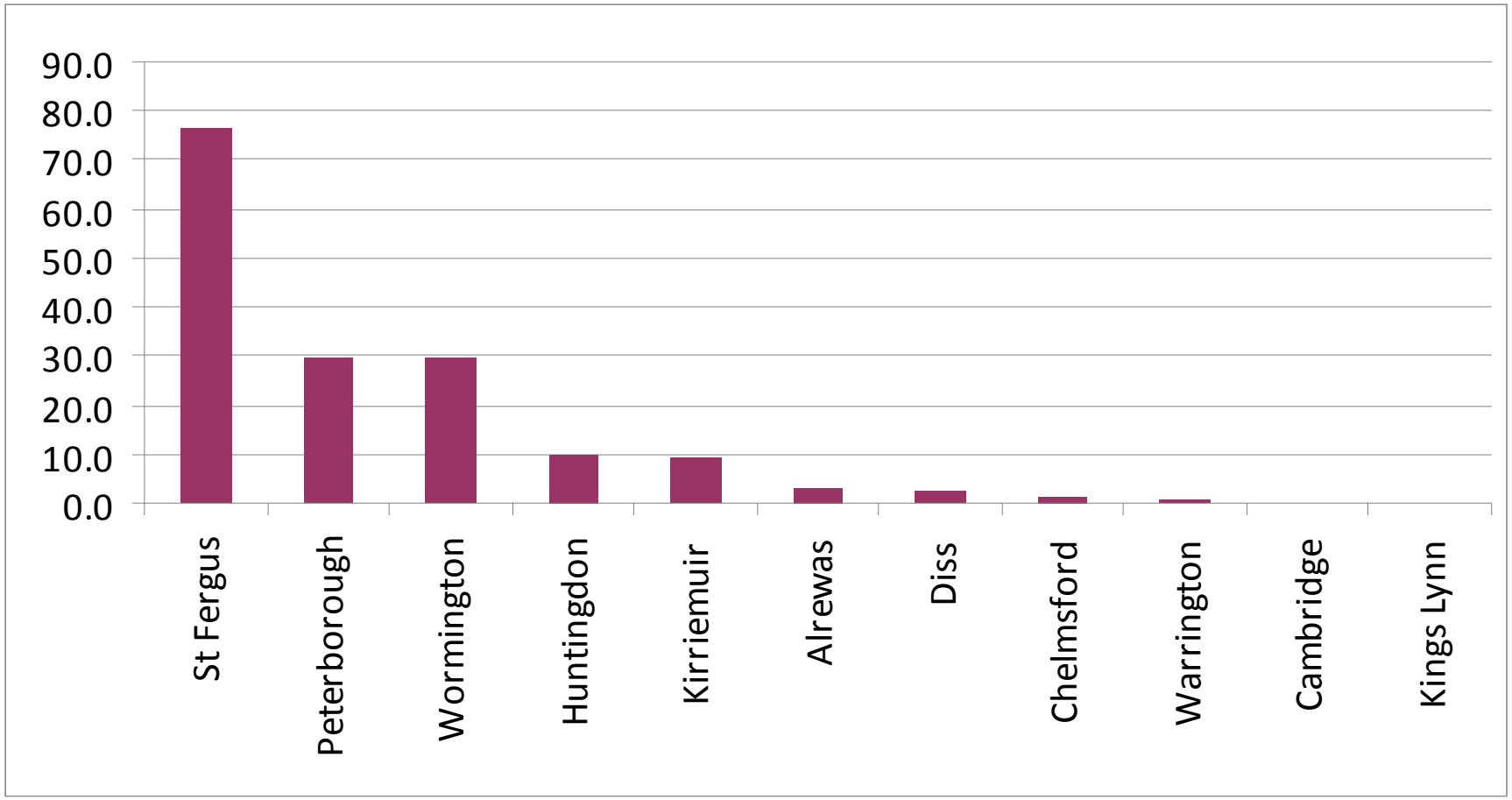
Adjusted NOx levels – In scope units only



