

# Constraint Management review

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# Agenda

- ◆ Ofgem letter
- ◆ Background on constraint costs
- ◆ The options we have considered as part of our review to date
- ◆ The options we propose to take forward
- ◆ Summary

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# Ofgem letter

Requests National Grid to conduct an urgent review to consider whether changes are required to existing commercial and charging arrangements for access to the GB transmission system

# Ofgem letter

- ◆ Review should seek to address:
  - Options for reducing the level of constraint costs; and
  - Whether the current use of system charging mechanisms are equitable and appropriate

# Ofgem letter

## ◆ Timelines for the review

- Raise any proposals by the end of February 2009; or
- Publish a report explaining why we consider the current arrangements and forecast level of constraints costs are consistent with all of our relevant statutory and licence obligations

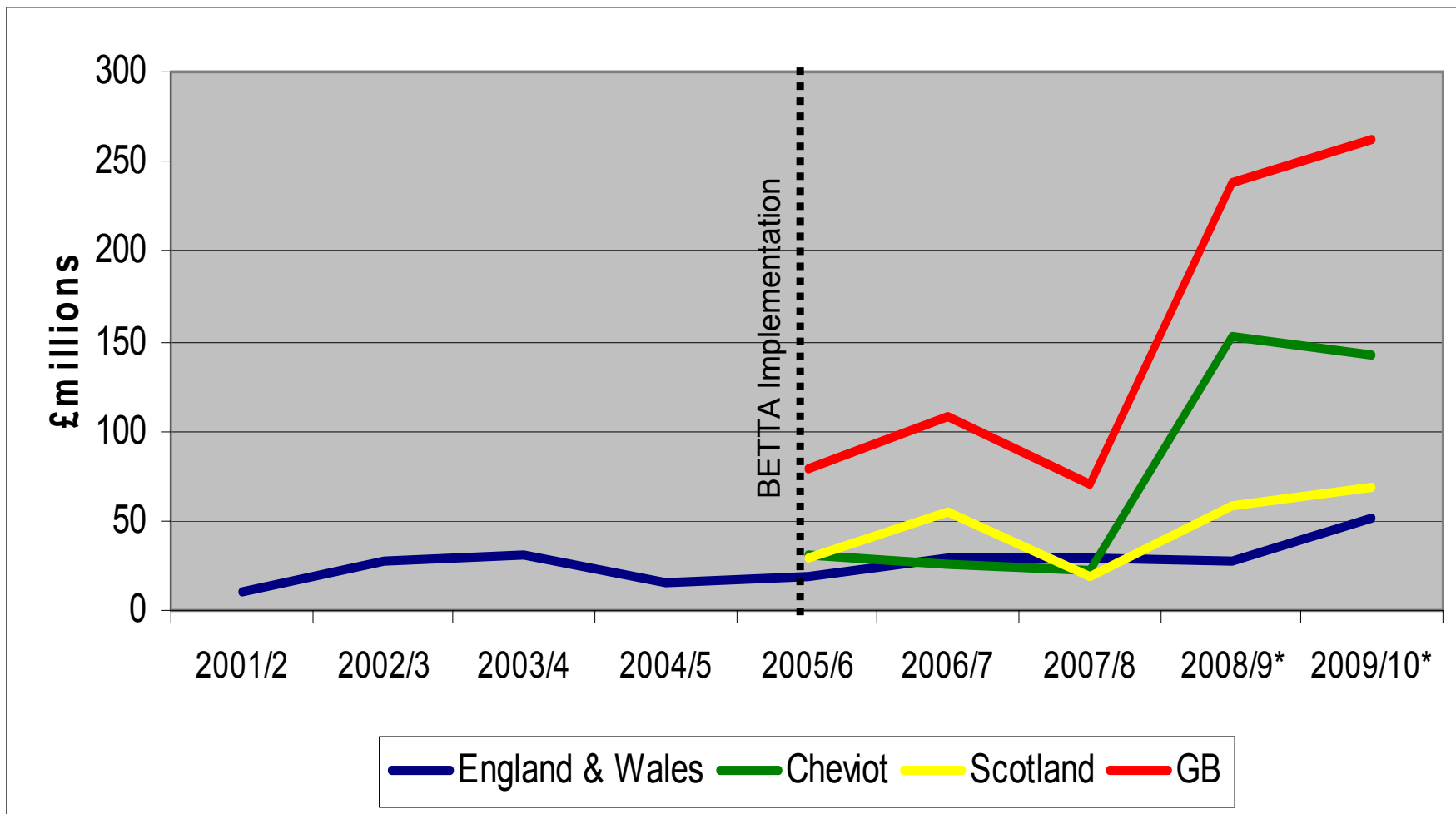
# Work to date

- ◆ National Grid has led a review of Transmission Access Reform, which may help to:
  - Mitigate the level of constraints costs; and
  - Provide a more equitable and efficient basis for recovering those costs from all transmission network users.
- ◆ However, any new arrangements will not be in place until April 2010 at the earliest.

