

# Entry Capacity Substitution

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Workshop 1

8<sup>th</sup> April 2008

# Introduction

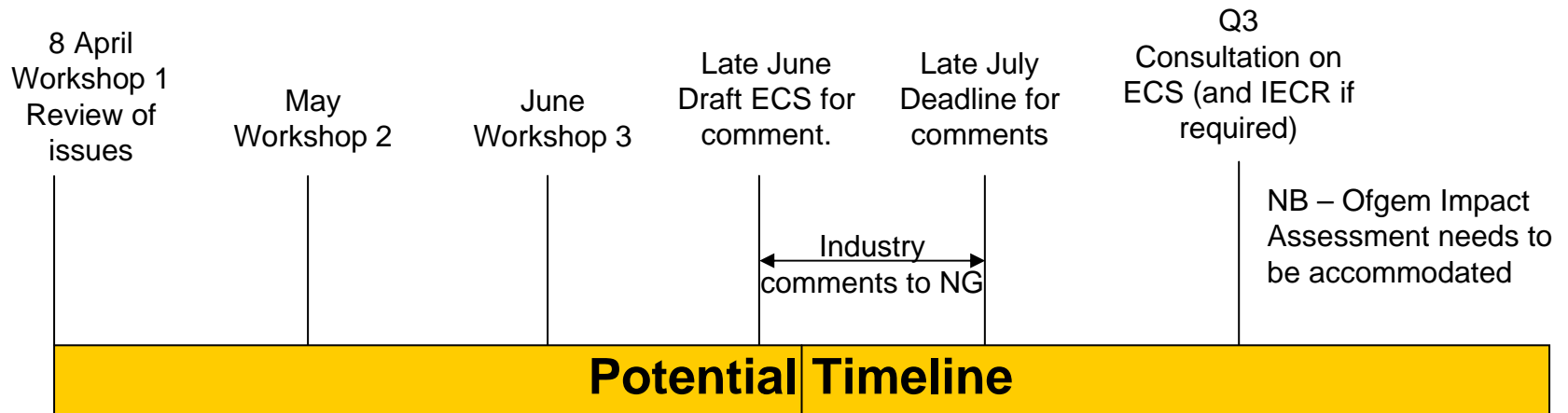
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- ◆ 2007 TPCR introduced several fundamental changes to the entry regime:
  - ◆ including Entry Capacity Substitution
- ◆ Assumed intention of the policy measures is to ensure that capacity does not become sterilised
  - ◆ an obligation at one ASEP where capacity is not required does not prevent use of that capacity elsewhere
- ◆ Key deliverables are;
  - ◆ Prepare and submit, for approval, the Entry Capacity Substitution Methodology Statement to the Authority by **6<sup>th</sup> January 2009**
  - ◆ Use reasonable endeavours to have in force an approved Entry Capacity Substitution Methodology Statement by **6<sup>th</sup> April 2009**
  - ◆ Amendment of Incremental Entry Capacity Release Methodology Statement to include substitution.

# Potential Timeline for Development of Entry Capacity Substitution

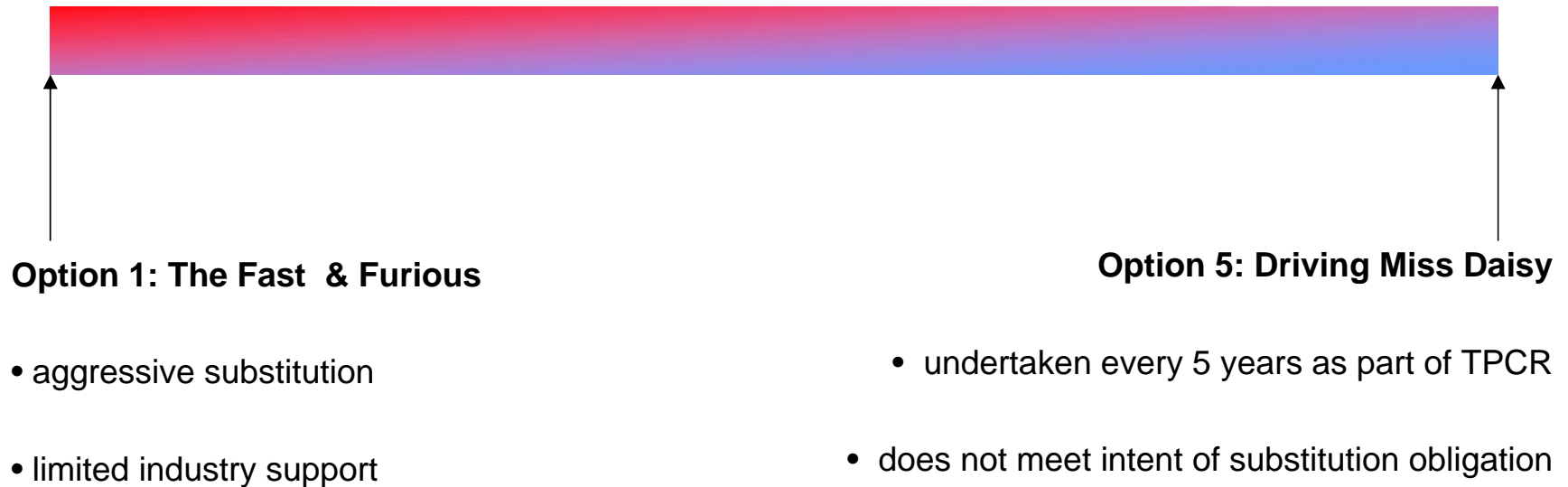
8<sup>th</sup> April 2008

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# Range Of Substitution Options

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Increased limits and controls

# Issues raised by the Industry for Consideration.

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- Identify all relevant issues
- Explore options available
  - advantages / disadvantages
- National Grid does not necessarily agree with or endorse the concerns raised and cannot commit to changes in these areas.

# Issues raised by the Industry for Consideration.

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- 1) What are the policy aims, relative importance, desirability, alternatives?
- 2) Consequences of substitution
- 3) How much capacity should be available for substitution?
- 4) Should constraints be placed on substitution processes?
- 5) How far forward should substitution be available?
- 6) Should separate rules be introduced for different types of ASEP?
- 7) Treatment of new Entry Points
- 8) Multiple donor ASEPs
- 9) Impact/relevance of Baseline review
- 10) Under investment 2002-2007 / implicit substitution

# Issues raised by the Industry for Consideration.

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- 11) NG/Shipper obligation with respect to incremental signals when project undeliverable, e.g. Fleetwood
- 12) What will be the impact of substitution?
- 13) What is the trigger for releasing capacity through substitution?
- 14) Interaction with T&T – will T&T alleviate concerns with substitution?
- 15) Interaction with Exit
- 16) Impact on Transportation Charges
- 17) Alternative capacity products to improve flexibility
- 18) Timescales for implementation
- 19) Phasing in of substitution processes?

