

# European Update



# 1. General Update

## Code Status Update

Code	Current Status	Implementation date
Tariffs (TAR)	Entered into Force 6 April 2017, Mods now being raised (e.g. UNC 0621 + combined ASEP Mod)	Applicable from 6 April 2017, 1 October 2017, 31 May 2019
Transparency (TRA)	Entered into Force 6 April 2017	Applicable from 01 October 2017, First publication end 2017
CAM amendments	Entered into Force 6 April 2017	Applicable from 6 April 2017

## 2. EU Code Updates

# Tariff Code Update

## TAR NC: Monitoring Reports

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- The Monitoring Reports (Art 36 of TAR NC)
  - ACER/ENTSOE now performing a check of data published for completeness and consistency
  - Final report due in **March 2018**
  
- ACER has started planning for production of revenue report (Art 34 of TAR NC)
  - This is a report on methodologies and parameters used to determine allowed revenues of TSOs
  - Publication due **end 2018 /early 2019**

## TAR NC: Future evolution?

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- Consideration amongst TSOs being given to future changes to multipliers (Art 13) to incentivise long-term bookings
  - Should multi-annual products be introduced with multiplier of less than 1?
  - Should multipliers  $>1.5$  be allowed for monthly products
  - Should multipliers  $>3$  be allowed for daily products on enduring basis
- Discussions at early stage but these concepts are being considered and may result in future proposed amendment to TAR NC

# UNC Mod 0621: Amendments to Gas Transmission Charging Regime

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- TAR NC being implemented via UNC 0621
- Details can be found at
  - <https://www.gasgovernance.co.uk/ntscmf>
  - <https://www.gasgovernance.co.uk/0621>
- Next meeting **06 February 2018**



## Future Topics

## Future Topics

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Topic Area	Provisional Date
Tariffs Code	Monthly updates
Transparency requirements	Monthly updates
CAM Amendment	Monthly updates
Capacity conversion update	February 2018

## Modification 0628S

# Project CLoCC

Customer Low Cost Connections

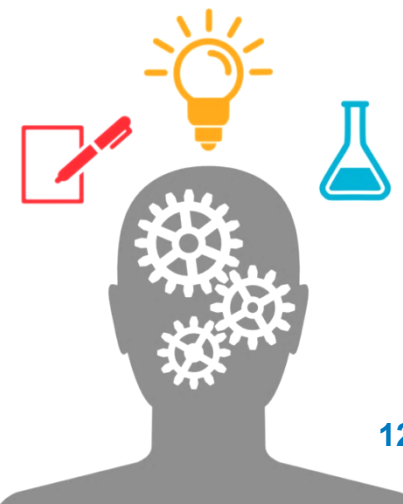
**NETWORK INNOVATION COMPETITION PROJECT:**

**CUSTOMER LOW COST CONNECTIONS (CLOCC)  
– MOD 0628S DEVELOPMENT**



**Nicola Lond  
Commercial Lead**

**TWG January 2018**

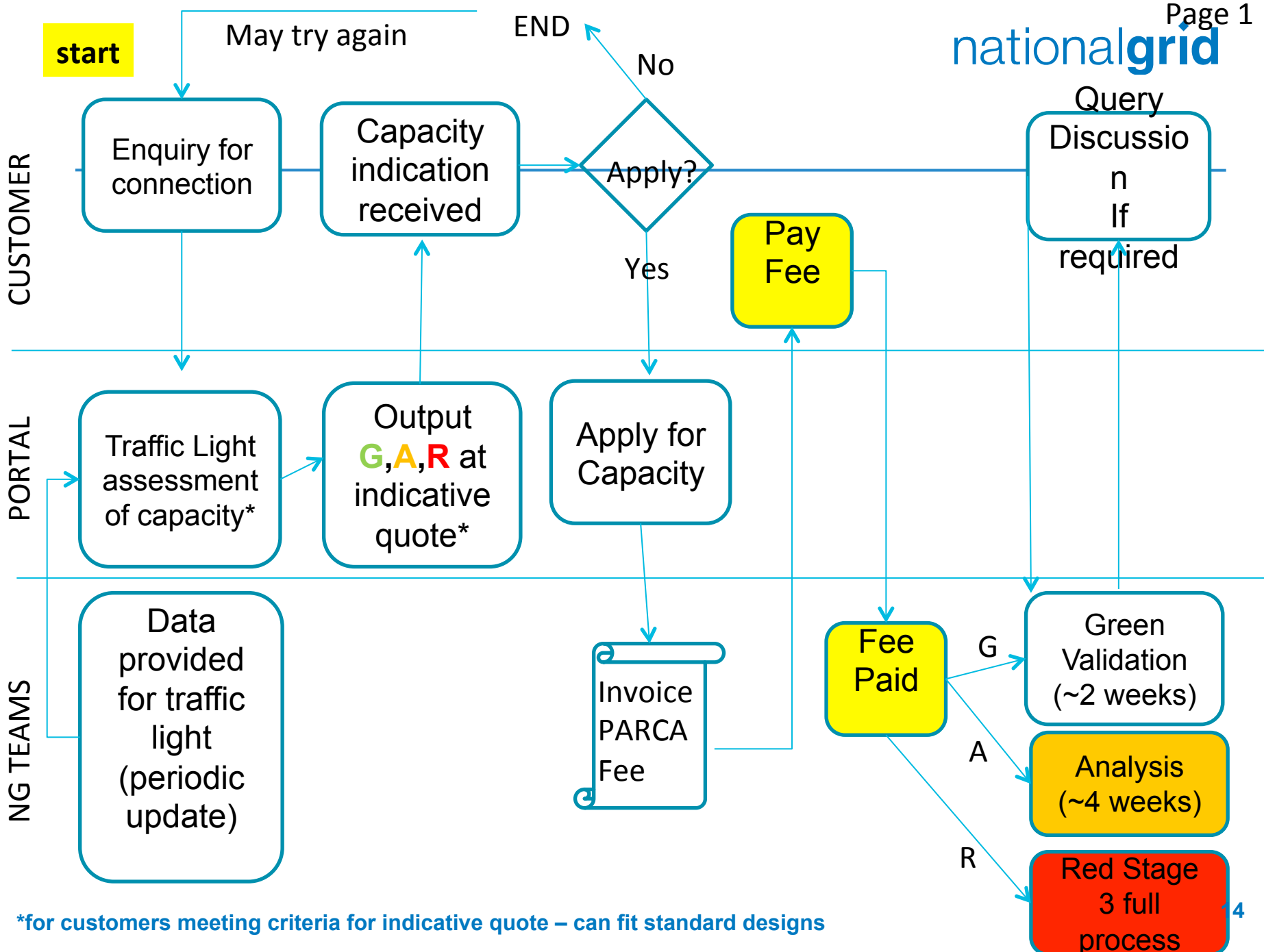


# Mod 0628s – Standard Design Connections:

## PARCA process

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- Principles of Mod - recap:
  - Accelerated route through the PARCA Phase 1 process for a capacity quantity consistent with a Standard Design and where National Grid has identified that capacity is currently available
    - For a standard design this would be via Connections online portal capacity indicator
  - A appropriate fee can be charged to reflect the reduced time required for an accelerated route