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# Trend in constraint costs



\* Forecast information

# Breakdown of forecast constraint costs

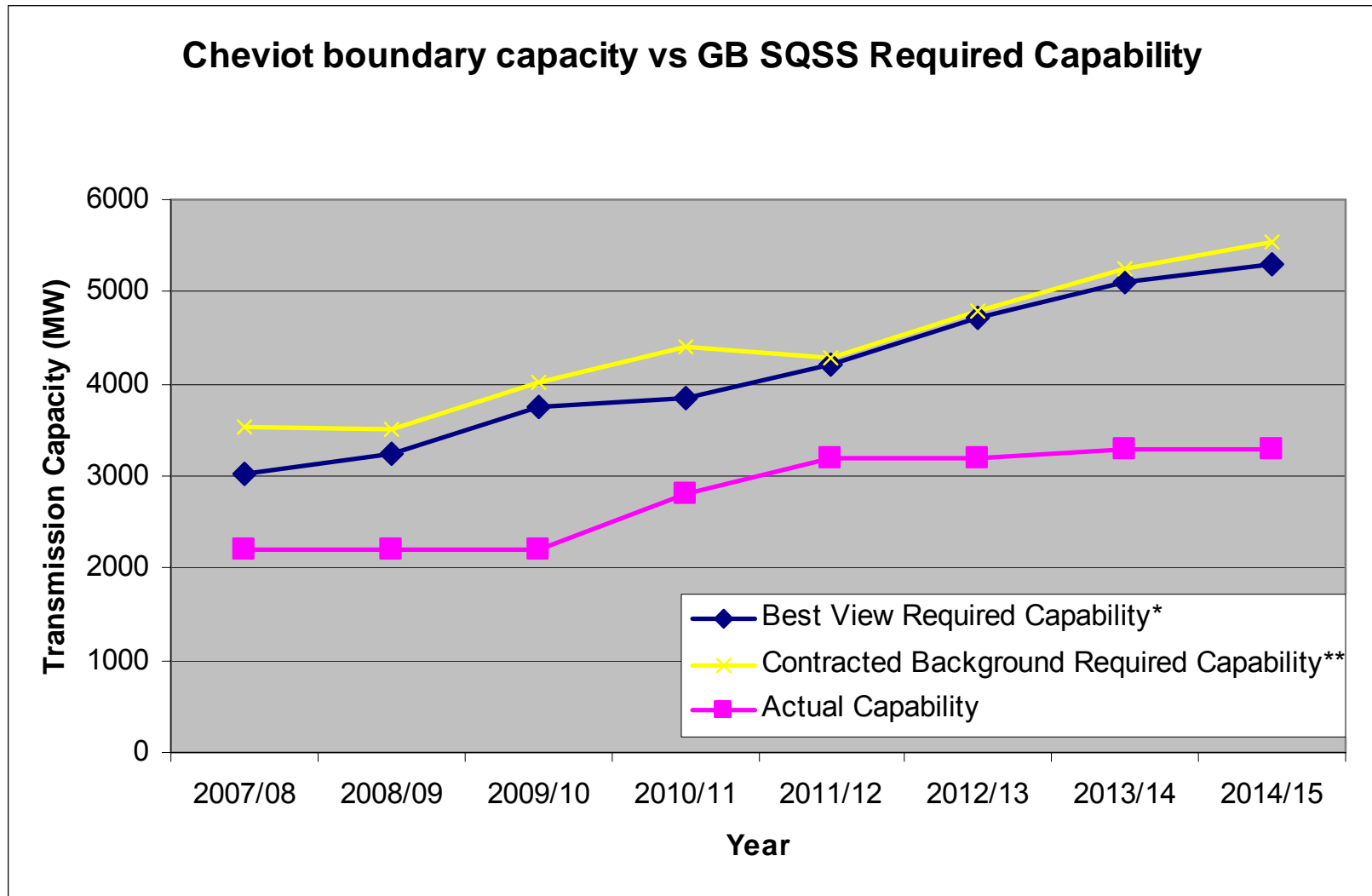
	2008/09	2009/10
<b>Constraint costs (£m)</b>		
England & Wales	28	50
Cheviot	153	142
Scotland	57	70
<b>Volume (GWh)</b>		
England & Wales	546	6067
Cheviot	3127	2448
Scotland	1303	1090
<b>Average price of action (£/MWh)</b>		
England & Wales	51.3	8.2
Cheviot	48.9	58.0
Scotland	43.7	64.2