# Issues (1).

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- 1) What are the policy aims, relative importance, desirability, alternatives?
  - National Grid accepted the Substitution obligation when agreeing the Licence
  - The workshops are intended to develop, not question, the policy; but Ofgem's Impact Assessment should present an opportunity to re-visit these fundamental questions



# Issues (2).

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## 2) Consequences of Substitution

- a) Behaviour / prices / peak shippers / inefficient investment
  - b) Impact on new Developments (at existing ASEPs)?
  - c) Upstream effects e.g. West of Shetland project
    - i. Role for BERR?
  - d) Impact on infrastructure if capacity is substituted away. Will NG decommission?
    - i. Potential for reverse substitution / investment
- Ofgem's Impact Assessment on the methodology should present an opportunity to fully explore these consequences
  - Additionally, Ofgem has a right of veto over any proposal National Grid makes to release incremental capacity (including the amount provided by substitution)

# Issues (3).

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- 3) How much capacity should be available for substitution?
  - a) Definition of sterilised capacity?
    - i. Long term signal vs short/medium term flexibility
    - ii. Unsold vs Forecast vs previous year
  - b) Proportion held-back from Substitution processes
    - i. 10% / 20% of baseline quantity / nil?
    - ii. GWh limit / seasonal adjustment / variation on ASEP type
    - iii. Aggregate limits?
- Licence defines substitution as moving “unsold non-incremental obligated entry capacity”
- Licence limits “non-substitutable” capacity to:
  - sold capacity
  - 10% of baseline
  - incremental capacity
  - and implicitly capacity needed to meet overarching obligations, e.g. safety

# How much capacity should be available for substitution?

Option	Comments
Unsold	<p>Only option which meets Licence requirement</p> <p>Maximises substitution</p> <p>Incentivises Shippers to longer term bookings</p> <p>Transparent, allocations not disputable</p>
Forecast	<p>Protects anticipated capacity needs without need for User Commitment</p> <p>Could undermine TYS process</p> <p>Forecast error</p>
Previous year's peak flow	<p>Does not account for declining flows</p> <p>Protects capacity without need for User Commitment</p> <p>Transparent, flows not disputable</p>
0%	<p>Maximises substitution</p> <p>Incentivises Shippers to longer term bookings</p> <p>Aids development of liquid secondary capacity market</p>
10%	<p>Only option which meets Licence requirement</p> <p>Compromise</p>
20%	<p>Capacity available for new entrants and short lead time developments</p> <p>Capacity available for short term portfolio adjustments</p>
GWh limit	Less impact on larger ASEPs
Seasonal	Substitution is permanent so applies to equal quantity throughout year

# Issues (4).

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## 4) Should constraints be placed on substitution processes?

### a) Capacity Degradation (Exchange rate cap)?

i. How will this be set?

### b) Existing / future short duration allocations?

i. UNC mod to limit short bookings

ii. UNC mod to allow substitution in preference to short term bookings

iii. Make substitutions time-limited, i.e. capacity reverts back to the donor.

iv. Surrender mechanism and surrender prices

v. Future buy-back vs future investment

### c) Exclude those with baseline reduction from 2002-2007

### d) Exclude constrained / Ops Margin ASEPs

# Should constraints be placed on substitution?

## Capacity Degradation –

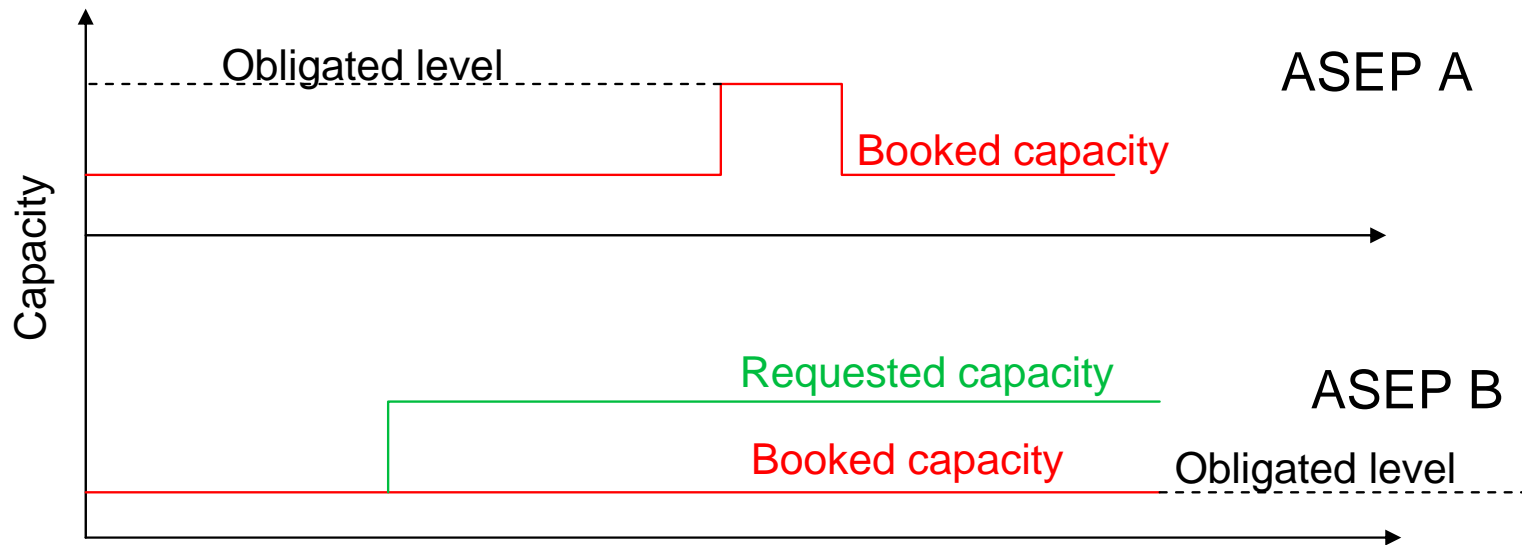
where the incremental capacity allocated at an ASEP as a result of substitution is less than the associated reduction in “non-incremental obligated capacity” at other ASEPs

Can only be identified as part of the post auction analysis.