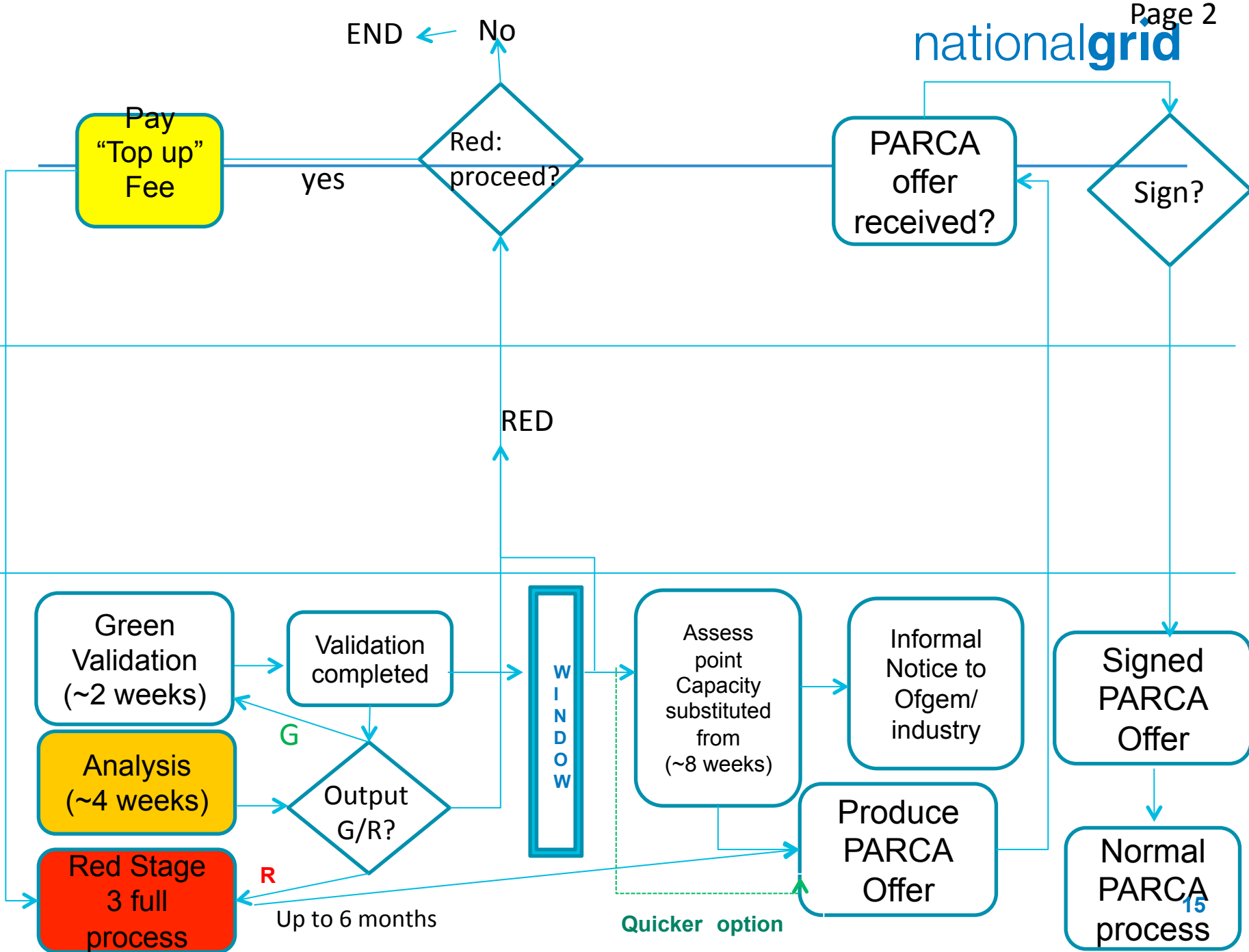


\*for customers meeting criteria for indicative quote – can fit standard designs

CUSTOMER

PORTAL

NG TEAMS



## Potential Fee Type

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- Connection Charging Statement
- Add new Fees for...
  - Accelerated route - could be fixed
    - If 57.3gwh or less and have Green capacity indicator
  - Top up to full fee – difference between accelerated and full fee
    - If paid accelerated route fee but changes at Validation or following window to full fee



# UNC – for review – Section Y

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- TPD Y – GT Connection Charging Methodology
  - Section 5 – PARCA
    - 45 a) The PARCA Application Fee will be:
      - ii) the same monetary amount for all PARCA Applicants
        - Change for additional of accelerated Fee + Top up fee
    - 45 b) Actual Costs of the Phase 1 PARCA Works will be assessed....
      - Change if fixed fee for accelerated

## Mod Timetable – Next Steps/Planning

ITEM	0628s		
Initial consideration by Panel	2 November 2017		
Modification considered by Workgroup	November 2017 – May 2018		
Workgroup Report presented to Panel	17 May 2018		
Draft Modification Report issued for consultation	17 May 2018	<b>WORKGROUP</b>	<b>Suggested Items for Discussion</b>
Consultation Close-out for representations	8 June 2018	<b>November</b>	Initial Discussion – Process proposed
Final Modification Report available for Panel	11 June 2018	<b>December</b>	Process discussion
Modification Panel decision	21 June 2018	<b>January</b>	Fee discussion
		<b>February</b>	Business Rules/ Solution proposed
		<b>March</b>	Legal Text proposed
		<b>April</b>	Legal Text (WebEx if required)
		<b>May</b>	Workgroup Report Finalisation

# Project CLoCC

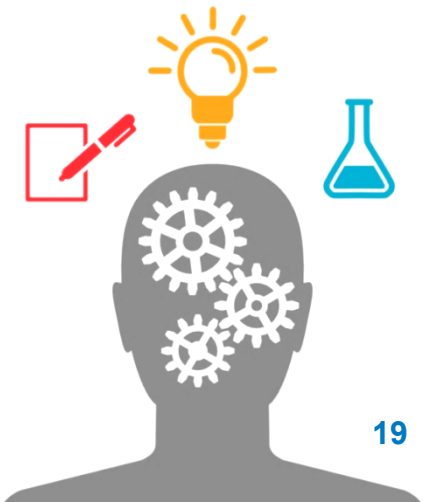
Customer Low Cost Connections

[www.projectclocc.com](http://www.projectclocc.com)

**Contact:**  
**Nicola Lond**  
**Commercial Lead**

**m:+44 07824 551667**

**[nicola.j.lond@nationalgrid.com](mailto:nicola.j.lond@nationalgrid.com)**



## Modification 0629S

# Project CLoCC

Customer Low Cost Connections

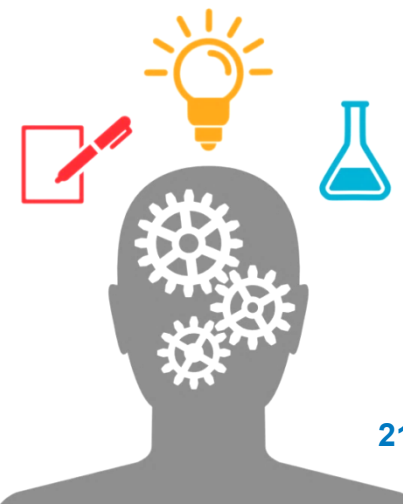
**NETWORK INNOVATION COMPETITION PROJECT:**

**CUSTOMER LOW COST CONNECTIONS (CLOCC)  
– MOD 0629S DEVELOPMENT**



**Nicola Lond  
Commercial Lead**

**TWG January 2018**



# Mod 0629s – Standard Design Connections: A2O connection process

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- Principles of Mod - recap:
  - More efficient offer process for a Standard Design connection
    - Standard Designs are Pre-approved and Pre-appraised
    - Connection Online Portal provides automation of Conceptual Design Study (CDS) – engineering study for Full Connection offer (FCO)
  - A appropriate fee can be charged to reflect the reduced time required for a Standard Design Connection
  - *Ability to offer Enhancements to Minimum Offtake Connection (MOC) for filtration and Metering – removing from Mod under consideration*

