NTS Exit Capacity Product – options for refinement

EOWG

8th February 2006

(nks/060208_EOWG_DC_flex_transmission_usage

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Background and presentation objective

… this presentation builds on previous presentations given to the Enduring Offtakes Workgroup on 18th January and 1st February and the Transmission Workstream on 2nd February

… it provides some insight into DC flex/transmission utilisation

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… the Enduring Offtake Working Group have asked for data about historic flexibility/throughput utilisation at other NTS exit points

… whilst data is being gathered it might be worth thinking about some of the "theory" associated with transmission/flexibility feasible ranges

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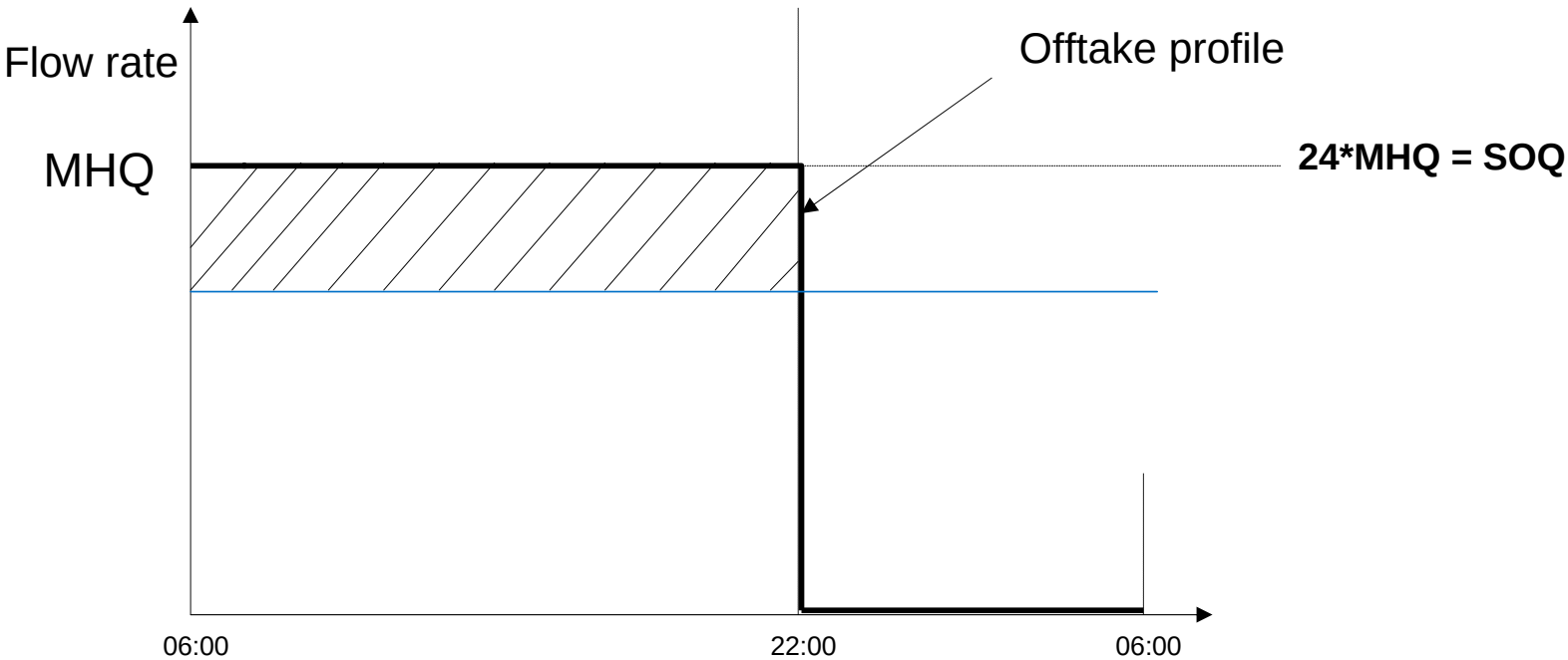
Thinking about transmission/flexibility substitutability (1)

For DCs the current bundled NTS Exit Capacity Product enables access to any flow rates beneath the implied MHQ envelope

DCs effectively have access to a maximum of 2/9 SOQ “flexibility”