Low	High (or none)
<p data-bbox="154 634 845 748">Avoids excessive loss of total system capacity</p> <ul data-bbox="249 768 934 859" style="list-style-type: none"><li data-bbox="249 768 934 859">◆ May prevent any substitution taking place.</li></ul> <p data-bbox="154 886 934 996">Allows gradual introduction of the irreversible effects of substitution.</p> <ul data-bbox="249 1022 814 1062" style="list-style-type: none"><li data-bbox="249 1022 814 1062">◆ Easier to ramp up than down</li></ul> <p data-bbox="154 1086 858 1189">Added complexity to post-auction analysis</p>	<p data-bbox="1058 634 1766 805">Maximises amount of capacity made available at recipient ASEP</p> <ul data-bbox="1153 831 1824 973" style="list-style-type: none"><li data-bbox="1153 831 1824 973">◆ Avoids risk of no substitution being undertaken because of exchange rate limit</li></ul> <p data-bbox="1058 1001 1797 1110">Quickly aligns obligated level to allocations</p> <ul data-bbox="1153 1136 1835 1176" style="list-style-type: none"><li data-bbox="1153 1136 1835 1176">◆ Limits scope for future substitutions</li></ul> <p data-bbox="1058 1203 1696 1253">Any limit would be arbitrary</p>

# Should constraints be placed on substitution?

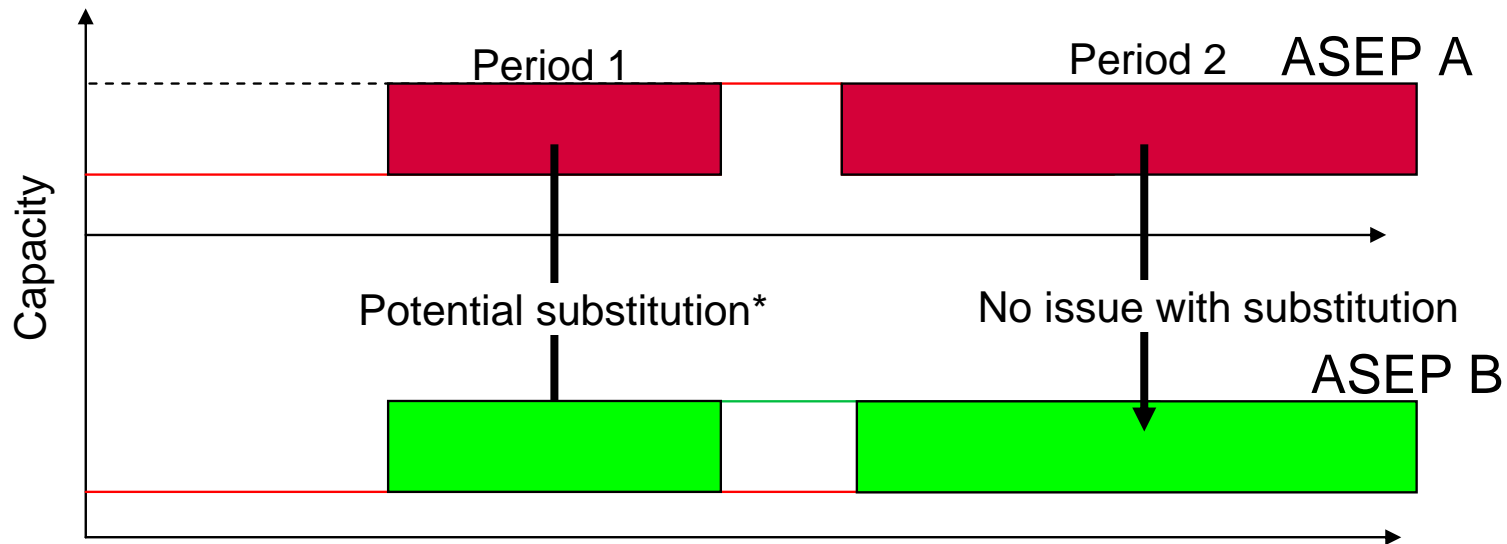
## Short duration allocations – example



# Should constraints be placed on substitution?

## Short duration allocations - example

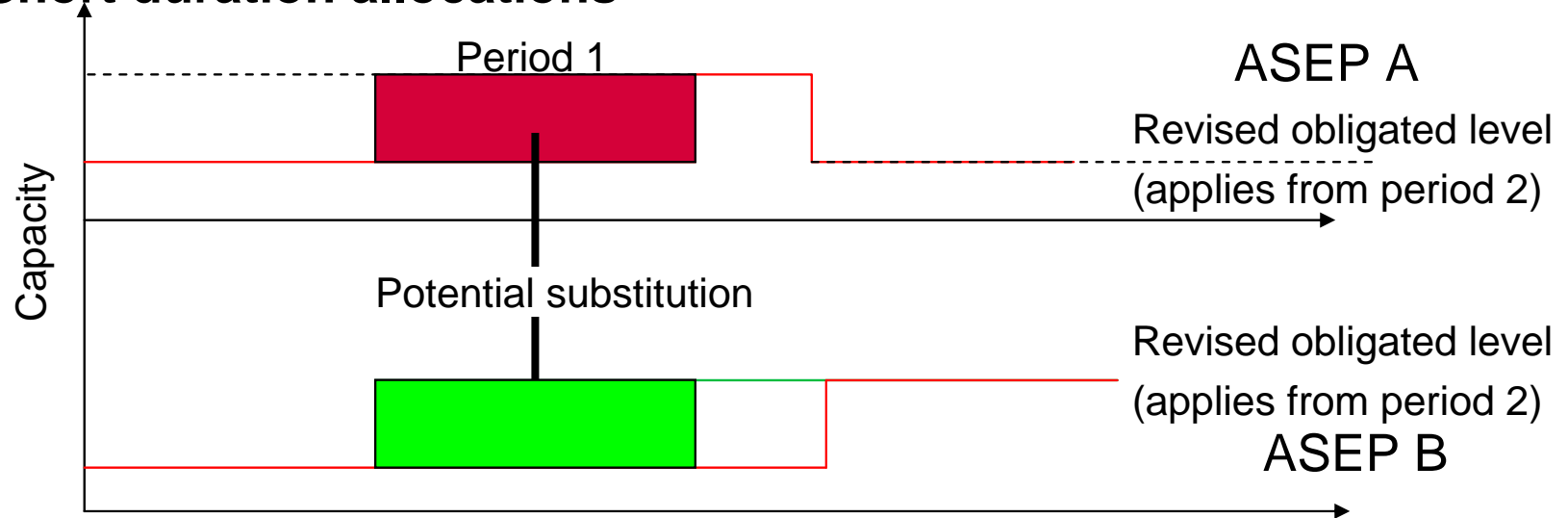
NB – Substitutions may not be at 1:1 exchange rate. Diagram is intended to indicate process not absolute values.