# Historical trend in constraint costs

## ◆ What is driving the recent increase?

- Outages associated with new investment/connections
- Outages associated with asset replacement
- Derogation of B6 or 'Cheviot' boundary for requirement to comply with Security and Quality of Supply Standards (SQSS)

# Forecast of capacity shortfall



# Derogated boundaries

- ◆ Why is non-compliance with SQSS a specific issue?
  - Significant action required during intact network conditions
  - Removes flexibility to schedule outages during generator outages
  - Use of intertrips is a necessity rather than an occasional tool to maximise flows across the boundary

# Derogated boundaries

- ◆ Focus of our review so far has been on derogated boundaries
  - More difficult to manage constraints
  - High costs

# Is 1<sup>st</sup> April important for implementation?

- ◆ Constraint costs now
- ◆ Will increase over summer period
  - Generation proportionally higher than demand
  - Outages

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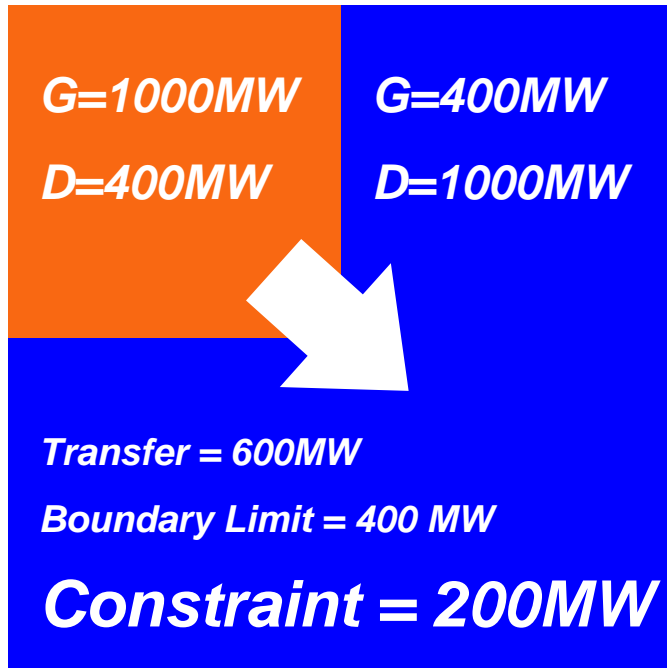
# Managing Constraints Costs