## Possible Fee Type

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- Connection Charging Statement
  - Add Standard Design Simple Full Connection Offer (FCO)
    - Criteria – Can utilise the Standard Design
    - Entry or Exit
    - Does not include for Feasibility Study – additional if required.
    - Could be fixed?
  - No change to ICO

# Standard Design Feasibility Study requirements proposed

Existing site Type	Standard Design Confirmed	Feasibility Study required	Notes
Block Valve	Yes	No	Assessment upfront mitigates feasibility study requirement.
Multi Junctions	Yes	No	Assessment upfront mitigates feasibility study requirement.
Multi Junctions	TBC	Maybe	There are some multi junctions which are more complex where further investigation would be required which may result in a feasibility study. A full study may not be required, a reduced study may be sufficient.
Pig Traps	Yes	No	Assessment upfront mitigates feasibility study requirement.
Pig Traps	TBC	Maybe	There are some Pig Traps which are more complex where further investigation would be required which may result in a feasibility study. A full study may not be required, a reduced study may be sufficient.
Other e.g. Compressor Station	Unknown	Yes highly likely	As the other types are more complex and unique/ potentially present a higher risk these have not been assessed in advance and will require investigation on a site by site basis on request so therefore a feasibility study is highly likely to be required to establish if a Standard Design can be utilised on the existing site.

**Note Ramp Rate study may be required for any connection >50MW/minute, as part of the feasibility study.**

**Note that if a feasibility study is required then there will be an additional feasibility fee to be paid and the timeline for a feasibility study**

**will need to be added.**

**Greenfield sites with Standard Design are as per existing arrangements – not required unless >50mw ramp rate may be needed**



# UNC – For Review – Section Y

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- TPD Y – GT Connection Charging Methodology
  - Principles
    - Covers Design Works and Construction Works
    - NG will recover actual costs – change if fixed fee for Design Works
    - Bespoke Quotations – add Standard
    - Split out principles? Design/Construction and Standard/Bespoke?
  - Connection Load Size Threshold
    - Loads (sources of gas) below 58,600,000 kWh (2 million therms) per annum shall not be connected, or be permitted to connect, to the NTS. In exceptional circumstances where suitable alternative connections to a DN are not available then NG will consider requests on case by case basis.
      - Change to not be exceptional, still case by case consideration. Economic/efficient consideration rather than available?

# Mod Timetable – Next Steps/Planning

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Modification Panel decision	21 June 2018	January	Section Y - charging
		February	Business Rules/Solution proposed
		March	Legal Text proposed
		April	Legal Text cont. (Webex if required)
		May	Workgroup Report Finalisation

Can use Webex for additional meetings to progress if appropriate/ required

# Project CLoCC

nationalgrid

Customer Low Cost Connections

[www.projectclocc.com](http://www.projectclocc.com)

**Contact:**  
**Nicola Lond**  
**Commercial Lead**

**m:+44 07824 551667**

**[nicola.j.lond@nationalgrid.com](mailto:nicola.j.lond@nationalgrid.com)**



# Gas Quality Consultation: Summary of Responses and Next Steps

Transmission Workgroup  
January 2018

# Introduction

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- National Grid opened a gas quality consultation during October and November 2017 about the NEA change process and potential new services
- We received 13 responses from a range of customers and stakeholders
  - 7 non-confidential
  - 6 confidential
- The consultation document and all non-confidential responses have been published on our Talking Networks website at <http://www.talkingnetworkstx.com/gas-quality-consultation.aspx>
- The purpose of this presentation is to:
  - Summarise the feedback received
  - Facilitate a discussion on potential future reforms

# Drivers for Consultation

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Recent UNC  
Mods seeking  
limits outside  
GTYS\*  
specification

Lack of a  
mechanism to  
allocate scarce  
flexibility

Exposure of  
some customers  
to gas quality  
variations

Potential for  
National Grid to  
offer blending /  
processing  
services

Project CLoCC

Transparency in  
setting limits for  
new  
connections

\* National Grid publishes an indicative specification that is usually acceptable for most locations in its Gas Ten Year Statement that complies with, but is not limited to, the GS(M)R specification

## Themes on which we sought industry views

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- NEA Change Process

- Future demand to deviate from the GTYS specification (but within GS(M)R parameters)
- Change process for parameters within existing NEAs
- How we should allocate scarce flexibility
- How we agree parameters for new connections

- Potential new services

- Gas processing / blending
- Information provision

# NEA Change Process: Summary of Stakeholder Views

'First come, first served / each case on its merits' has worked well but the UNC process is time-consuming

PARCA type window supported but this could generate speculative requests without immediate need

Ongoing demonstration information is pragmatic

Upstream parties need certainty - increased limits should not be time-limited or contingent on others not requesting

Competing requests could be subject to a value assessment if a compromise cannot be reached

Universal opposition to a 'lowest common denominator' approach

Any deviation from GTYS limits for new connections should be opened to stakeholder engagement

Signatures of capacity holders as an alternative to a UNC Mod would not be sufficiently transparent

Explanation of GTYS limits vs GS(M)R would be helpful



# NEA Change Process: Potential Reforms

Problem	Potential Reform / Action	Issues
<ul style="list-style-type: none"> <li>Potential for discrimination where flexibility is scarce</li> </ul>	<ul style="list-style-type: none"> <li>Introduce a PARCA-type window for any requests to deviate from GTYS limits where scarcity is identified</li> </ul>	<ul style="list-style-type: none"> <li>New sites – integration into A2O connection process</li> <li>Speculative requests</li> <li>Demonstration information – future and existing fields</li> <li>Interaction with UNC Mod process</li> </ul>
<ul style="list-style-type: none"> <li>Allocation of flexibility if demand exceeds availability</li> </ul>	<ul style="list-style-type: none"> <li>DFO compromise</li> <li>Proportional scale-back</li> <li>Relative value assessment</li> </ul>	<ul style="list-style-type: none"> <li>Interaction with UNC Mod process</li> <li>Value assessment criteria; who adjudicates, interaction with UNC relevant objectives</li> </ul>
<ul style="list-style-type: none"> <li>Limited transparency associated with the non-UNC Mod route</li> </ul>	<ul style="list-style-type: none"> <li>Remove facility in UNC for signatures of all capacity holders</li> </ul>	<ul style="list-style-type: none"> <li>Removes opportunity for quick resolution for ‘low impact’ sites / future CLoCC connections</li> <li>Tends not to be used in practice</li> </ul>
<ul style="list-style-type: none"> <li>Limited transparency associated with gas quality limits for new connections</li> </ul>	<ul style="list-style-type: none"> <li>Consultation obligation for any requests outside GTYS limits</li> </ul>	<ul style="list-style-type: none"> <li>Integration into the A2O connection process</li> </ul>
<ul style="list-style-type: none"> <li>UNC Mod process is time-consuming</li> </ul>	<ul style="list-style-type: none"> <li>Bespoke UNC Mod template for ‘gas quality enabling’ mods to provide more information upfront</li> </ul>	<ul style="list-style-type: none"> <li>Link with ‘rapid mod’ initiative</li> </ul>
<ul style="list-style-type: none"> <li>Concern about elevated CO<sub>2</sub> levels</li> <li>Reasons for GSMR and GTYS difference not well understood</li> </ul>	<ul style="list-style-type: none"> <li>Review the CO<sub>2</sub> and/or O<sub>2</sub> limits in GTYS</li> <li>National Grid to explain the difference</li> </ul>	