This maximum flex usage (2/9 of SOQ) occurs at 2/3 SOQ throughput

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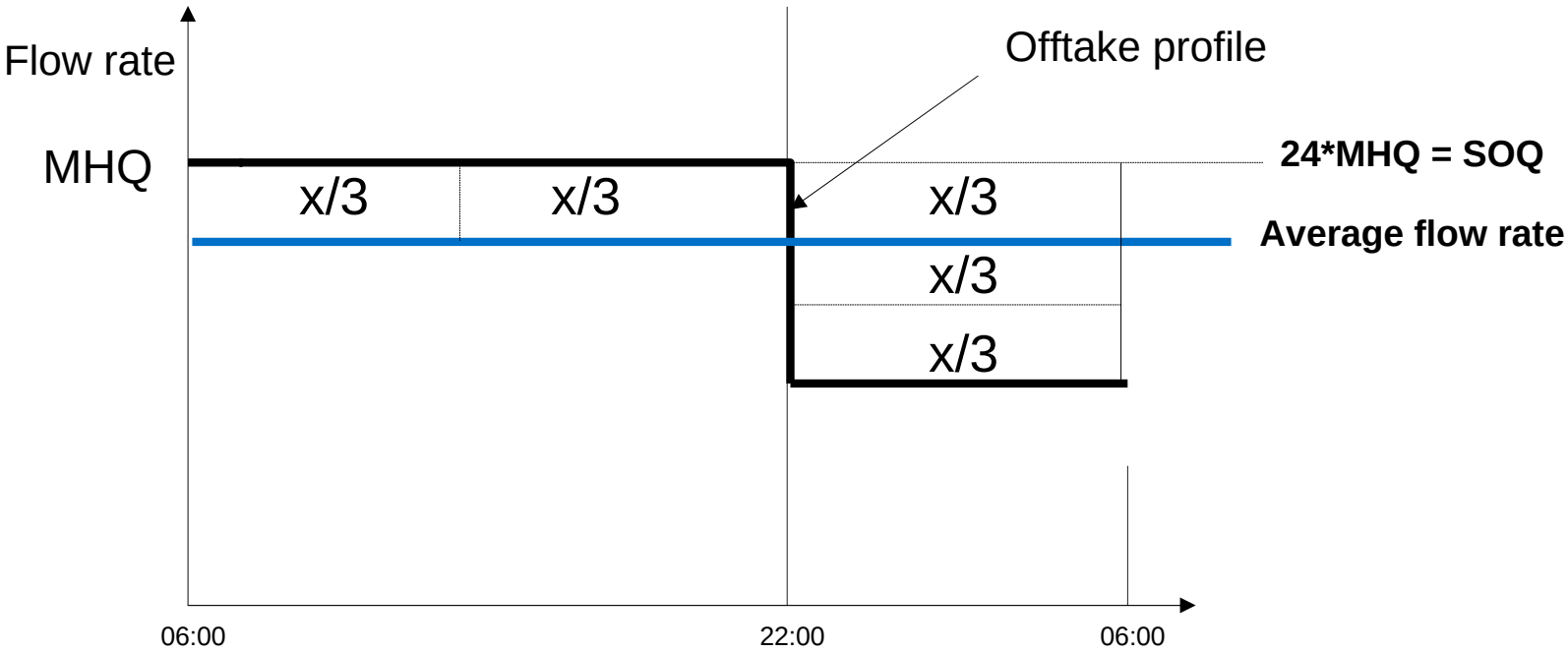
Thinking about transmission/flexibility substitutability (2)

Maximum theoretical flexibility taken below SOQ can be easily established