- ◆ Volume

- Clear issue on non-compliant boundary

- ◆ Price

# Managing Constraints Costs - Volume



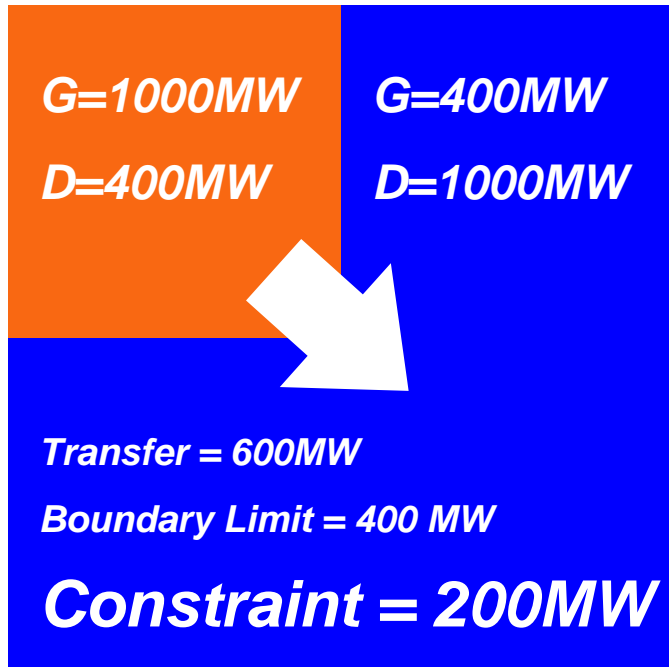
 **Constrained Zone**

 **Unconstrained Zone**

## What are the options available?

1. Increase boundary limit
  - Build more capacity
  - SO-TO alignment of incentives

# Managing Constraints Costs - Volume



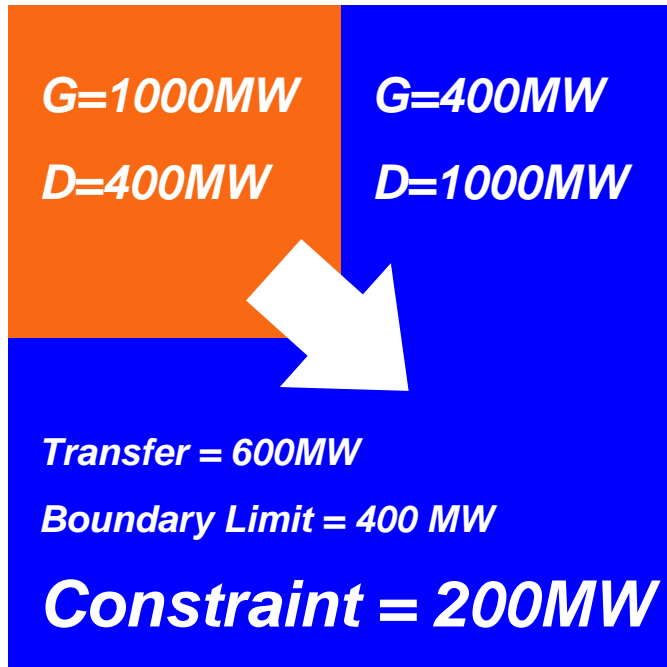
 **Constrained Zone**

 **Unconstrained Zone**

## What are the options available?

1. Increase boundary limit
  - Build more capacity
  - SO-TO alignment of incentives
2. Reduce flow
  - TEC reduction
  - Auction to compliant levels
  - Constraint price signal (ex-ante or ex-post locational BSUoS)

# Managing Constraints Costs - Price



 **Constrained Zone**

 **Unconstrained Zone**

## What are the options available?

1. Administered prices
  - Bids and Offers
  - Intertrips
  - TEC buyback product

# Evaluation of options

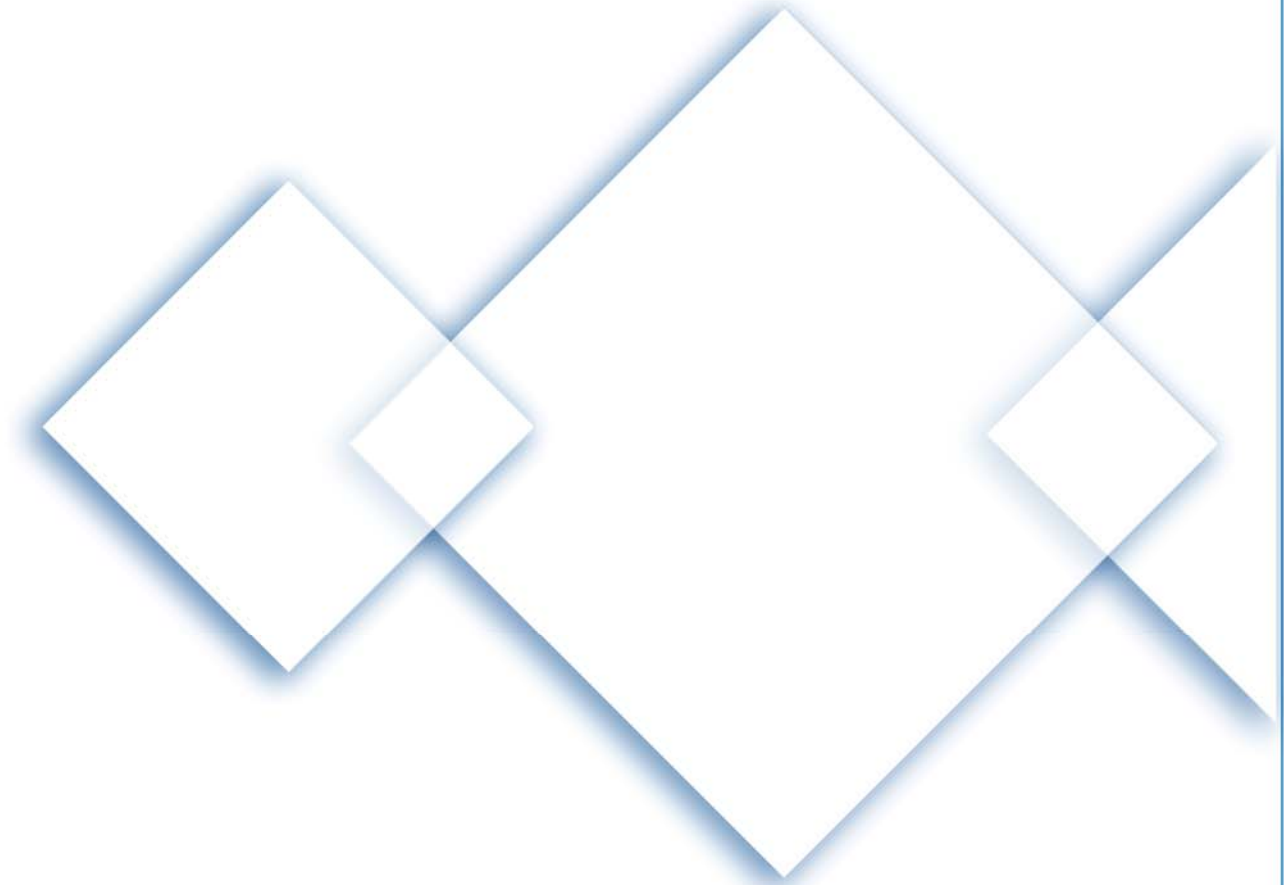
- ◆ Interaction with Transmission Access Reform
- ◆ Ease of implementation
- ◆ Efficiency of proposal
- ◆ Likely BSUoS cost savings
- ◆ Better meet licence objectives