# Potential New Services: Summary of Stakeholder Views

No objection to NG processing / blending services provided that lower costs to consumers can be demonstrated

Any chargeable processing / blending services should be cost-reflective, targeted at the parties using the service

Where there is fortuitous commingling, NG should work with DFOs to deliver non-chargeable contractual solutions

Publication of real-time and forecast gas quality information would help sensitive offtakes prepare for fluctuations

Costs of providing real-time gas quality data publication would outweigh benefits

CV variations affecting CCGTs can generally be managed by the control systems currently in place

NG should alert sensitive customers when a change in relevant parameters is foreseen

NG should publish more gas quality information after the day to help industry understand the changing nature of supplies

NG should engage with large gas intensive end users to determine the optimum gas quality range

## Potential New Services

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- Blending / Processing / Information Provision
  - Feedback through this consultation has been helpful in developing our future plans for the network
  - We will share our initial thoughts on these topics at the ‘Shaping the Future of the Gas Transmission Network’ webinar on 22<sup>nd</sup> January 2018 and at the February Transmission Workgroup

## Next Steps

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- The consultation report will be published in January at <http://www.talkingnetworkstx.com/gas-quality-consultation.aspx>
- We will consider feedback from today's discussion on potential reforms to the NEA change process and bring a proposed way forward to the February 2018 Transmission Workgroup

# Industrial Emissions Directive



## Compressor Strategy - St Fergus



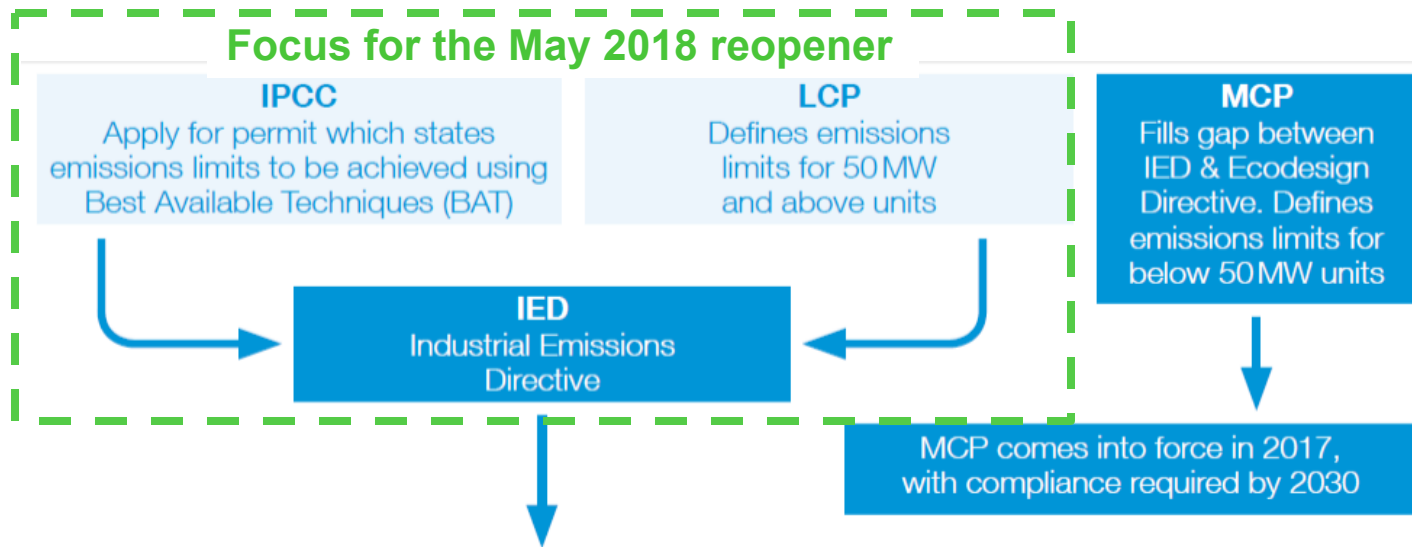
Transmission Workgroup  
4 January 2018

# Agenda

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- Background
  - IED context and network impact
- St Fergus High Level Approach
  - Project driver and site as-is
  - Network / operational requirements
  - Options considered
  - Draft CBA outputs
- Next Steps

# IED Context



IED and MCP Key Features					
<b>MCP Below 50 MW</b>	Installations must be operated with a permit	Permits specify the emission limit values (ELVs) to be complied with which are based on BAT	BREF documents draw conclusions on what the BAT is for each sector affected by IED	BREF document for combustion plant due to be finalised in 2017	
<b>IED 50 MW &amp; above</b>	Set new ELV for carbon monoxide 100 mg/Nm <sup>3</sup> for new and existing plant  Set new ELV for nitrogen oxide 50 mg/Nm <sup>3</sup> new plant; 75 mg/Nm <sup>3</sup> for existing plant	All our gas-driven compressors that produce emissions above the threshold set by the IED must be compliant with new limits by 31 December 2023	Compressors not meeting new ELVs had to stop operating by 31 December 2015 unless a Limited Lifetime Derogation applied for or the unit entered into emergency use	Through Limited Lifetime Derogation the operator declares not to operate plant for more than 17,500 hours until 31/12/2023	Can use affected compressors that do not comply with ELVs for 'emergency use' for less than 500 hours per year