Thus maximum flex usage is 2/3 of (SOQ – actual daily offtake)

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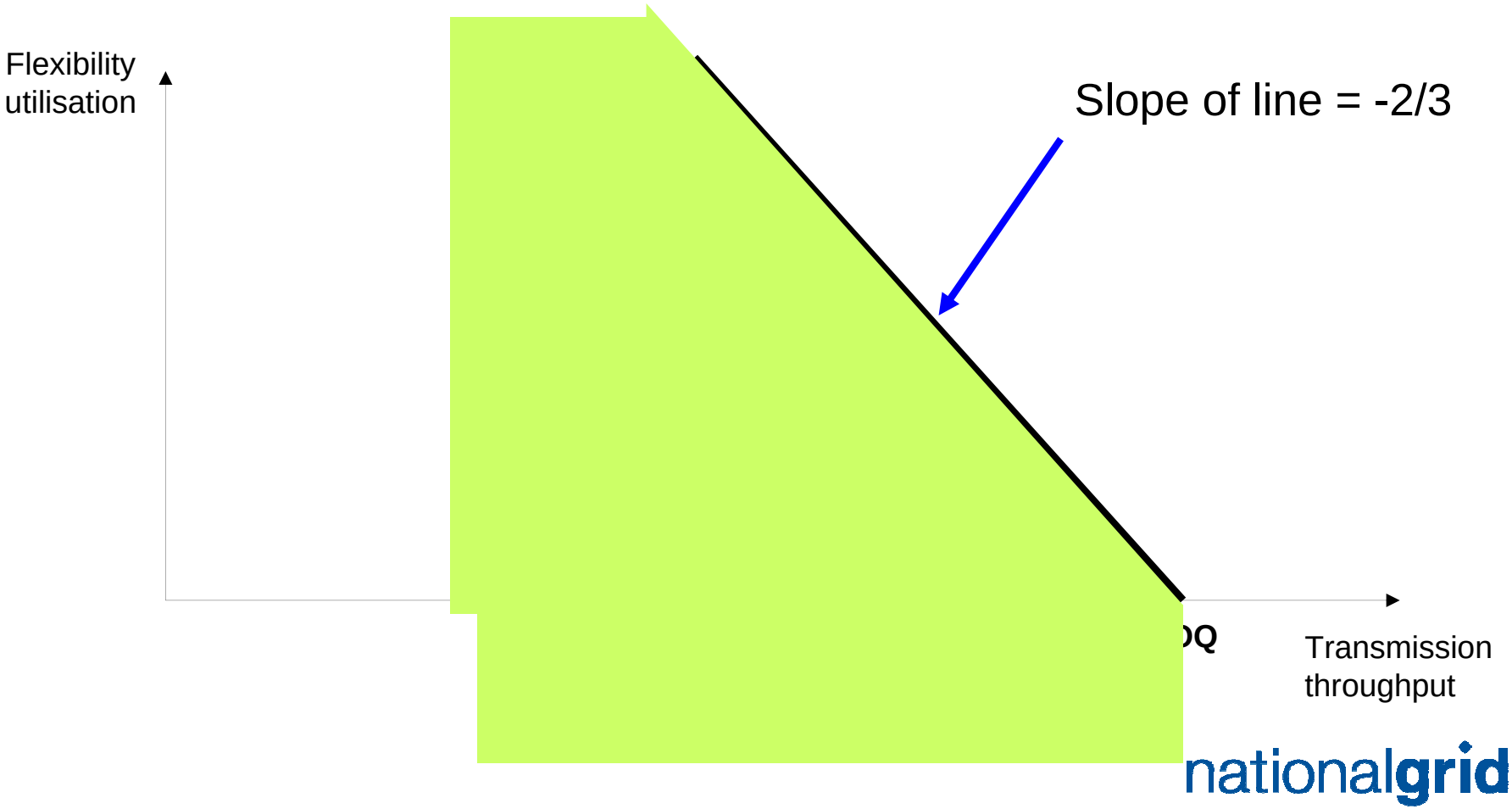
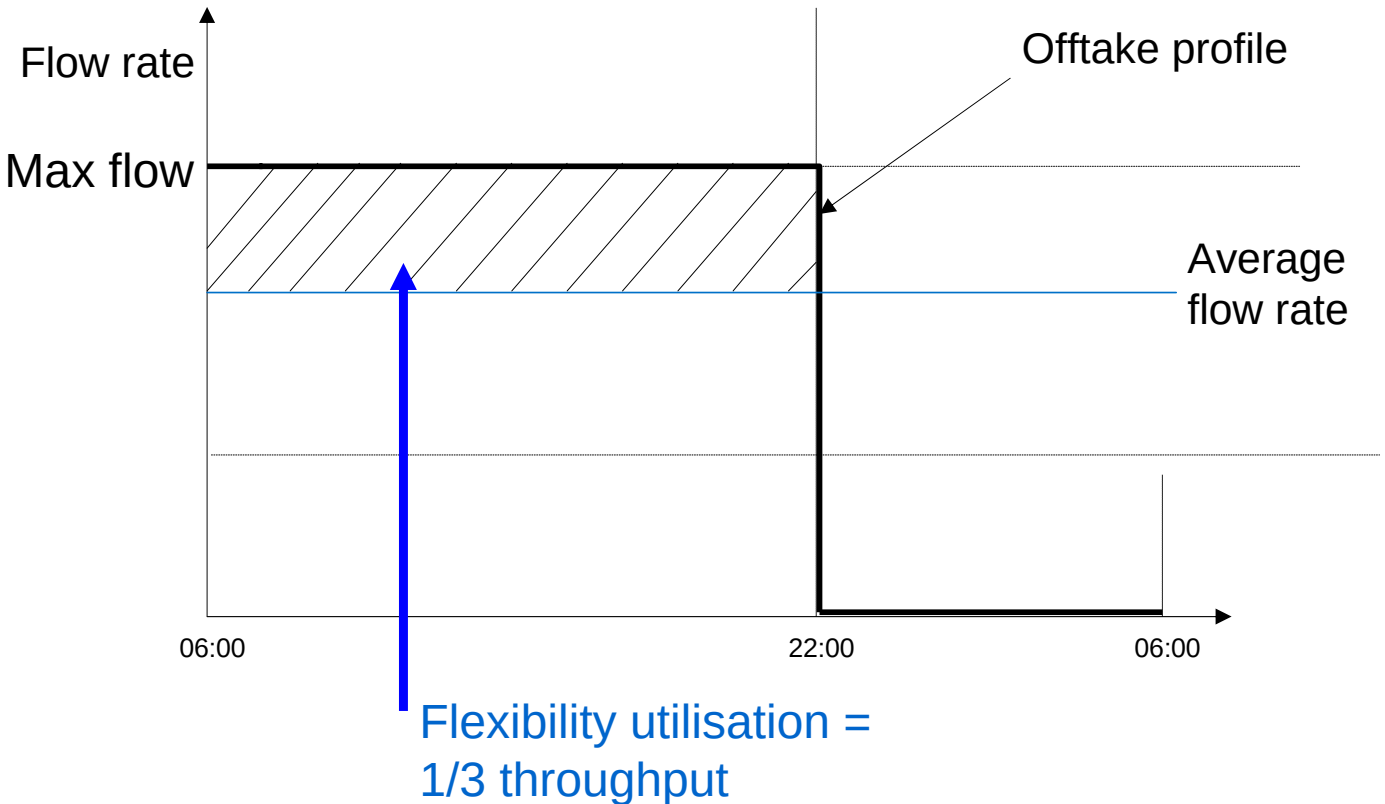
Thinking about transmission/flexibility substitutability (3)