# The options we propose are taken forward

- ◆ SO-TO aligned incentives
- ◆ On derogated boundaries
  - Locational BSUoS
  - Administered prices for intertrips
- ◆ For further consideration
  - Administered Balancing Mechanism prices during constraints

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## SO-TO aligned incentives

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# SO-TO aligned incentives

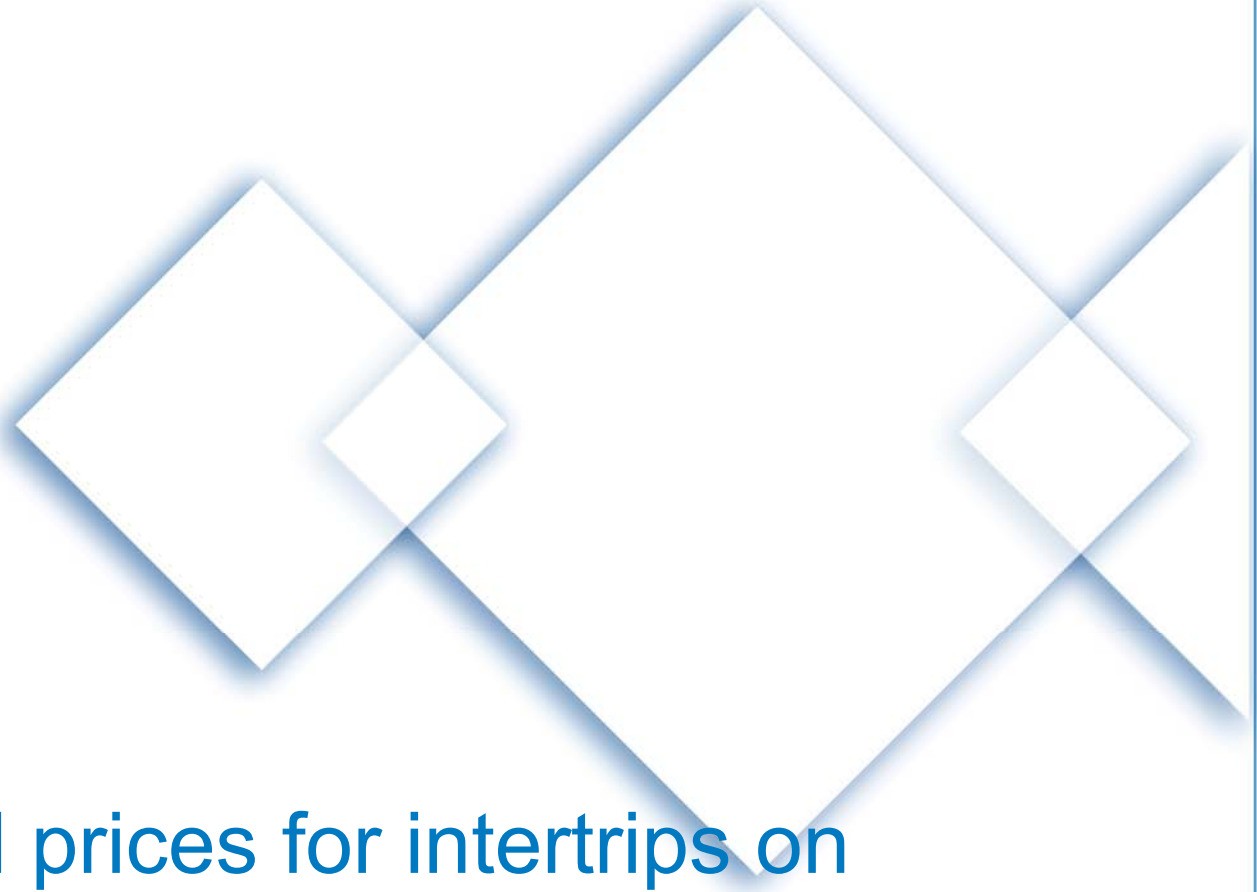
Should allow sharpened focus to

- ◆ Encourage efficient and timely investment
- ◆ Innovation in the way the TOs plan outages to reduce overall cost in their medium term plans