# IED Network Impact

## LCP

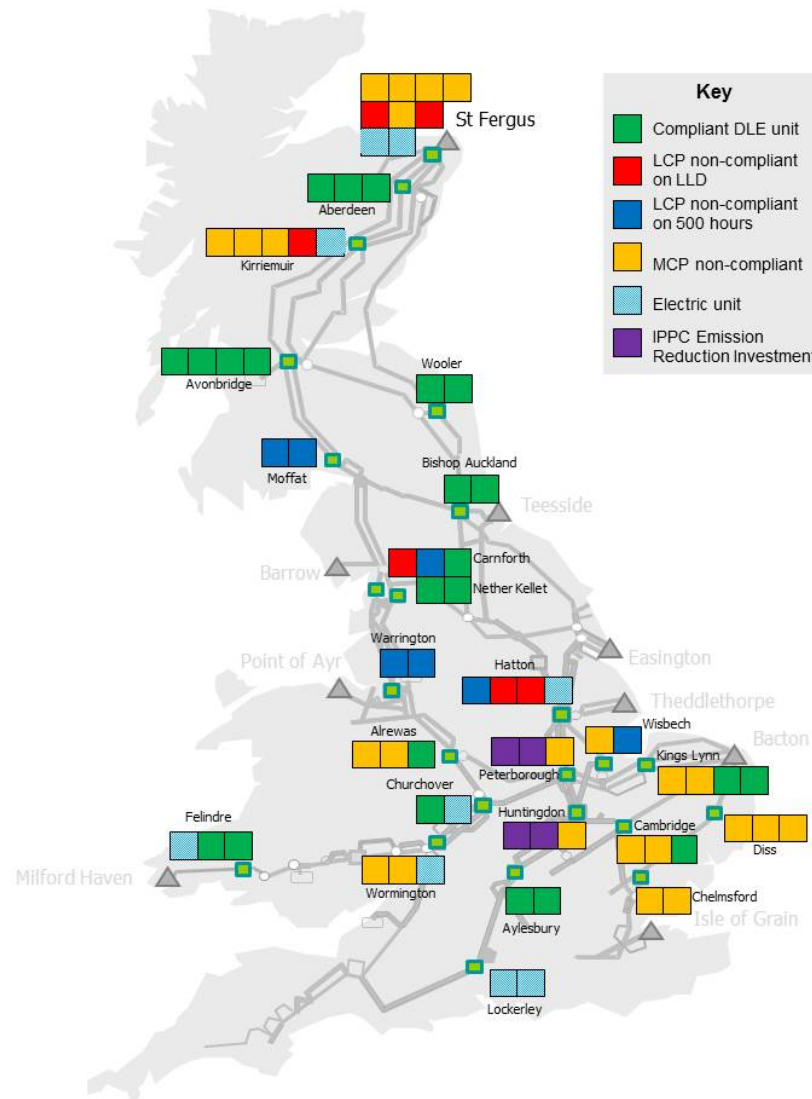
16 of 64 units

## IPPC

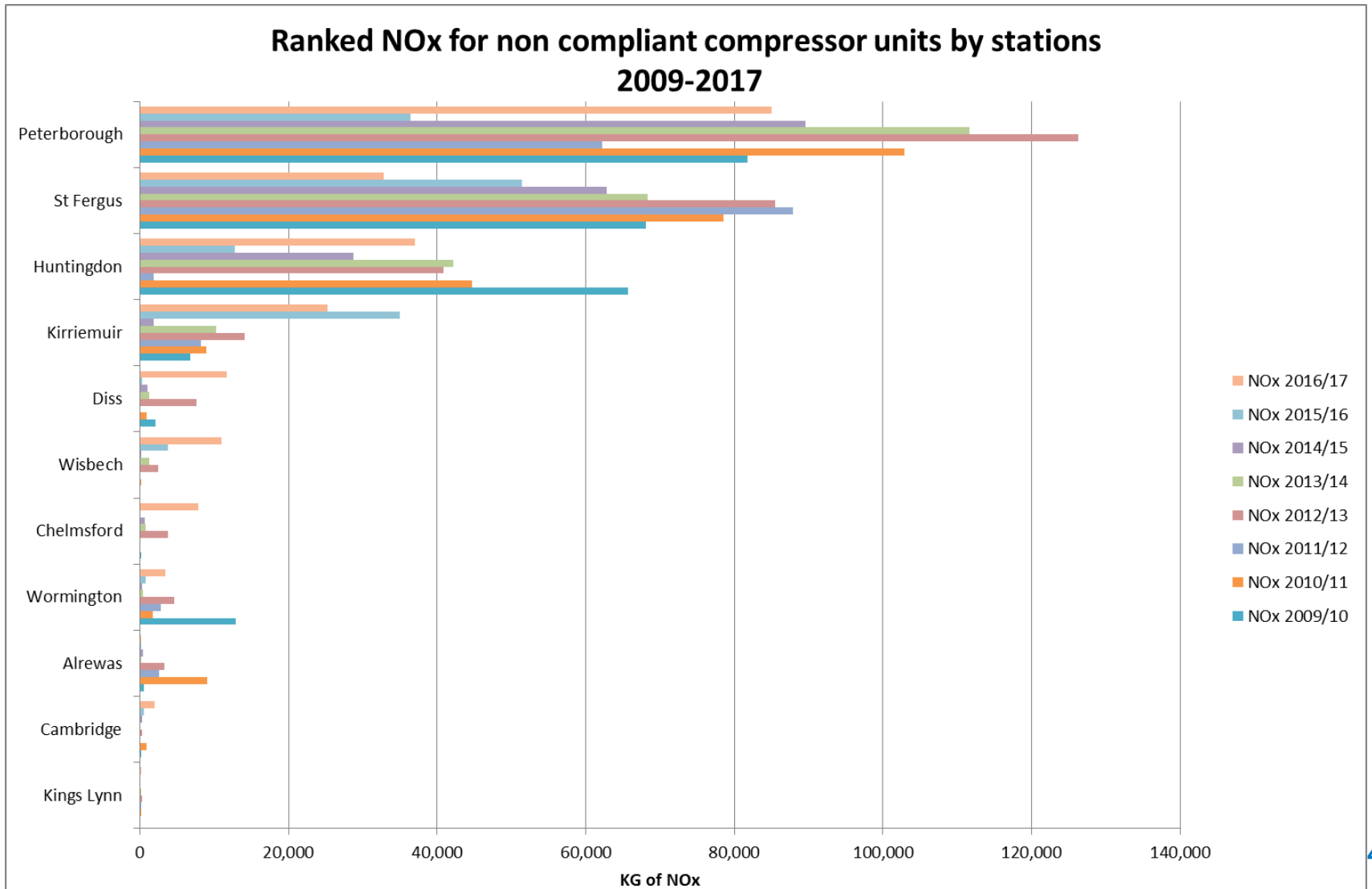
3 highest usage stations

## MCP

26 of 64 units



# IPPC - Aggregated station NOx



# St Fergus High Level Approach

Average daily flows through the Terminal ~77 mcm in 2016

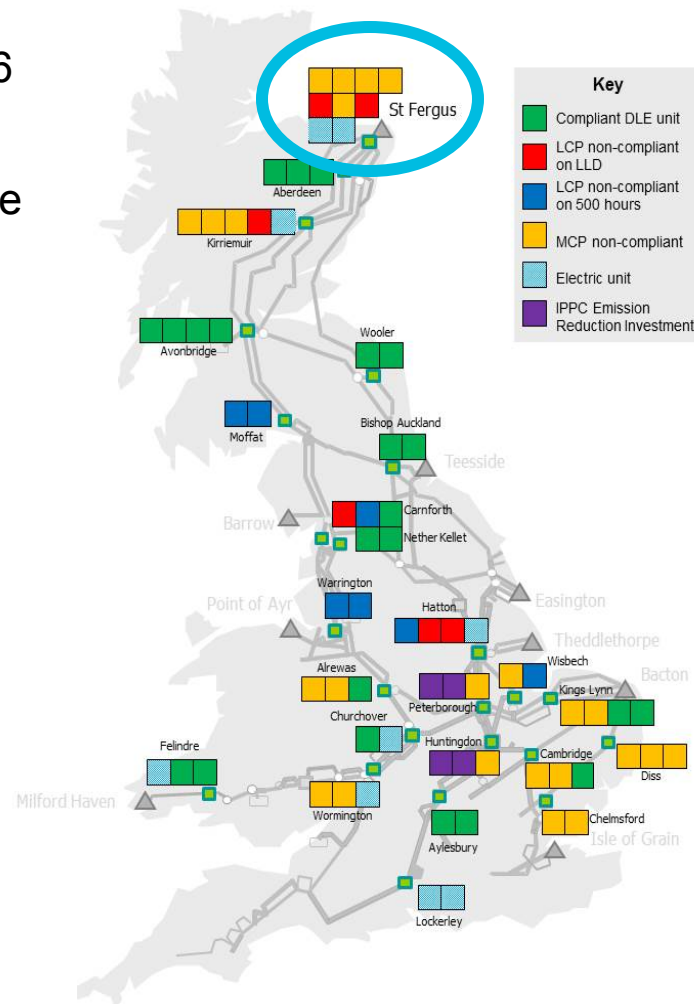
Terminal provides approximate 25% of gas to meet average national demand