\* Licence envisages permanent changes to obligated level

# Should constraints be placed on substitution?

## Short duration allocations



- For Period 1 should NG:
  - Substitute (NG will have concurrent commitments at A & B without the capability); or
  - Invest (uneconomic if for short duration?)



# Should constraints be placed on substitution?

## Existing / future short duration allocations

Options	Comments
Do not substitute	<p>Presents scope for gaming to protect capacity; but at what cost (see next slide)?</p> <p>All capacity bookings should be seen as genuine User requirements</p> <p>Some types of ASEP only require seasonal capacity</p> <p>Would limit capacity movement</p> <p>Allows capacity to be released but NG would optimise investment at future date</p>
Substitute	<p>Exposes NG (and Users) to buy-back costs;</p> <p>Conflicts with Licence (to avoid material increase in costs)</p>

Options	Comments
Prevent short-term, distant, bookings in UNC mod	<p>Complex. Rules would be arbitrary.</p> <p>Assumes certain bids are not genuine.</p> <p>Does not resolve existing allocations</p>
UNC mod to alter allocation rules to favour substitution	
Make substitution time limited	<p>Users need to trigger incremental capacity twice.</p> <p>Potential Licence issues</p> <p>Instability in obligated levels</p> <p>IT issues</p>
Create surrender mechanism	<p>Not a solution if Users don't surrender.</p> <p>NG could be held to ransom.</p> <p>But, would increase economic use of capacity</p> <p>Would Users know that capacity is not required 2/4/more years ahead?</p> <p>Surrender via T&amp;T available</p> <p>IT issues</p>

# Should constraints be placed on substitution?

## Short Duration Allocations.

User Commitment required to obtain capacity for one quarter

ASEP	Reserve Price p/kWh/d	Approximate cost of capacity booking for one quarter							
		Baseline GWh/d Ofgem option 1A	Cost of 90% B/L assuming no existing bookings	Jan 2012 existing bookings GWh/d	2012 Forecast (approx) Gwh/d	Cost of 2012 Forecast from Jan 2012 booked level	Cost of 90% B/L from Jan 2012 booked level	Jan 2021 existing bookings GWh/d	Cost of 90% B/L from Jan 2021 booked level
<b>Bacton</b>	0.0098	1783.4	£14,156,629	671	1,350	<b>£5,993,090</b>	£8,242,719	110	£13,186,000
<b>Barrow</b>	0.0036	309.1	£901,336	167	140	nil	£360,256	58	£713,416
<b>Easington</b>	0.0080	1062	£6,881,760	1,301	1,350	incremental	nil	1,218	nil
<b>St Fergus</b>	0.0343	1670.7	£46,417,058	584	1,300	<b>£22,112,865</b>	£28,398,923	47	£44,955,687
<b>Teesside</b>	0.0067	476	£2,583,252	145	325	<b>£1,085,054</b>	£1,708,556	0	£2,583,252
<b>Theddlethorpe</b>	0.0068	610.7	£3,363,736	19	125	<b>£648,108</b>	£3,246,844	0	£3,363,736

# Should constraints be placed on substitution?

Exclude, i.e. capacity is not substitutable

- ASEPs with baseline reduction from 2002-2007
- constrained / Ops Margin ASEPs

Options	Comments
Baseline reductions	Could be seen as being discriminatory Implies revised baselines incorrectly set
Constrained / ops margins	Could be seen as being discriminatory Provide transportation support so “due” discrimination? Helps meet overarching Licence obligation Could undermine competition in provision of these services

# Issues (5).

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- 5) How far forward should substitution be available?
  - a) Impact on donor ASEP
  - b) Licence incentives.
    - i. 18 month release time
  - Accelerated release incentive applies to “incremental obligated entry capacity” (Licence Special Condition C8D 3f).
  - IOEC is defined as including capacity provided by substitution.
  - c) Impact of Partial Substitution

# How far forward should substitution be available?

18 months	42 months
<ul style="list-style-type: none"><li>◆ Releases maximum amount of capacity for longest period<ul style="list-style-type: none"><li>◆ Early release may support fast track projects</li></ul></li><li>◆ Complex process - IT development if a dual bidding process is needed<ul style="list-style-type: none"><li>◆ e.g. conditional bids placed at 18 months</li><li>◆ Users unsure whether to bid to pass the User Commitment test at 18 or 42 months</li></ul></li><li>◆ Substitutable capacity may be limited<ul style="list-style-type: none"><li>◆ Merit order needed to rank competing bids</li><li>◆ Potential for dispute / loss of transparency</li></ul></li><li>◆ Limits gap with T&amp;T periods</li></ul>	<ul style="list-style-type: none"><li>◆ Substitution is intended to replace investment so should be aligned to investment lead times.</li><li>◆ Retains simplicity of existing auction process<ul style="list-style-type: none"><li>◆ All valid bids result in release of capacity</li><li>◆ Avoids need for iterative analysis at different time periods</li></ul></li><li>◆ Users have more time to manage position if they “lose” capacity.</li></ul>

# Issues (6).

- 6) Should separate rules be introduced for different types (storage / LNG) of entry point?
- 7) New Entry Points
- 8) Multiple donor ASEPs
  - a) Covering same period
  - b) Sequential

Options	Comments
Separate treatment for different types of ASEPs	Acknowledges different features of ASEPs Acknowledges transmission support given by some ASEPs Discriminatory? If some ASEPs don't need capacity why "reserve" it?
New Entry Points	Align introduction of substitution to a regular QSEC. Substitution should be available in stand-alone QSECs for new ASEPs provided all Users have had access to substitutable capacity.
Multiple Donors (same period)	Maximises substitution, minimises investment Not overly complex Process identifies order of potential donor ASEPs
Multiple Donors (sequentially)	Substitution at first donor ASEP would not be permanent.

# Issues (7).

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## 9) Impact/relevance of Baseline review.

- a) Link to physical capacity
- b) Investment plans for baselines (NG analysis / Ofgem consultation)
- c) What/where are the physical constraints to flows?