# SO-TO aligned incentives

## Proposals

- ◆ In active discussions with three TOs
- ◆ A number of options, presently favour a medium term capacity measure on key boundaries
- ◆ Sharing work with Ofgem as discussions continue



## Administered prices for intertrips on non-compliant derogated boundaries

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# Intertrips on derogated boundaries

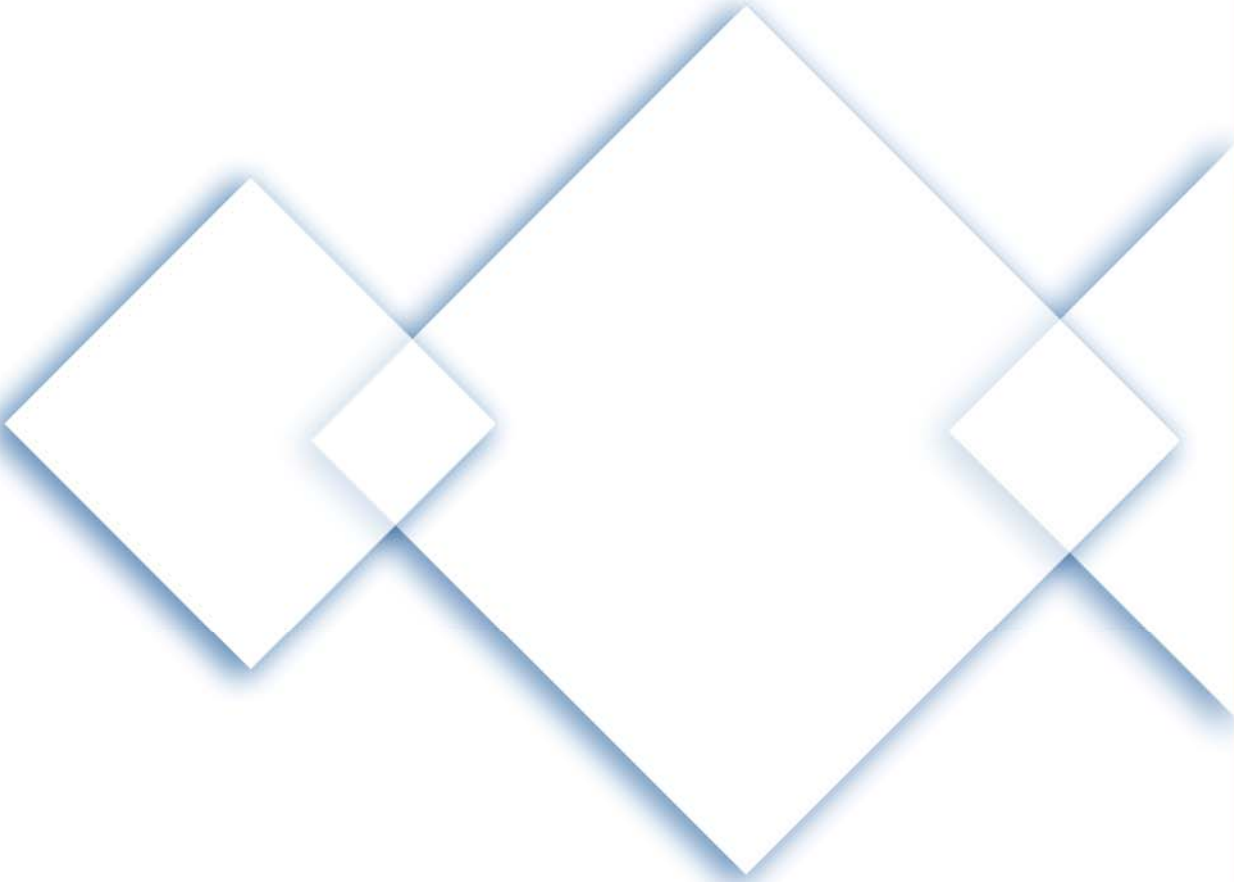
## Background

- ◆ Use of intertrips is a necessity rather than an occasional tool to maximise flows across the boundary