3 sub-terminals

- Apache
- Shell
- NSMP/PX

Compression at St Fergus used to raise gas pressures from NSMP/PX

Average daily flows via NSMP/PX ~33 mcm in 2016



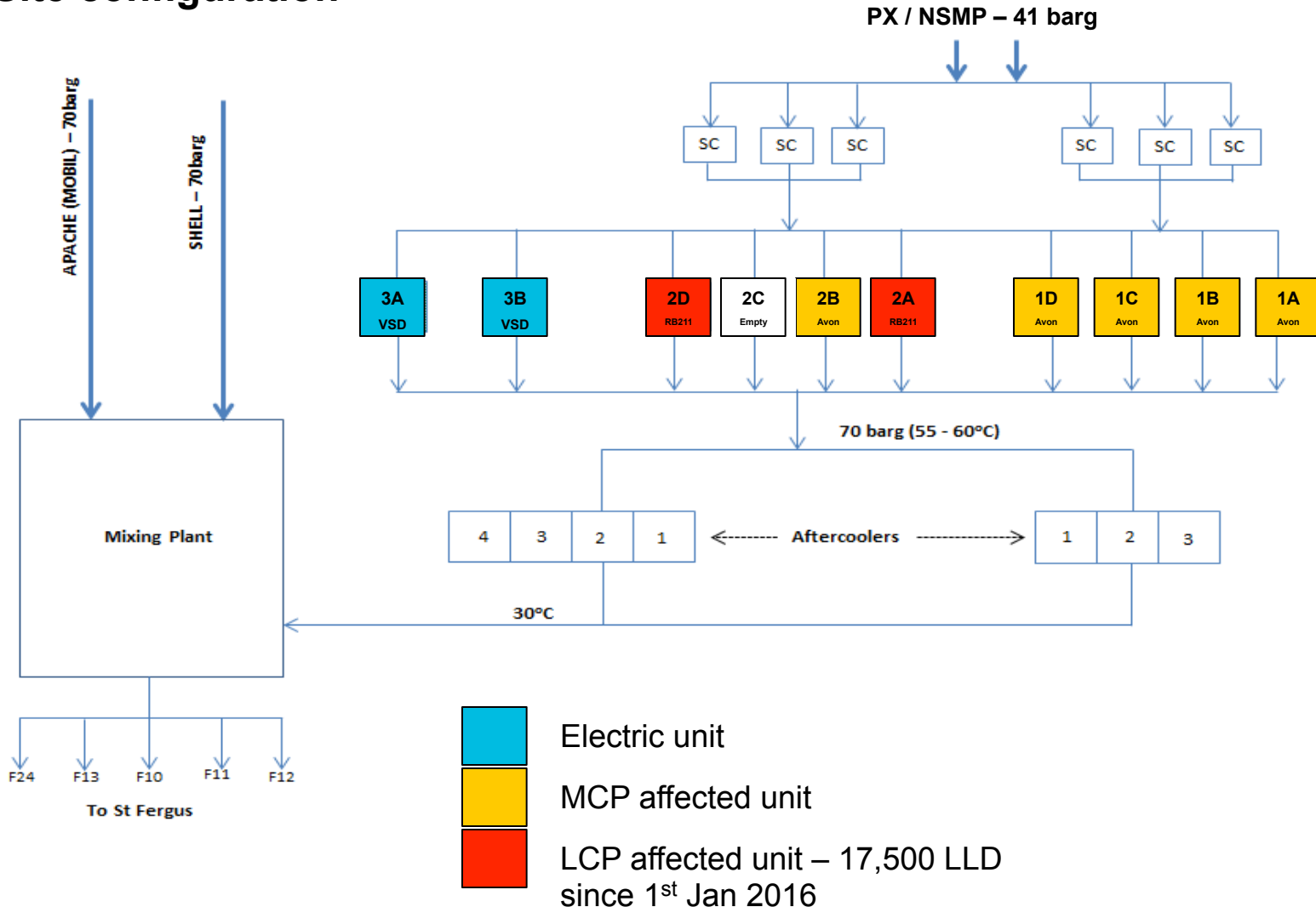
20% of UK oil and gas reserves in West of Shetland fields

Significant investment (£ bns) to connect in West of Shetland gas fields to St Fergus

Norwegian gas enters the UK NTS via St Fergus

# St Fergus Site Layout

## Site configuration



# St Fergus As-Is

Plant	Unit	Type	Fuel Type	Power Base (MW)	Installation Date	Nominal Capacity (mcm/d)	IED Status
1	1A	Avon	Gas	12.34	1977	15	MCP
	1B	Avon	Gas	12.34	1977	15	MCP
	1C	Avon	Gas	12.34	1977	15	MCP
	1D	Avon	Gas	13.97	1977	15	MCP
2	2A	RB-211	Gas	21.2	1978	30	LCP – LLD
	2B	Avon	Gas	13.97	1977	15	MCP
	2C	Empty	-	-	-	-	-
	2D	RB-211	Gas	21.2	1978	30	LCP – LLD
3	3A	VSD	Electric	24	2015	30	N/A
	3B	VSD	Electric	24	2015	30	N/A

# St Fergus - Project Driver / Asset Options

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## Current IED Legislation Impact

- **LCP** – 2 units on 17,500 hour derogation until the end of 2023, then:
  - Decommissioned or;
  - Emission abatement or;
  - New units
- **IPPC** – installation of a BAT solution to comply with high utilisation site emission requirements as agreed with SEPA via the Network Review
- **MCP** – five Avon units affected
  - 500 hour rolling derogation from 31<sup>st</sup> December 2030 or;
  - Decommissioned or;
  - Emission abatement or;
  - New units

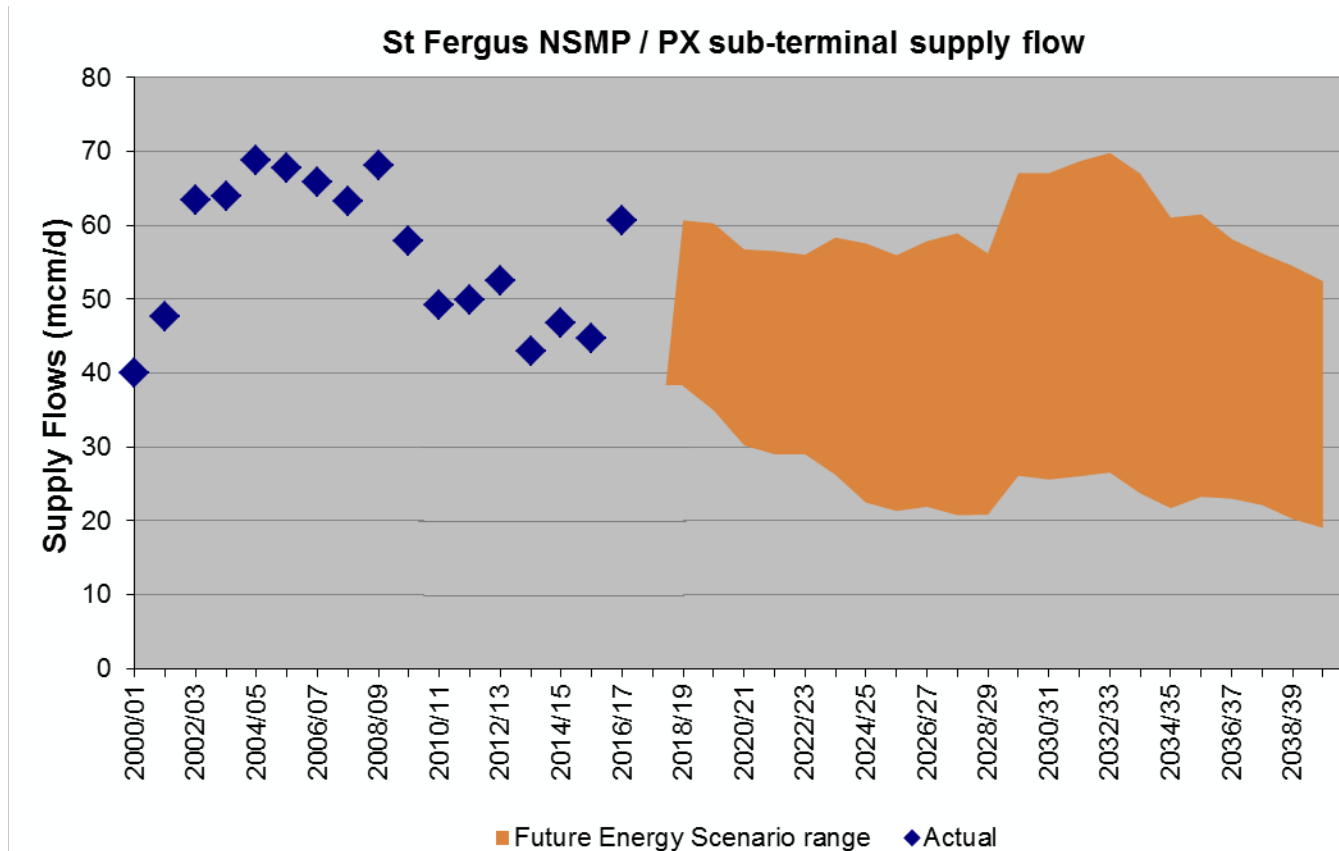
## St Fergus - Regulatory/Commercial Options