So the theoretical transmission/flexibility envelope associated with Direct Connects can be established from a number of considerations:



Thinking about transmission/flexibility substitutability (4)

At lower demand levels “flexibility utilisation” is also “capped”



2/3 max flow rate

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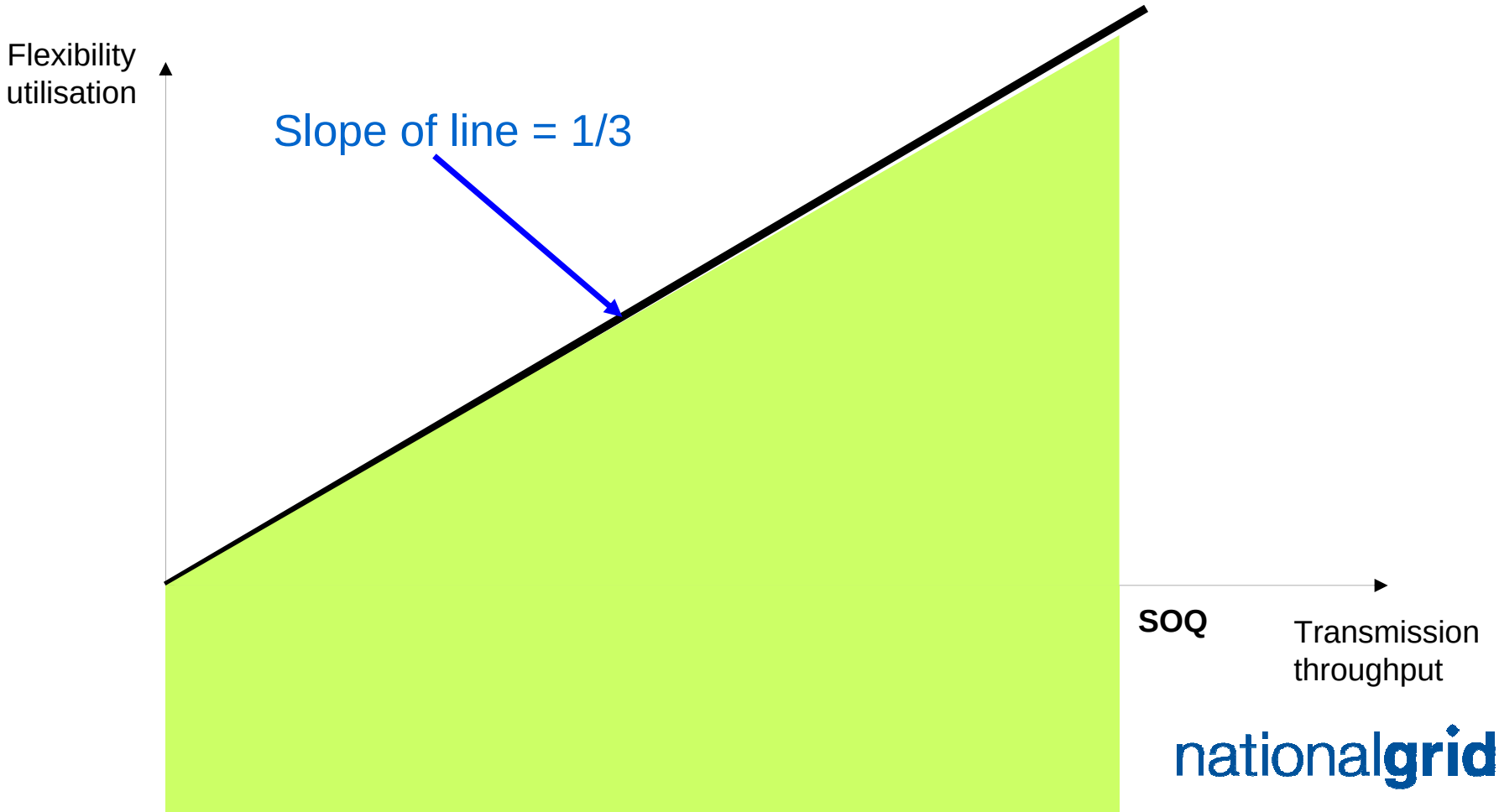
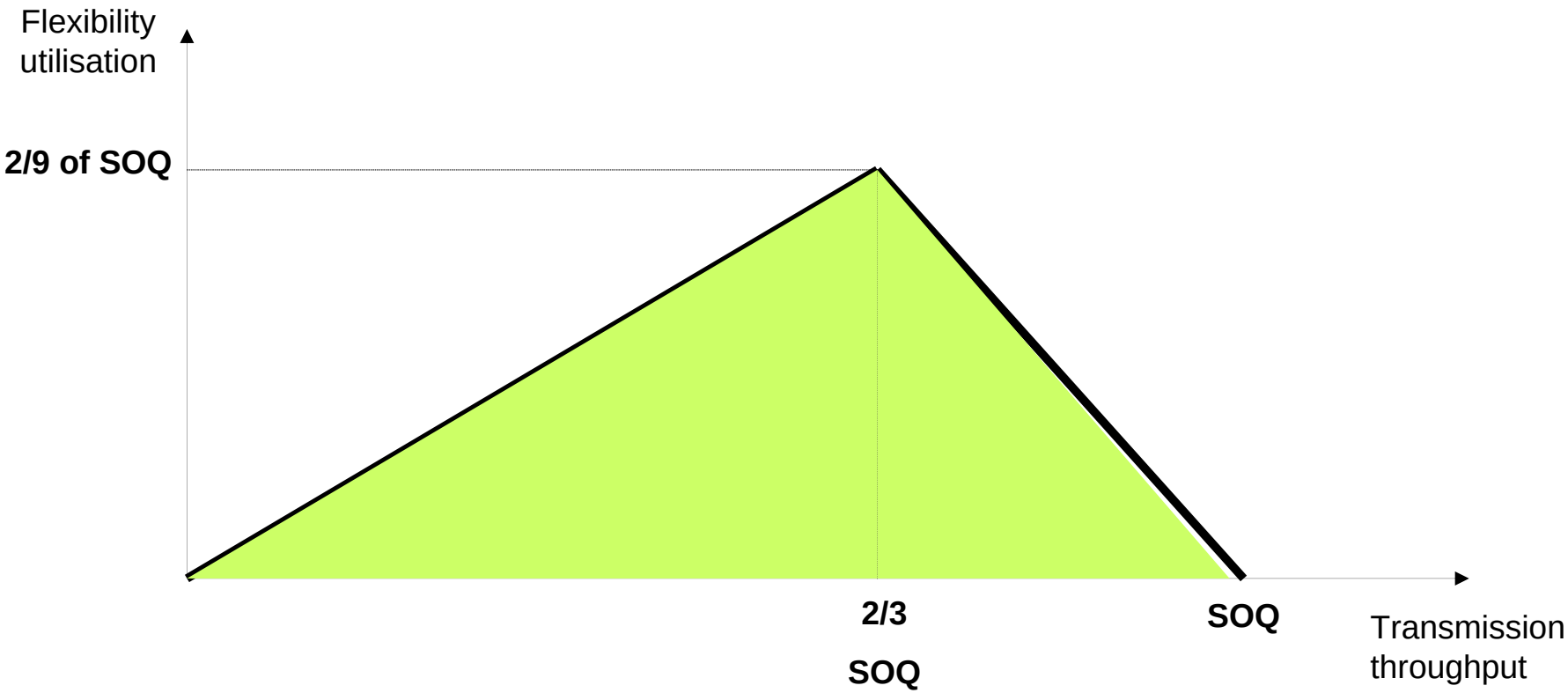
Thinking about transmission/flexibility substitutability (5)

So working along the throughput axis the max flexibility utilisation can be visualised as follows:



Thinking about transmission/flexibility substitutability (6)

So the upper emvelope of the theoretical transmission/flexibility envelope associated with Direct Connects can be visualised as follows:



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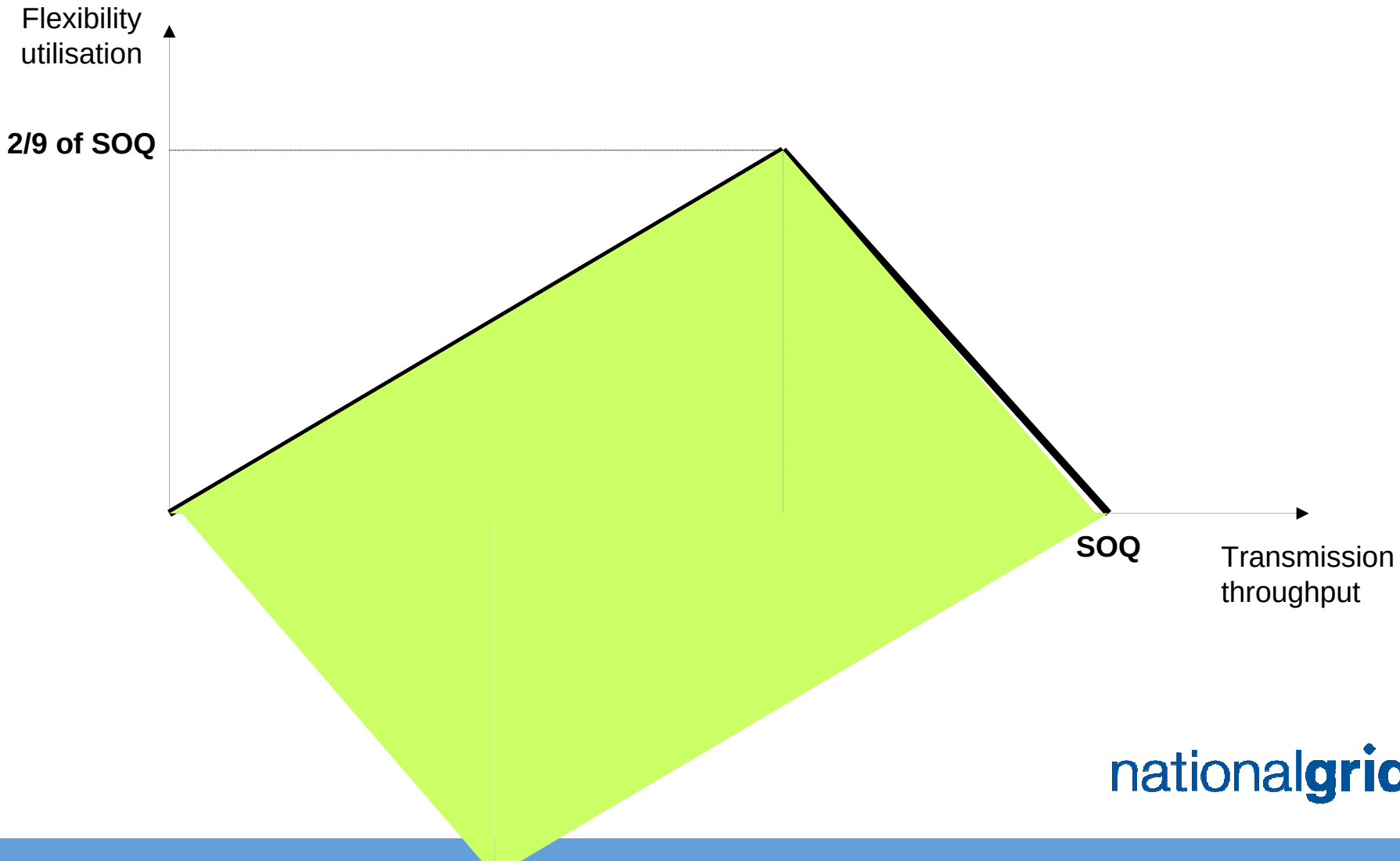
Thinking about transmission/flexibility substitutability (7)

.. and the full envelope could be established as:



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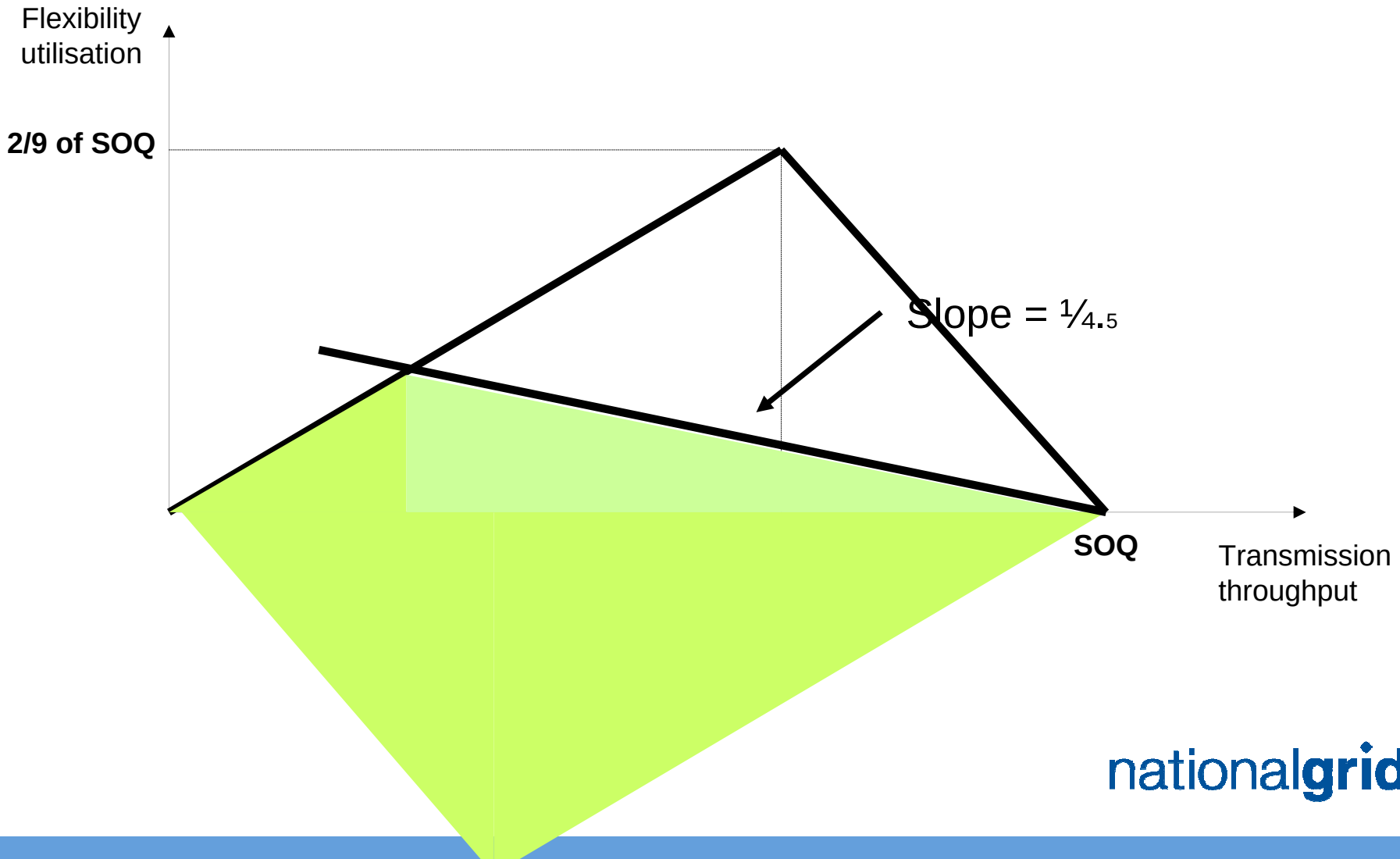
Thinking about transmission/flexibility substitutability (8)