## 10) Under investment 2002-2007 / implicit substitution

- NG was incentivised to optimise investment by balancing risk of buy-back against infrastructure costs.
- Substitution formalises this but it
  - reduces the obligation on NG at the donor ASEP; and
  - removes the revenue allowance for releasing incremental capacity.

## 11) NG/Shipper obligation with respect to incremental signals when project undeliverable, e.g. Fleetwood

- NG has obligations to the Fleetwood Shippers
- NG will take view on investment decisions on a case by case basis
- Revision of security/credit requirements may alleviate risk of issue recurring.

## 12) What will be the impact of substitution?

- a) Capacity degradation

# Issues (8).

## 13) What is the trigger for releasing capacity through substitution?

- a) Variation of NPV test
- b) Alternative test

	Comments
Same NPV test	<p>Recognises value of capacity</p> <p>Recognises impact on donor ASEPs especially if capacity is required at a later QSEC.</p> <p>Avoids IT issues</p> <p>Provides certainty of capacity release to Users</p>
Lower NPV test for substitution	<p>Matches User commitment to actual NG cost incurred</p> <p>Low commitment could encourage spurious bids leading to unnecessary investment</p> <p>Difficult to determine test for partial substitution</p> <p>Needs merit order for competing bids</p> <p>Users do not know what to bid ahead of auction when substitution opportunities not known</p>
Duration based test	<p>Simple</p> <p>Analogous to exit (does it need to be?)</p> <p>Too much change too soon</p>



# Issues (9).

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## 14) Interaction with T&T – will T&T alleviate concerns with substitution?

- T&T is designed to move capacity to where it is needed
- Should compliment substitution or rectify “errors” but is limited by quantity of capacity available

## 15) Interaction with Exit – will substitution impact available capacity at Exit Points?

a) Flat / Flex?

b) Exit Substitution

- Commitments at Exit will be honoured
  - Including 22 mcmd flex capacity
  - The location and quantity of any unallocated exit capacity may be affected by entry capacity substitution (and vice versa). This will be influenced by any incremental demands
- Network models have these commitments built in

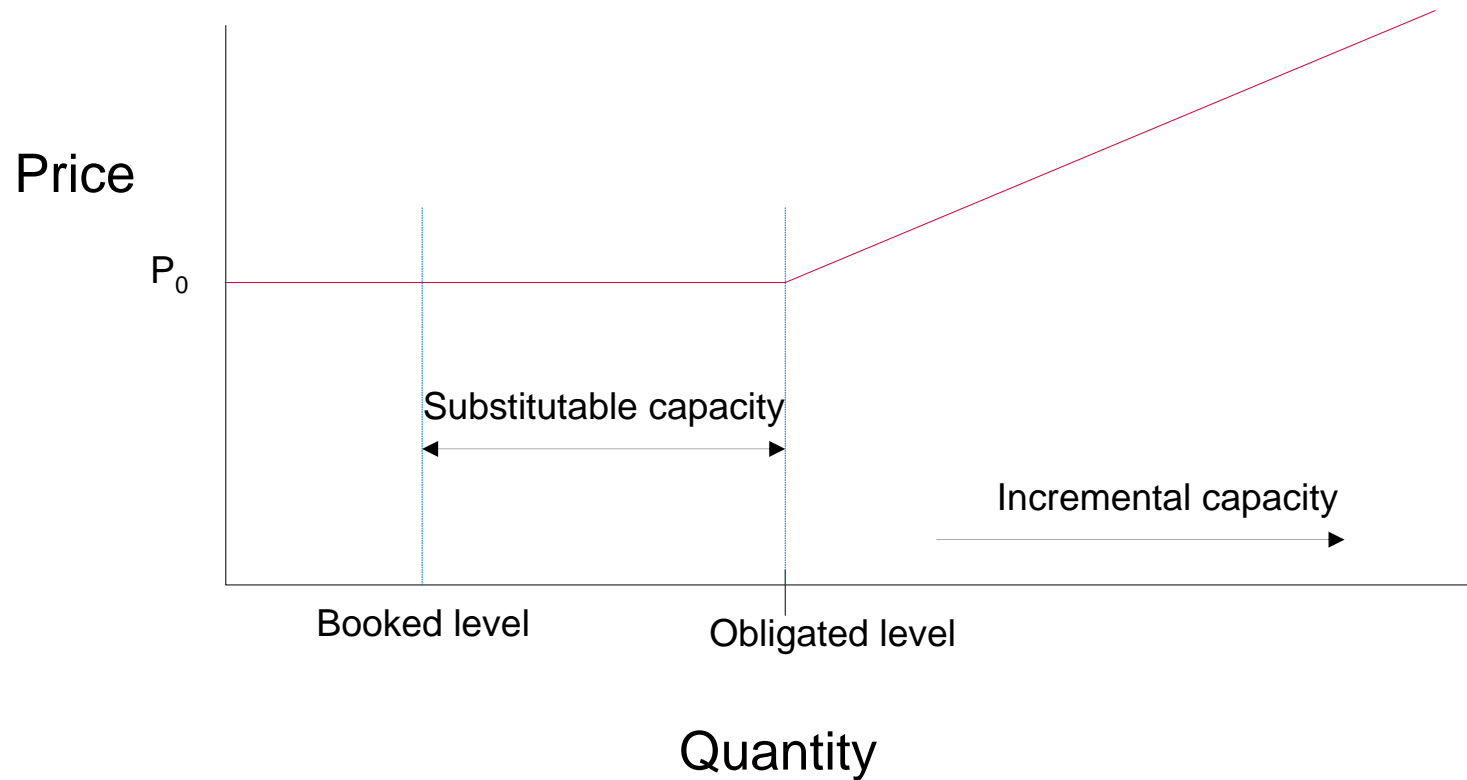
# Issues (10).