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- A number of non-asset solutions are also being considered:
  - Renegotiation of the entry agreement to transfer responsibility for compression from National Grid to the sub-terminal, but the operator does not support this change
  - Long term capacity buy-back or turn-down contracts
  - Revision of the charging mechanisms via UNC

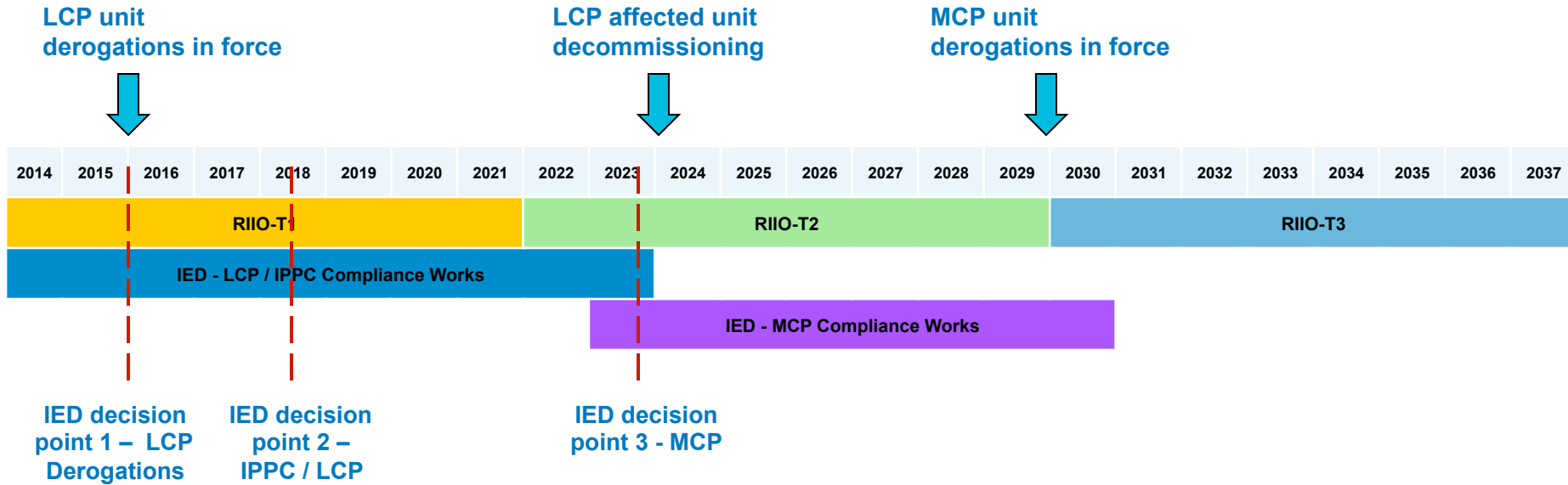
# St Fergus - Operational Requirements

- We have seen significant variability in flows at the NSMP sub-terminal, including a substantial increase since the ownership of the sub-terminal changed in 2016
- Our Future Energy Scenarios indicate an enduring need to compress gas supplied from the NSMP sub-terminal for the foreseeable future





# St Fergus – Decision Points



# St Fergus - CBA Assumptions

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## Key Assumptions

- Retain RB211 units until they are decommissioned in Dec 2023
- Retain Avon Units until Dec 2030 and then place on 500hrs derogation
- Electric VSD units available throughout the period
- Reduce overall site emissions in line with IPPC

## Key Inputs

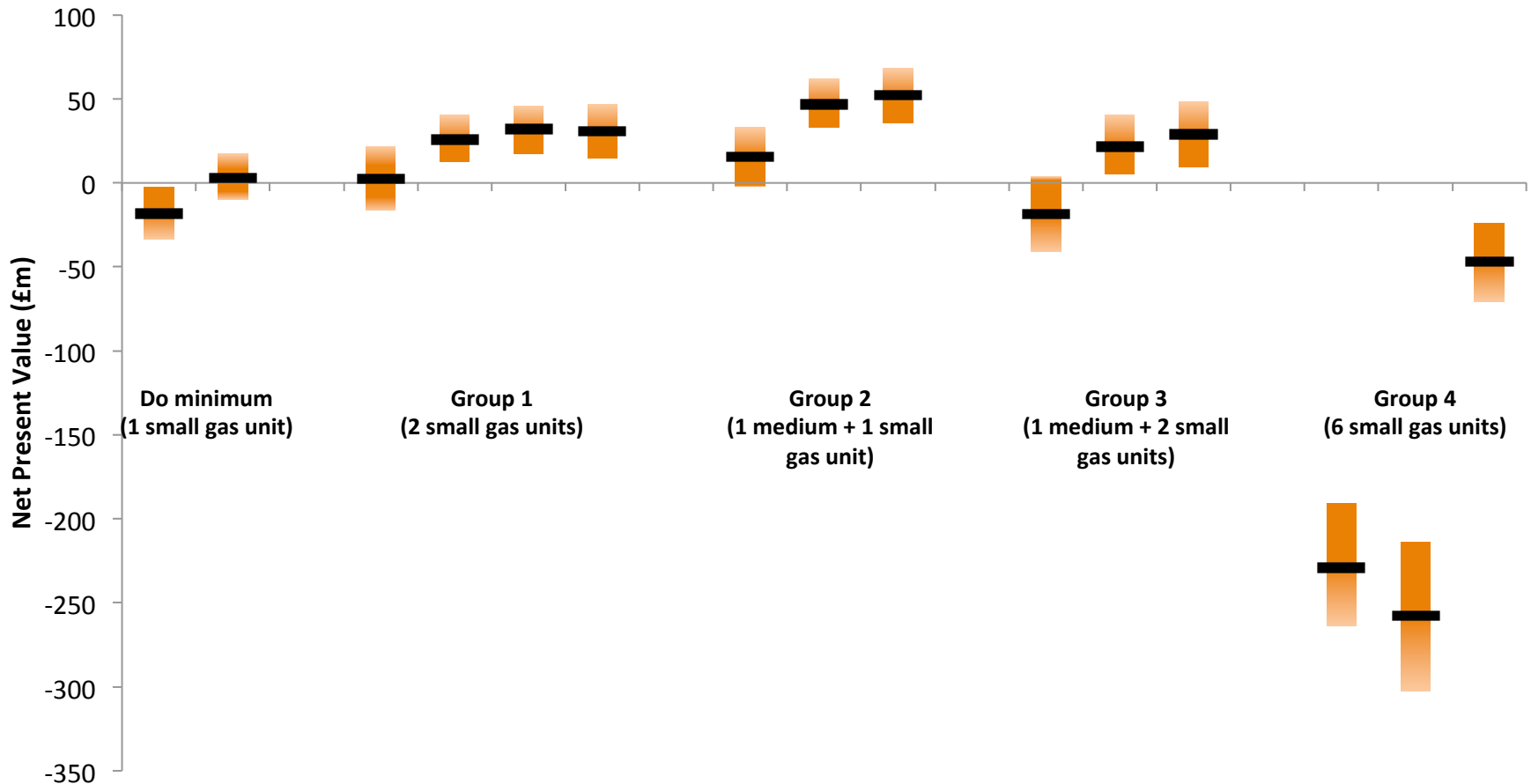
Item	Value
WACC	4.04%
Discount Rate (STPR)	3.50%
Assessment Period	25 Years
NOX price	£13,131/tonne
SOX price	£1,956/tonne
Gas Price (FES16/NP)	41-68p/th
Electricity Price (FES16/NP)	£33-73/MWh
CO <sub>2</sub> Price (FES16/NP)	£22 - 36/tonne