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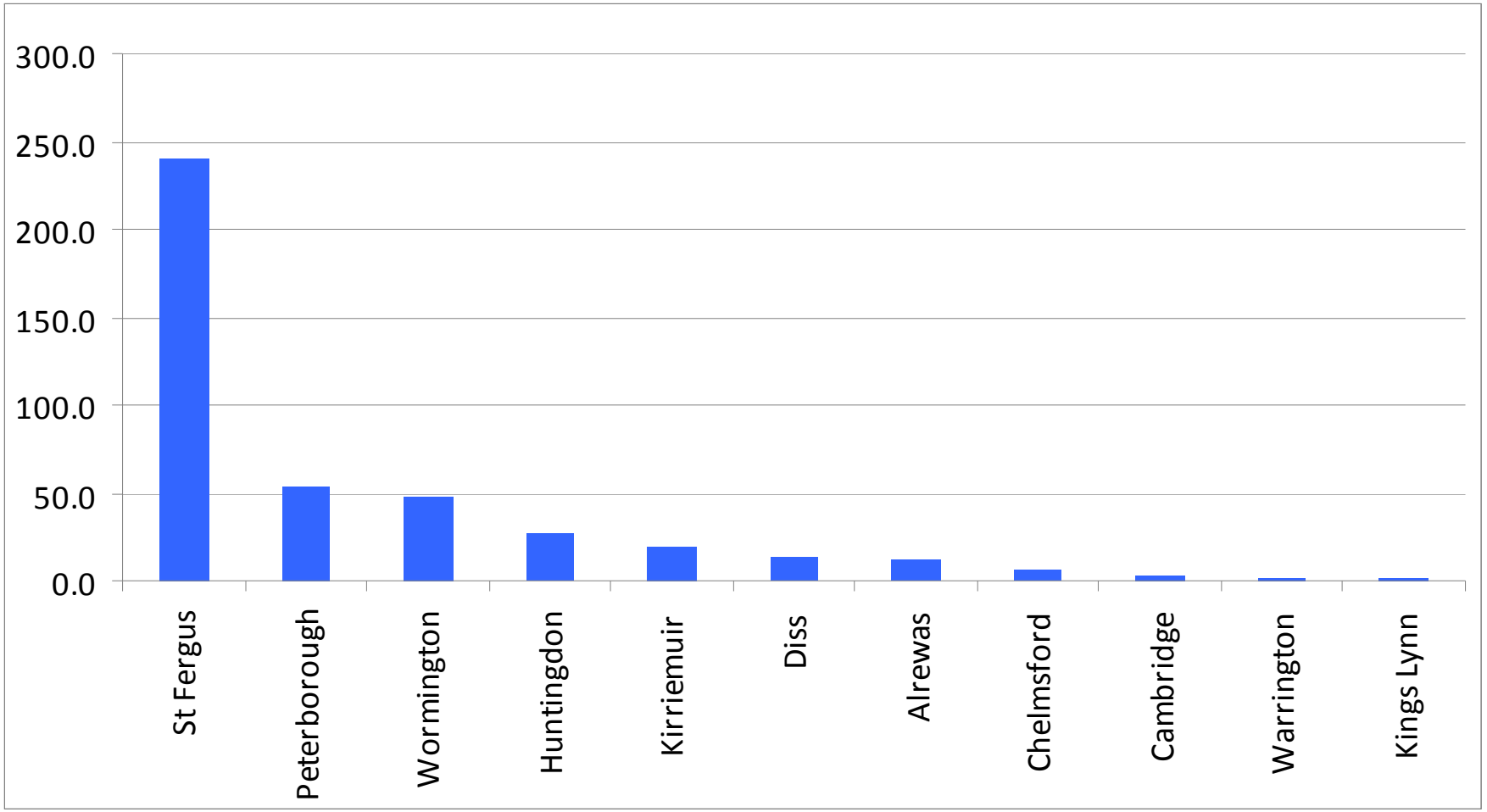
Adjusted CO levels – In scope units only



Network Development Process

- The charts showed the average usage over the past 5 years
- To ensure we maximise the reduction in emissions we need to take account of factors that could impact running hours in the future
- As assessment was completed on each site to determine if we predict an increase, decrease or continued trend
- This assessment looked at
  - What the site is used for, Entry, Exit, Bulk Transmission
  - Changing supply patterns
  - New demands
  - Asset health issues

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Network Development Process

- The assessment indicated the trend for all sites would remain consistent except Wormington
- Wormington running hours are expected to reduce due to:
  - The commissioning of Felindre – this would then be the preferred unit under high Milford Haven scenarios
  - We are unable to run units A and B during the summer due to high ambient temperatures
  - Increased confidence in unit C – the electric drive now being the lead unit
  - Low Milford Haven flows during the winter
- The table below also shows a significant reduction in running hours over the last 2 years at units A & B

Year		2009	2010	2011	2012	2013	5yr Average
Site	Turbine Unit	Running Hours	Running Hours	Running Hours	Running Hours	Running Hours	Running Hours
Wormington	A	283	2,561	2,599	446	33	1,184
	B	173	1,185	2,450	95	48	790
	C	907	1098	2021	961	926	1183
	Total	1,362	4,844	7,070	1,502	1,008	3,157

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Recommended Site Selection

- St Fergus and Peterborough – These have the highest running hours and emissions
- Wormington is 3rd however it is expected that the running hours will reduce
- Huntingdon is 4th but recommended to be included in phase IV because:
  - Will give increased cost efficiency if combined with phase III
  - Due to backup policy if phase III unit is lost we would lose the benefit
  - Expected to be 3rd highest running hours going forward
  - Once BREF note released other units existing units could potentially be limited to 500 hours
- What are your thoughts on our recommendation?

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Close