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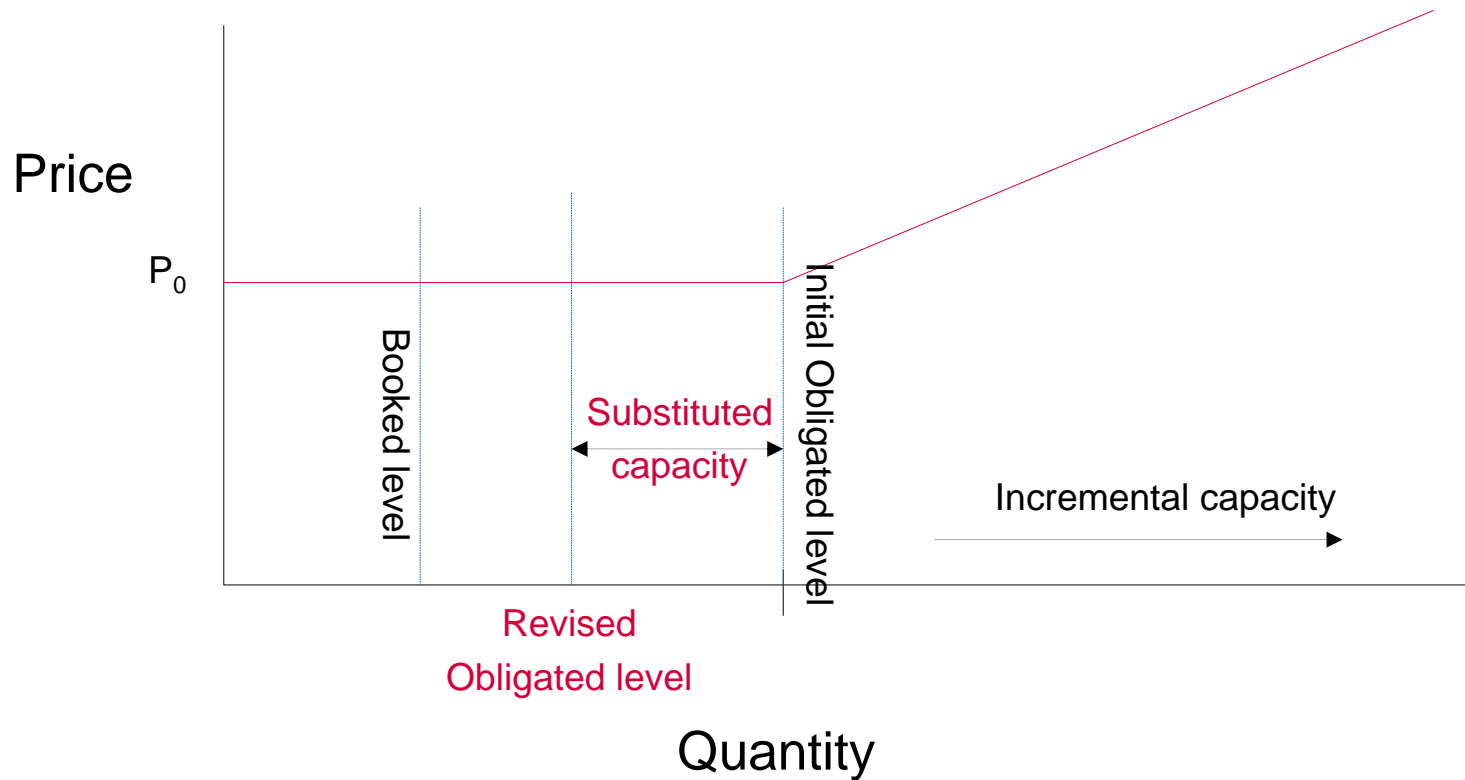
## 16) Impact on Transportation Charges?

- Entry reserve charges are determined from the obligated capacity level
  - This includes baseline + obligated incremental +/- substituted capacity
- Substitution impacts reserve charges
  - Substitution away from an ASEP may reduce charges at that ASEP for any remaining unsold and un-substituted capacity
  - Where incremental capacity is released charges will increase by the same amount whether this is met by substitution or investment