# St Fergus – Sample Option Groups

Option	Option Description	Comments
“Do Nothing”	Decommission RB211s at the end of 2023 Put Avons on 500 hour derogation from 2030	<b>Does not meet IPPC requirements</b> <b>Insufficient resilience from 2030</b>
“Do minimum”	1 small emissions-compliant gas unit	<b>Base option</b> – would represent a reduction in resilience from existing
Group 1	2 small emissions-compliant gas units	Provides an additional step reduction in NOX emissions <b>(2 new units proposed in 2015)</b>
Group 2	1 small and 1 medium emissions-compliant gas unit	Further reduction in NOX emissions with greater resilience and flexibility
Group 3	2 small and 1 medium emissions-compliant gas unit	Small incremental benefits in NOX emissions and resilience
Group 4	6 small emissions-compliant gas units	Would deliver ‘double resilience’
<p><i>In excess of 20 options are currently under consideration for St Fergus e.g. an ‘emissions-compliant gas unit’ can be a new unit, on the existing site or a new site, or can be delivered by installing emissions abatement on an existing unit</i></p>		

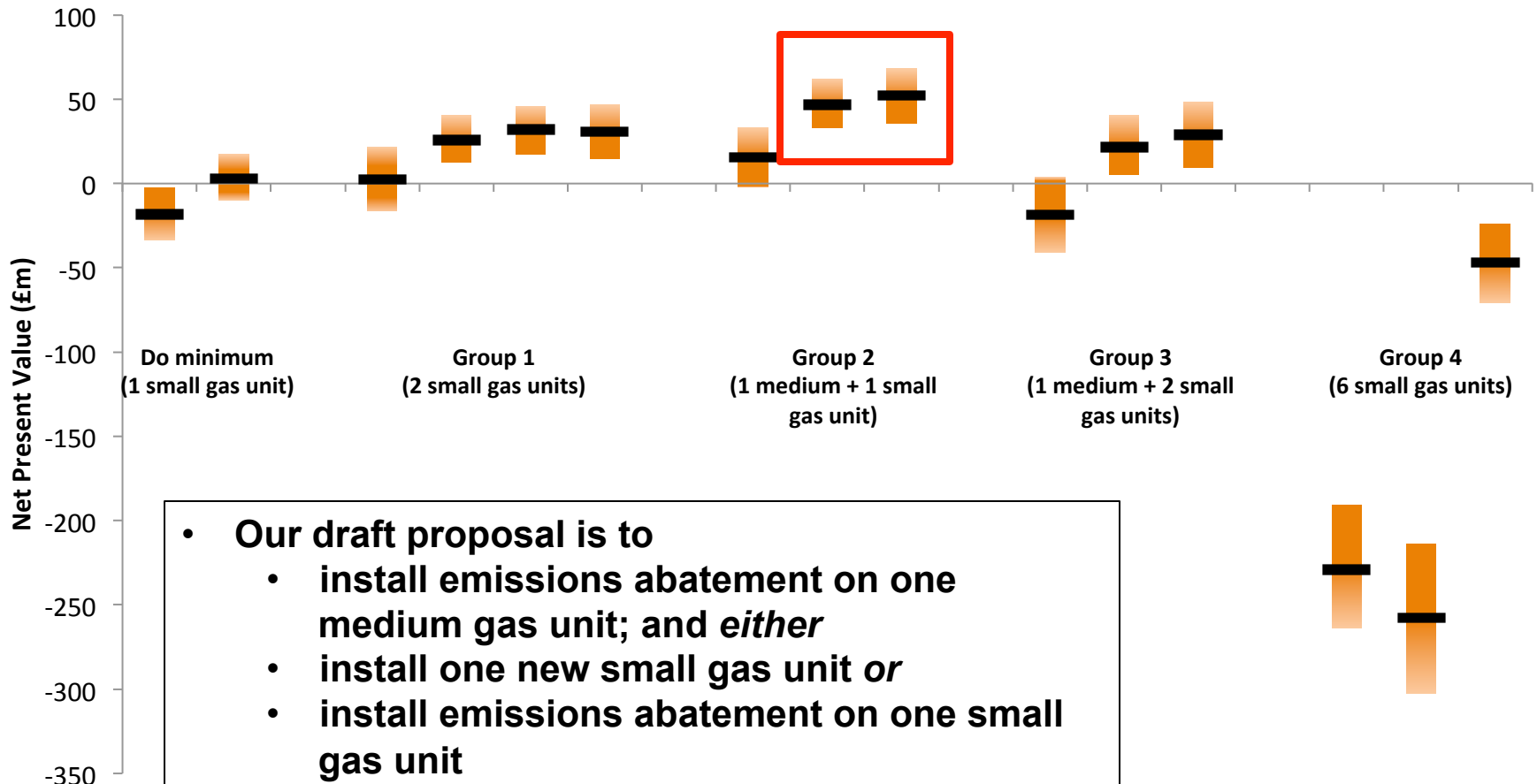
# St Fergus – Draft CBA Outputs

## Relative Net Present Value



# St Fergus – Draft Proposals

## Relative Net Present Value



- Our draft proposal is to
  - install emissions abatement on one medium gas unit; and *either*
  - install one new small gas unit *or*
  - install emissions abatement on one small gas unit
- This will provide greater flexibility at a lower overall cost than our 2015 proposals.

## Next Steps

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- Present draft proposals for:
  - 'simple' cases (Moffat, Warrington Wisbech)
  - Central cluster (Hatton, Huntingdon, Peterborough)
- Finalise proposals for all affected sites
  
- We would welcome:
  - Any feedback on the draft proposals we have presented
  - Any additional opportunities to engage with interested parties on this issue