# Intertrips on derogated boundaries

## Proposal

- ◆ Receive remuneration in line with Category 2 and 4 System to Generator Operational Intertripping Schemes
- ◆ BCA would be amended to accommodate the proposal on a direction to do so from the Authority
- ◆ Minded to raise this



# Locational BSUoS

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# Locational BSUoS

- ◆ Have considered a number of locational BSUoS charging options and combinations
- ◆ Would like to share thinking and initial ideas including:
  - Aims of proposals
  - Locational Charging Methodologies
  - Initial View

# What is it trying to achieve?

- ◆ Equitably & fairly target the Short Run Costs (SRC) of the utilisation of transmission capacity rights, on boundaries with granted derogations from the SQSS standards.
- ◆ Enable parties, impacted by derogated boundaries, to make financially informed decisions as to whether it is economically efficient to pay the actual short run costs of access or adjust their generation behaviour.

# Two potential methodologies

- ◆ Option 1 - Ex-ante
- ◆ Option 2 - Ex-post

# Ex-ante Methodology (Option 1)

Ex-ante methodology has three component parts

1. TEC capacity based locational BSUoS charge
  - Include year end reconciliation?
2. Option to relinquish TEC for a non enduring period (1 year)
3. Short term access product





# TEC reduction optionality

- ◆ Option to relinquish TEC (Non Enduring)
- ◆ Mitigate risk of short run cost
- ◆ Triggers recalculation of locational BSUoS charge
- ◆ Capped 4 rounds of TEC re submissions?

# Short Term Access Release Product

- ◆ Short term product – offers alternative to exposure to SRC
- ◆ Maintains route to market (albeit more limited)
- ◆ Product will aim to maximise release in non constrained periods
  - Release will be staggered over different lead times
  - Based on level of SO certainty that capacity is available
  - Level of uncertainty will reflect cost

# Ex-ante - summary

	<b><i>Option 1 Ex-Ante Capacity Based Charge</i></b>
<b><i>Optional Non Enduring TEC Reduction</i></b>	
<b><i>Short Term Access Product</i></b>	
<b><i>Costs Targeted at Generation Only</i></b>	
<b><i>Costs &amp; Benefits Targeted at Generation &amp; Supply</i></b>	

# Ex-post methodology (Option 2)

- ◆ Costs allocated on a MWh metered output (adjusted) basis
- ◆ MWh (adjusted) reflects balancing services taken by SO to alleviate constraints
- ◆ Costs will be allocated in settlement periods when constraint costs are incurred

# Ex-post – Pre-event information

- ◆ TEC holders require signal to make economically informed decisions (generate or trade out position)
- ◆ In process of developing what signal will look like
- ◆ Decaying lead time – improving accuracy and granularity of forecasts

# Ex Post – additional option

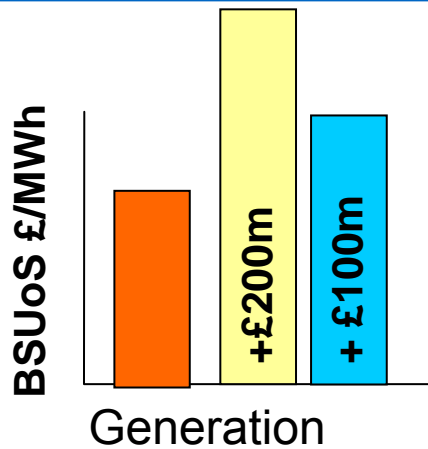
## ◆ Initial Thinking

- Simple Methodology giving an accurate signal
- Should be effective mechanism to manage constraint cost risk exposure.