.. but unfettered access to flexibility might not be possible:



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… some examples of DC transmission/flexibility utilisation

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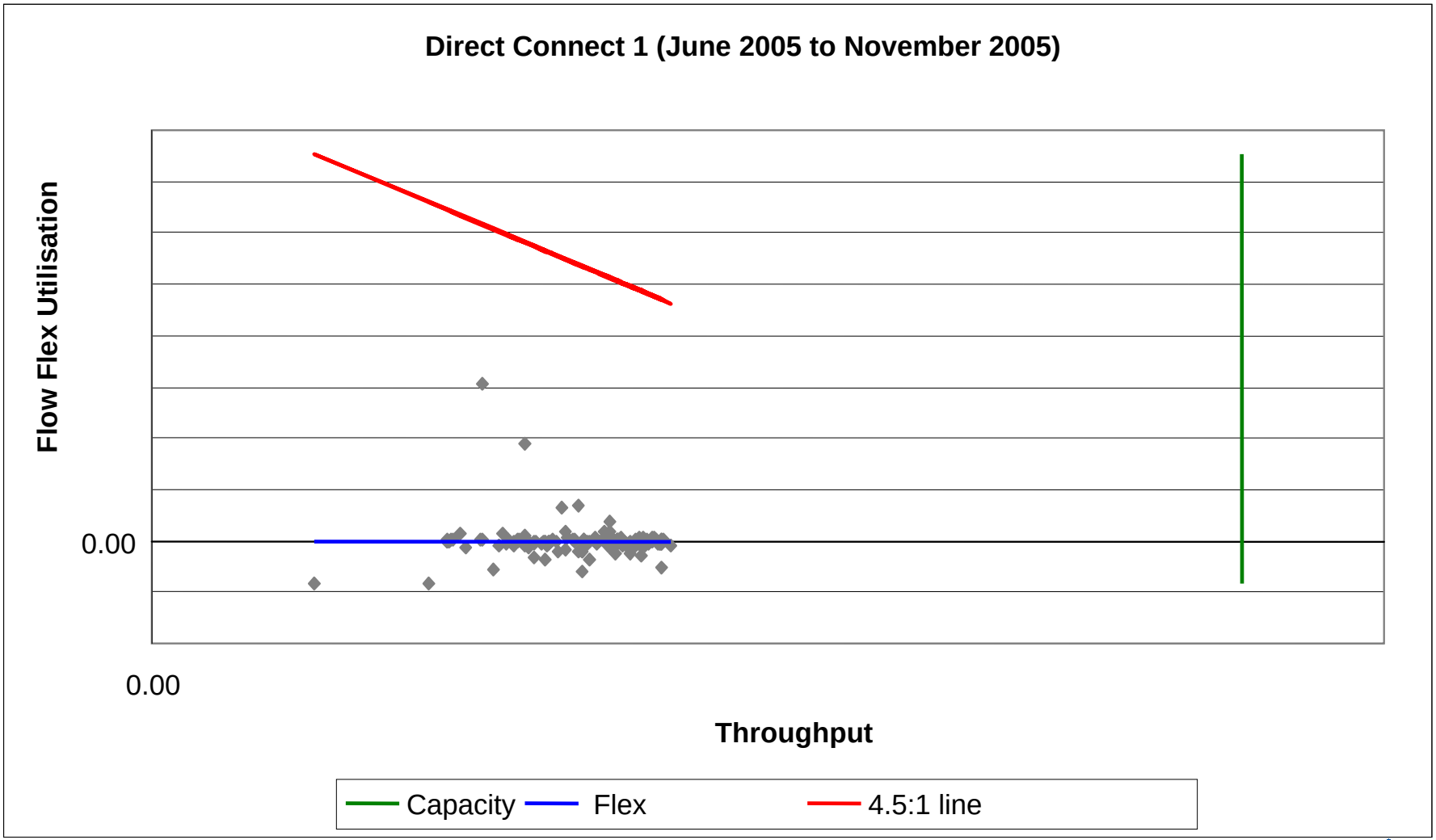
.. an industrial load, just a few days of material flex utilisation