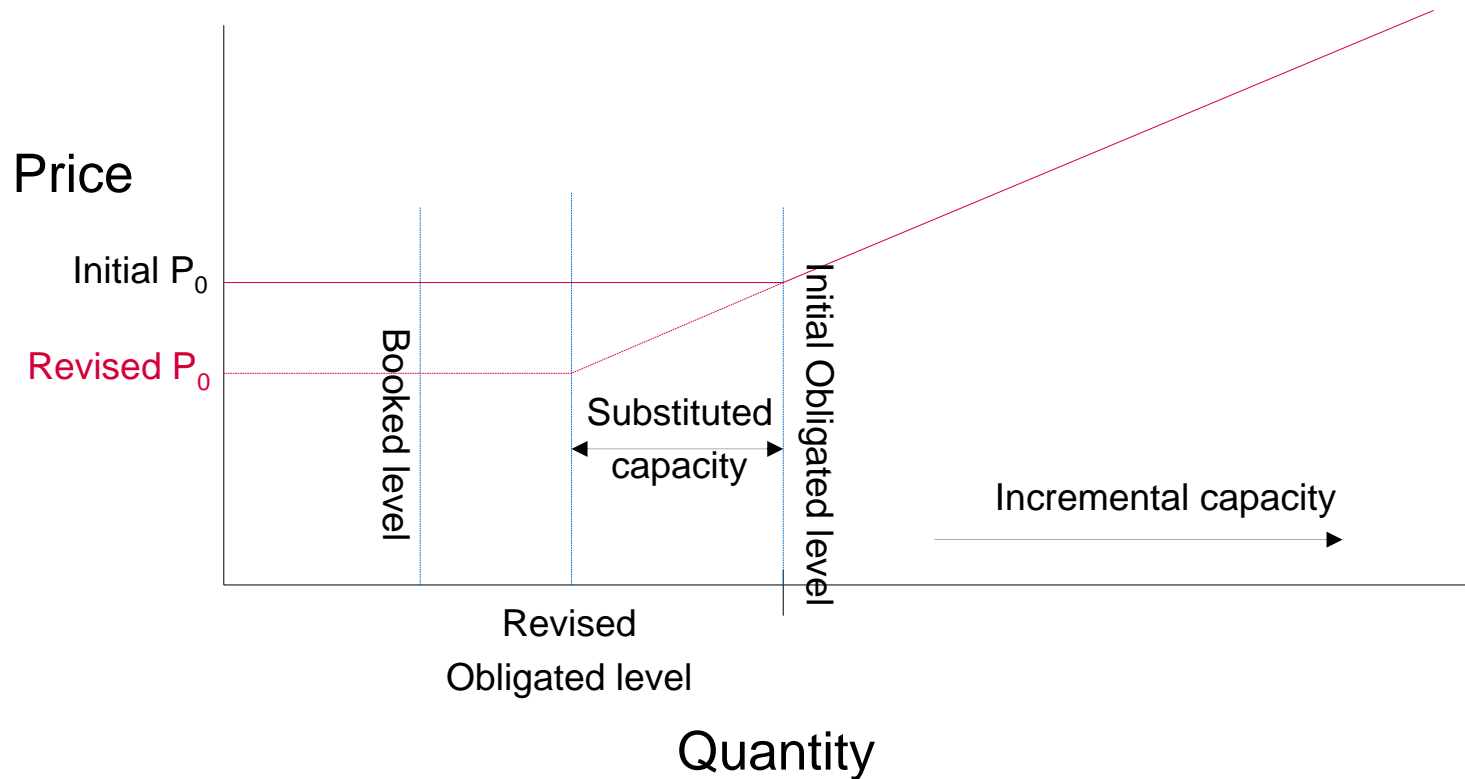
# Impact on Transportation Charges



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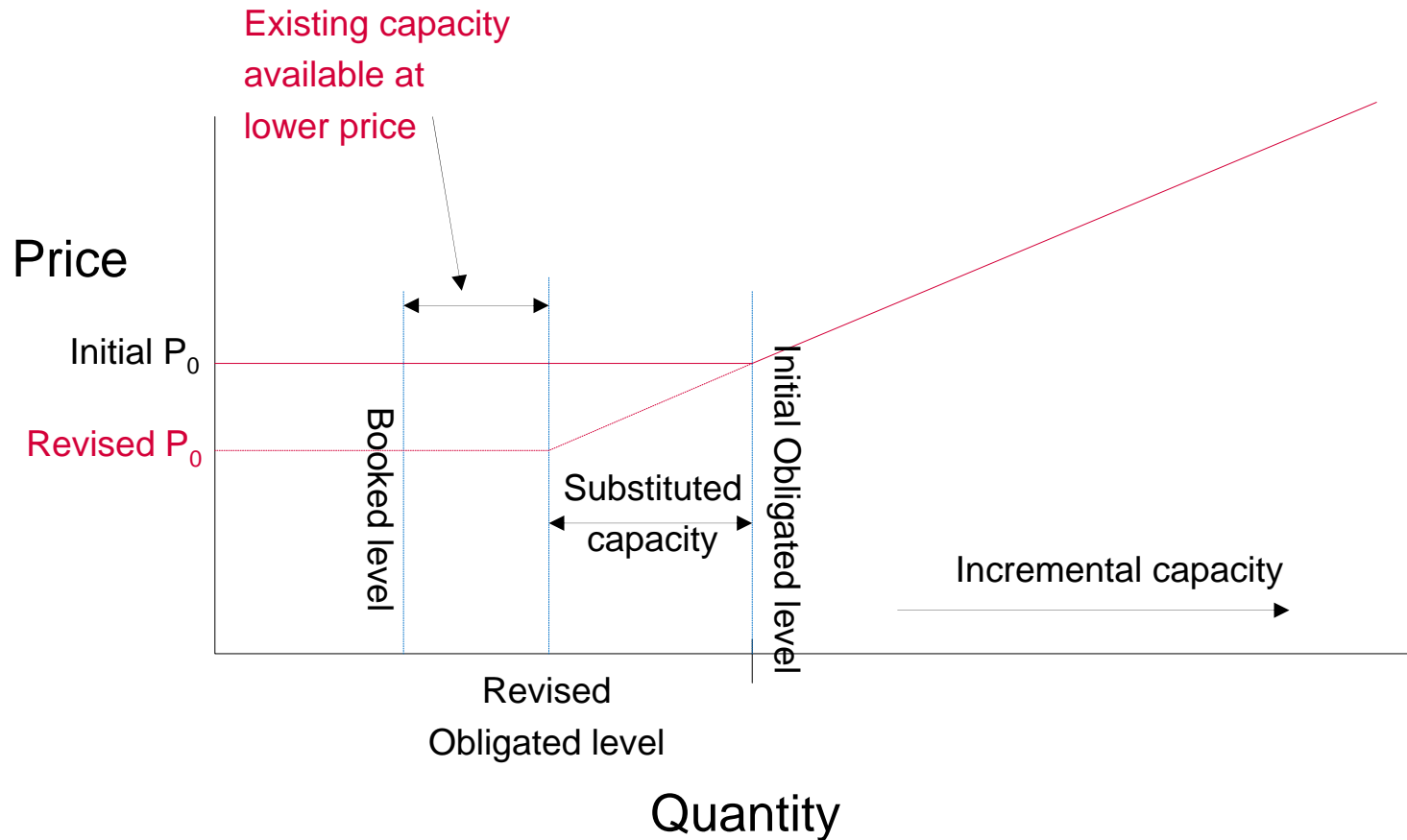


NB - Assessment is highly simplistic and ignores all other effects

e.g. substitution may impact supply / demand scenarios which could in turn affect prices and other, non-substitution, issues may cancel out the effect shown..