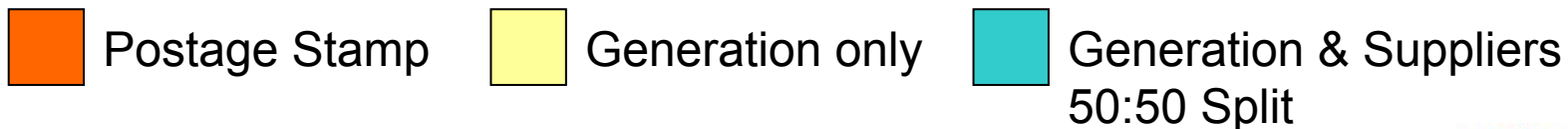
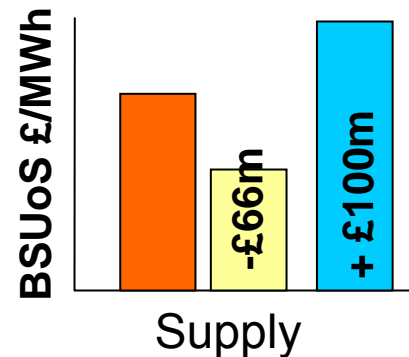
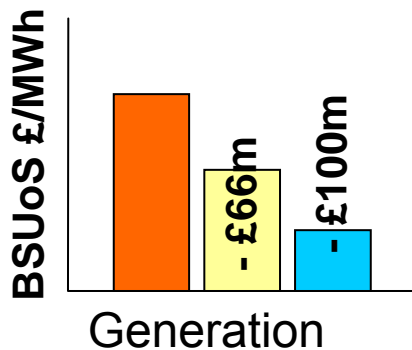
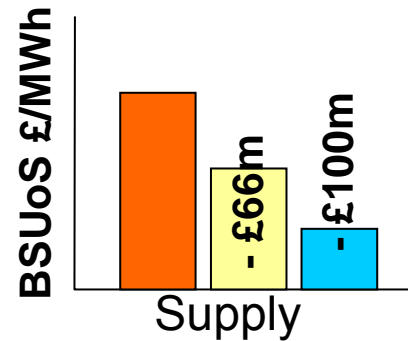
## ◆ Potential option

- Non enduring TEC reduction and the short term access product could be included within this option
- May provide TEC holders with mitigation option over constraint cost risk

# Balance of locational charge?



*e.g*  
constraint  
cost of  
£200m per  
annum



# Consideration for TNUoS?

- ◆ **Locational element of TNUoS**
  - Acts as a proxy for the long term marginal cost of access
- ◆ **Locational element of BSUoS**
  - Effectively charges a TEC holder for the short run cost of Access

# Ex-ante & ex-post - summary

	<b>Option 1 Ex-Ante Capacity Based Charge</b>	<b>Option 2 Metered Adjusted</b>
<b>Optional Non Enduring TEC Reduction</b>	✓	✓ (if desired)
<b>Short Term Access Product</b>	✓	✓ (if desired)
<b>Costs Targeted at Generation Only</b>	✓	✓
<b>Costs &amp; Benefits Targeted at Generation &amp; Supply</b>	✗	✓ (could be)

# National Grid – initial thoughts

- ◆ Ex Post solution seems a pragmatic solution
  - Significantly less complex than ex ante proposal
  - More effective targeting of short run cost of access
  - All options have limitations
- ◆ Locational BSUoS Targeted allocated to TEC holders
  - Generation has realistic chance of responding to the signal in the short term
  - More efficient outcome
- ◆ TAR reform has potential to be enduring solution in this area

We welcome your view

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# Summary

- ◆ Ofgem asked us to conduct a review seeking to address
  - Options for reducing the level of constraint costs; and
  - Whether the current use of system charging mechanisms are equitable and appropriate
- ◆ We are seeing a trend of increasing constraint costs
  - Non-complaint derogated boundaries are different and contributing a large proportion of cost
- ◆ Considered a number of options as part of review so far
- ◆ Three to four options we are looking to progress
  - SO-TO aligned incentives
  - Locational BSUoS
  - Administered prices for Intertrips
  - Administered Balancing Mechanism prices during constraints

# Next steps

- ◆ **Locational BSUoS**
  - Intend to consult on pricing methodology for ex-ante and ex-post
  - CUSC modification will also be required for TEC reduction and short term access
- ◆ **SO-TO aligned incentives**
  - Will continue to work with TOs
  - Share work with Ofgem
- ◆ **Administered prices for intertrips**
  - In final consideration
  - CUSC modification will be required
- ◆ **Administered Balancing Mechanism prices during constraints**
  - Will consider this further over next few weeks

# Timelines

- ◆ **Locational BSUoS**
  - 28 day consultation out in next week
  - CUSC modification raised in parallel (need for urgent status)
- ◆ **SO-TO aligned incentives**
  - Expect to complete work over next few weeks
- ◆ **Administered prices for intertrips**
  - If we raise CUSC modification it will be in next week (need for urgent status)
- ◆ **Administered Balancing Mechanism prices during constraints**
  - Will consider this further over next few weeks