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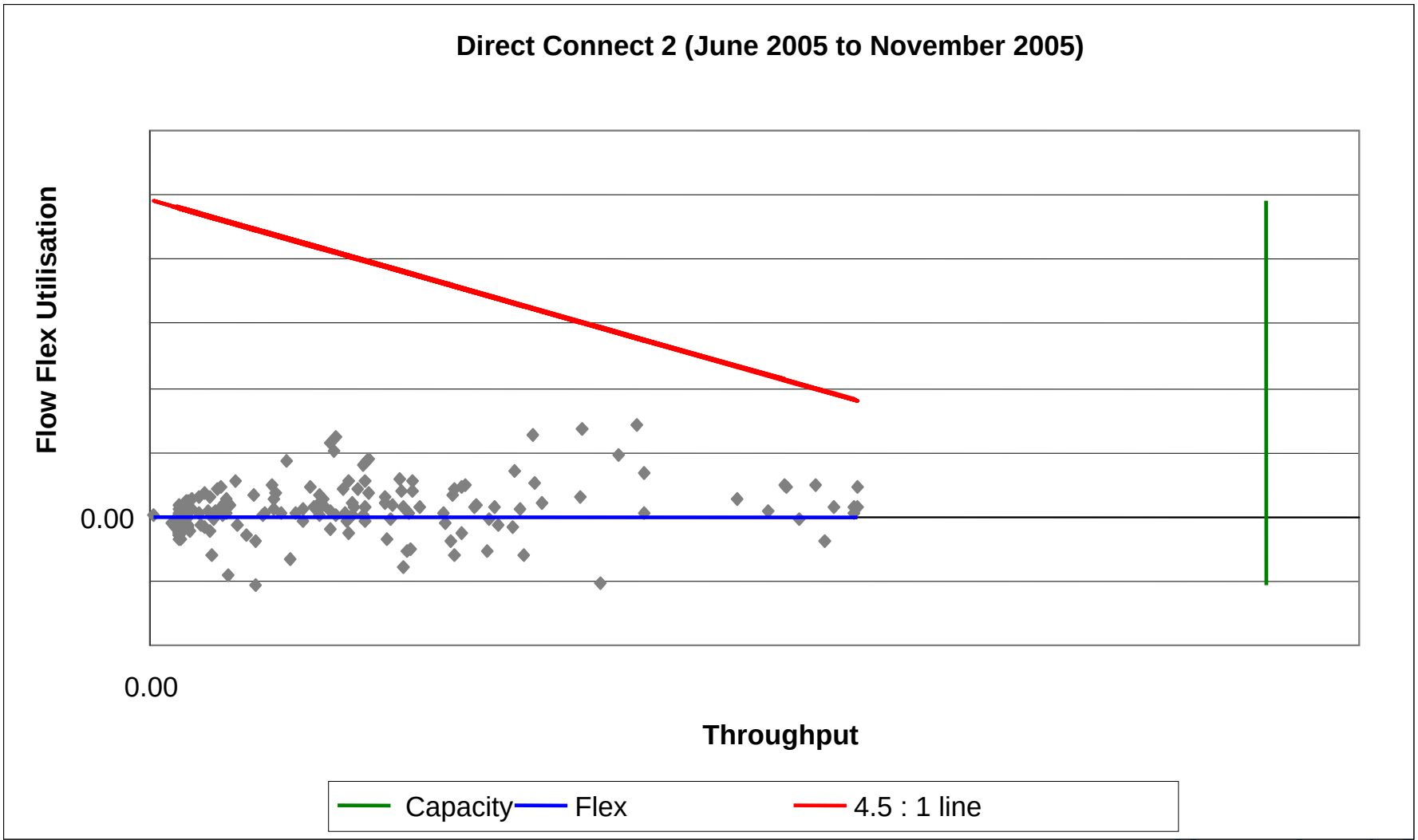

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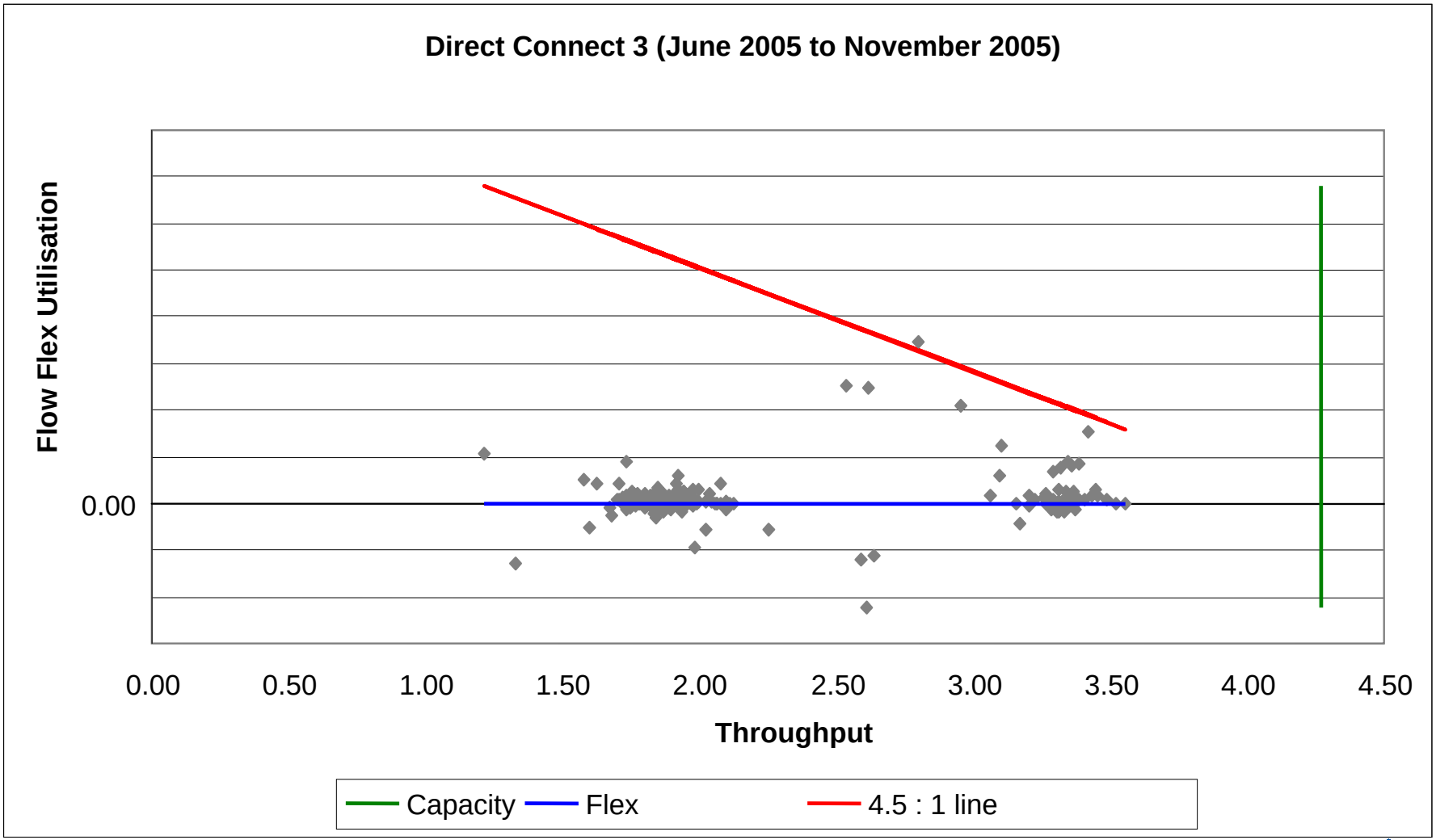