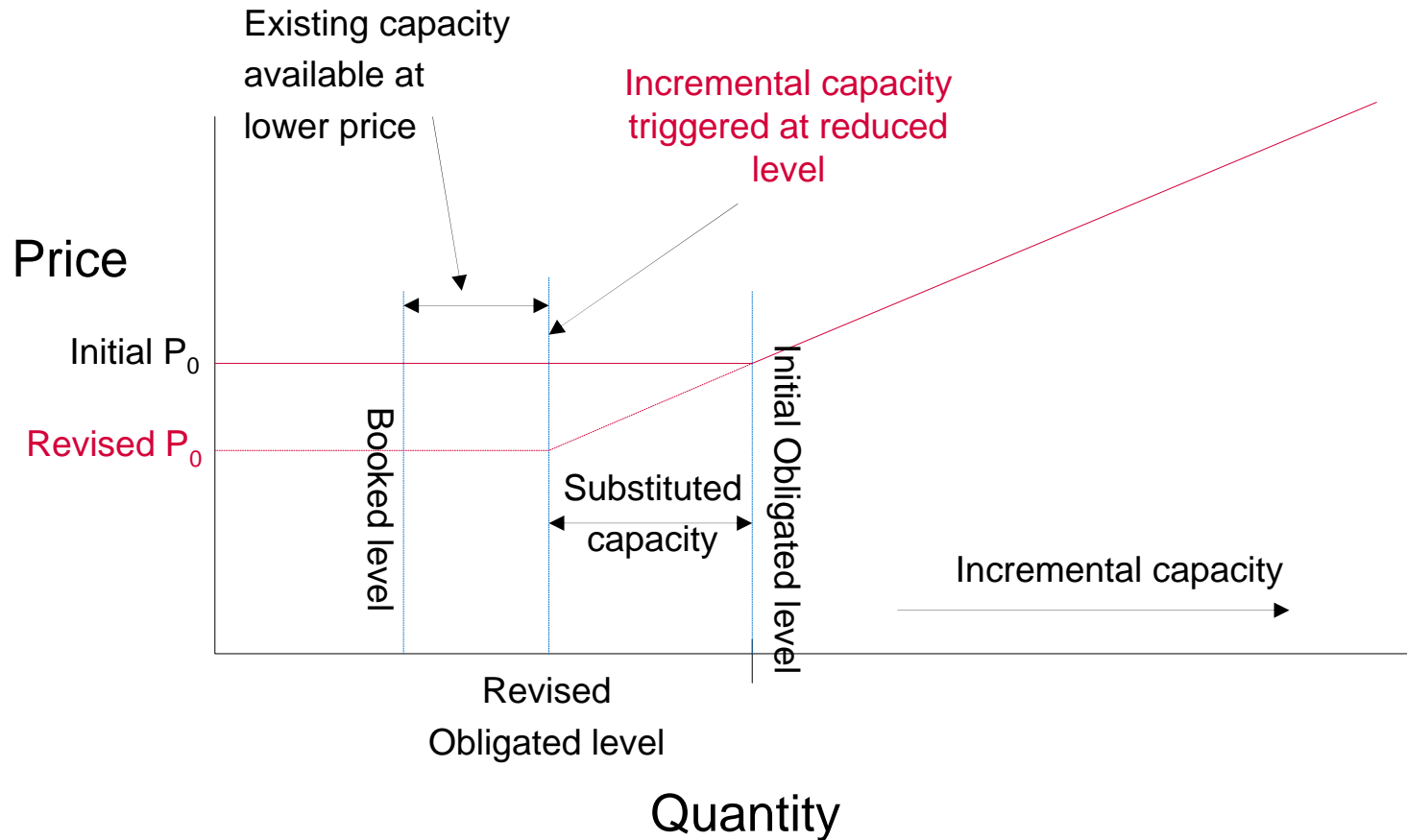
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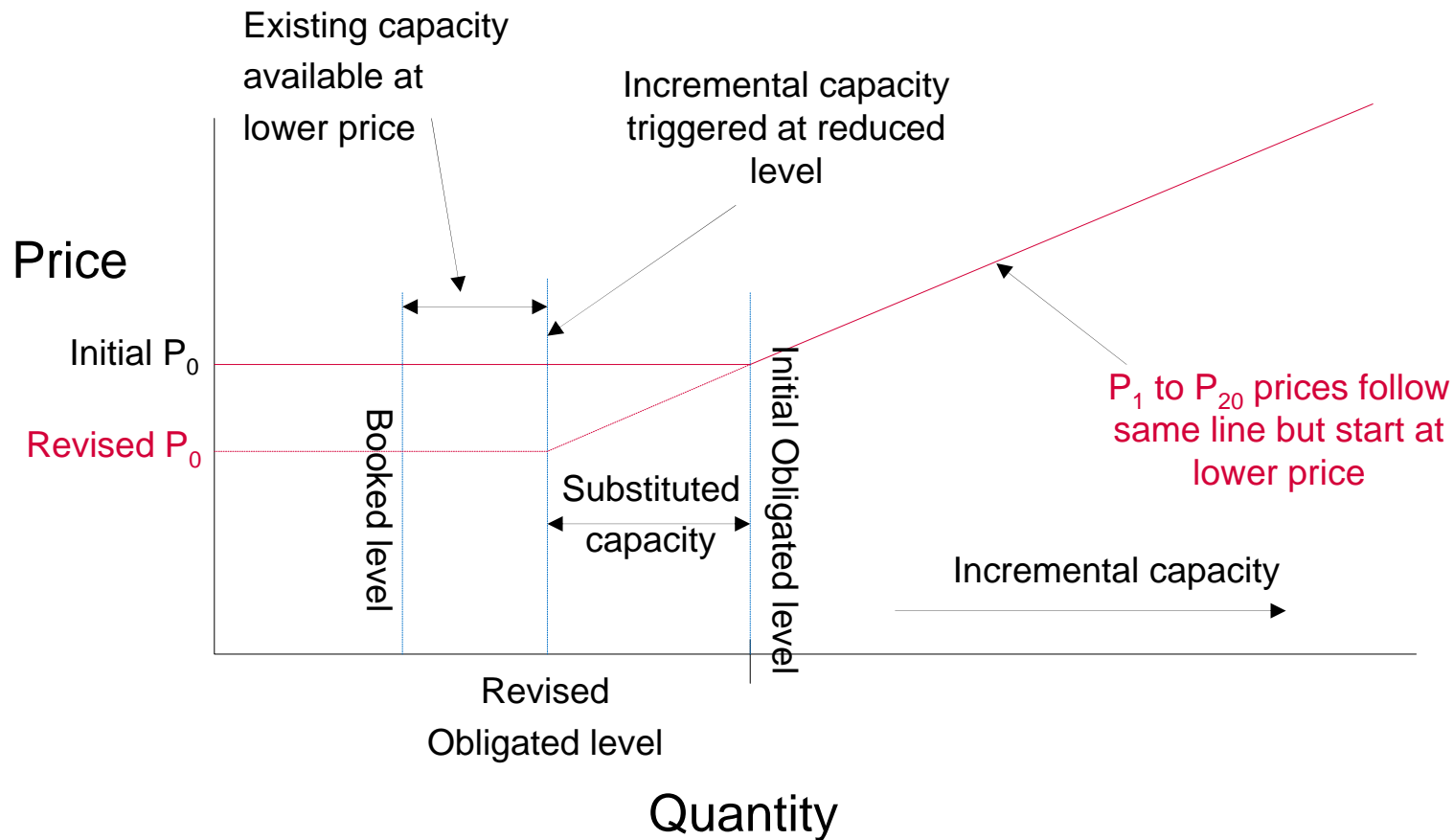
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# Issues (11).

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- 17) Alternative capacity products need to be considered to improve flexibility.
- 18) Timescales for implementation
  - a) National Grid “windfall” gains as a result of delay in implementation.
- 19) Can we phase in substitution?

# Issues (12).

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20) ANY MORE?

# Next Steps

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- ◆ Next workshops
- ◆ 7<sup>th</sup> May
  - ◆ Agenda?????
- ◆ 11<sup>th</sup> June
  - ◆ National Grid to walk through draft methodology for determining Entry Capacity Substitution quantities / locations.