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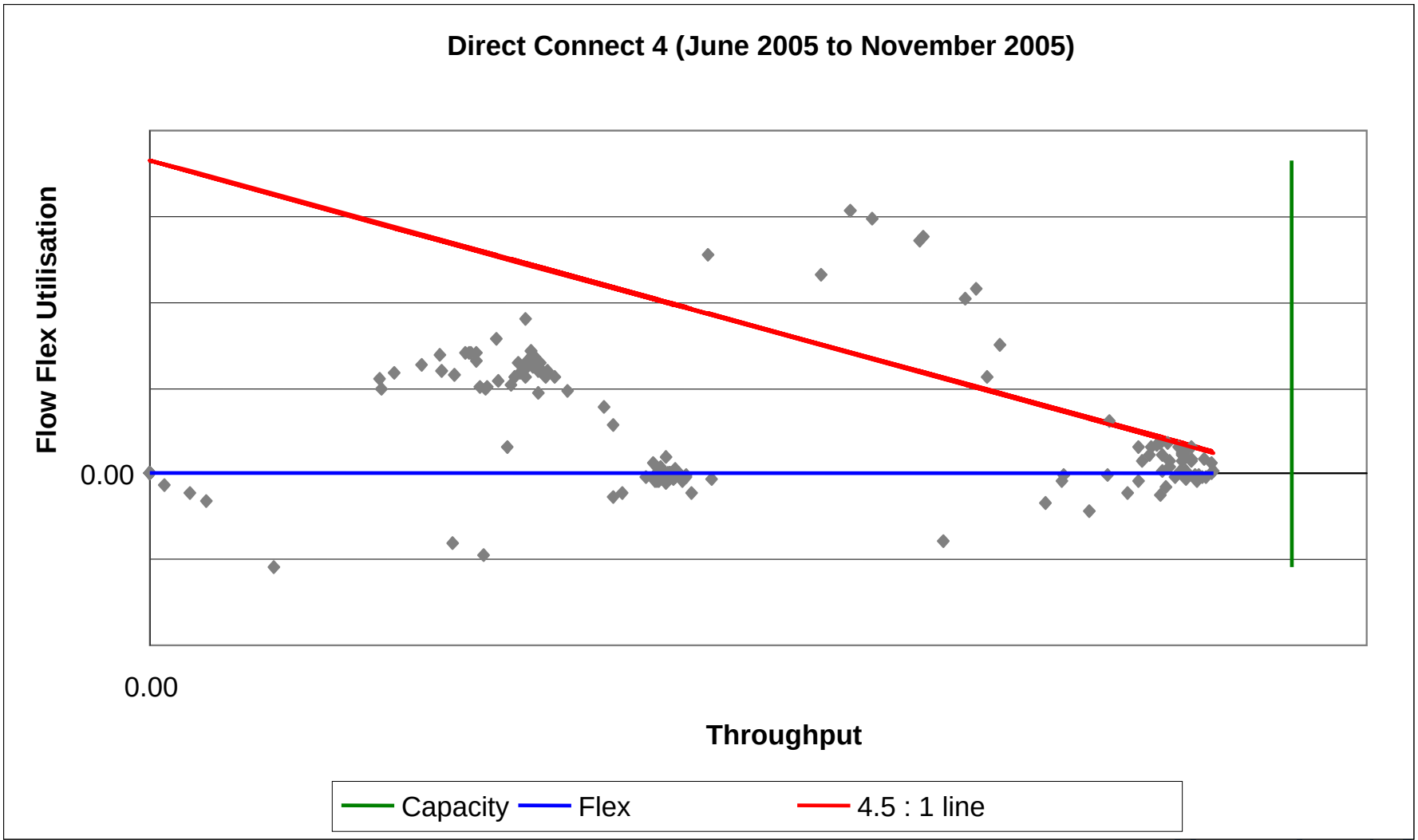
Direct Connect 4 (June 2005 to November 2005)
Flow Flex Utilisation
0.00
0.00
Throughput
Capacity
Flex
4.5 : 1 line

Next steps

Does the Transmission Workstream see merit in further consideration of

the pure TANIF model?

the two product (expanding flexibility model) ?

the single booking parameter derivative of the above?

Alternatively are there other approaches that should be considered at this time?

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