Gas Charging Review

NTSCMF – 06 November 2017

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Agenda

Area	Detail
UNC Modification 0621 proposals	• Updates on the proposals and rationale behind proposals and areas of discussion • Additional thinking and development on certain aspects
UNC Modification 0621 key areas	• Main objectives and deliverables for UNC0621 • Compliance • Transition package, aspects of transition, timescales
Plan and GB/EU Consultation and change process	• Impact Assessment – what should be included?
Charging Models	• Development of Transmission Services CWD spreadsheet and Non Transmission Services spreadsheets alongside UNC0621 development
Next Steps	• Next Steps for UNC0621

Gas Charging Review

UNC Modification 0621

Amendments to Gas Transmission Charging Regime

Gas Charging Review: UNC0621 – Modification proposals

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- Updated draft of UNC0621 published on the NTSCMF pages for 13 October

  https://www.gasgovernance.co.uk/NTSCMF/131017

- This has been updated from the published UNC0621 available on the modifications page

  https://www.gasgovernance.co.uk/0621

- Proposals and rationale discussed at NTSCMF on 25 October

Gas Charging Review: UNC0621 – Key topics and proposals

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- At NTSCMF 25 October we shared some high level views that advanced the proposals for UNC0621 from the draft discussed at NTSCMF on 13 October
- Following discussions some areas required further development to provide more clarity on the overall charging framework proposals and on each key element.
- Further thoughts are provided in the following slides on the main topics including additional material for some.

Gas Charging Review: Reference Price Methodology (RPM)

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Area	Detail
Proposal in draft discussed on 13 October	• Capacity Weighted Distance for the methodology to calculate reference prices and subsequent reserve prices (through any applicable adjustments) • Introduces updated (or floating) payable price for capacity for Entry and Exit at all points.
Additional thinking for 6 November	• CWD still the approach to focus on for the proposal • Netting off the Existing Contracts ensures that required target revenue is recovered across the targeted capacity (subject to FCC being updated over time)
Rationale for the proposal	• Moves to a methodology that provides greater stability, reduced volatility and better predictability for capacity charges • Reflects more the use of the network given that the NTS is not in a state of continued expansion • Extensive work undertaken to review impacts of changing the current LRMC approach and comparisons to a CWD approach • CWD provided a simpler framework and also improvements in line with target objectives for the charging methodology and stakeholder developed objectives.
Further Discussion	• Treatment of CWD generated zero prices • Accommodating long term Entry Capacity allocated before EIF of TAR NC and allocated after EIF of the TAR NC and implementation of UNC0621 – this does have some links to the revenue recovery approach.

Gas Charging Review: Forecasted Contracted Capacity (FCC)

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Area	Detail
Proposal in draft discussed on 13 October	• To use Obligated Capacity and transition to a forecast in the short term • Have a transition arrangement to accommodate this change
Additional thinking for 6 November	• Anticipate unpredictable capacity booking behaviours given the range of changes proposed under UNC0621. • Revenue recovery and impacts on charges a concern to mitigate • Believe move to an updated FCC linked to some evidence of behaviours is reasonable • More certain proposals for transitioning FCC needed. Obligated from October 2019 and using a National Grid generated forecast from October 2021.
Rationale for the proposal	• Whilst accept that Obligated may not be the most appropriate to use, that to deliver the most cost reflective prices would require it to be based on a forecast of bookings, it is a reasonable starting point to be in keeping with objectives and deliver improved cost reflectivity in the short term. • Moving from one framework to another, especially moving away from zero capacity prices, will drive unpredictable behavioural changes. • Believe benefit from evidence of these changes post 2019 and in the short term move to a forecast of capacity bookings linked to this evidence.
Further Discussion	• Zero CWD generated prices – other options besides using the nearest non-zero priced Entry or Exit Point's reference price • Compliance and Transition

Gas Charging Review: Multipliers

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Area	Detail
Proposal in draft discussed on 13 October	• To have a multiplier as a default, proposal was [1] and to be updated through a subsequent consultation • Multipliers will not be 0, Calculated ex ante
Additional thinking for 6 November	• More certainty for October 2019 needed. • An ex ante value of 1 for all products eligible for a multiplier for October 2019. • Multipliers more linked to driving behaviours than revenue recovery • Provide flexibility to update in future years using appropriate governance.
Rationale for the proposal	• A value of 1 places no preference between incentivising Long Term or Shorter Term Capacity bookings • Do not want to have multipliers that put too much downward pressure on the capacity charges thereby driving recovery of revenues elsewhere into the methodology • Generally with little scarcity of capacity, incentivising either Long term bookings or short term bookings for the purposes of signals for investment less necessary • Gives those who book the choice of booking long or short term without any cost differential given choice of when to commit, with the same liability • Provides framework to review and update this on a annual basis
Further Discussion	• Timeline and method for updates beyond 2019

Gas Charging Review: Interruptible – Supporting detail

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- Changes relate to the reserve prices for interruptible products at IPs and will be calculated in line with the Article, as:
  - a discount up front (ex-ante). The discount will be applied to the reserve price for the corresponding standard firm product;
  - TAR allows for an Ex-post approach but the Ex-ante approach is favoured by National Grid;
- TAR sets out the discount calculation:
- Ex-ante discount = probability (pro factor) x A (adjustment factor) x 100%

Interruptible:
Article 16 – Ex-Ante calculation Pro factor

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$$\textbf{Pro factor} = \frac{N \times D_{int}}{D} \textbf{ X } \frac{CAP_{av.int}}{CAP}$$

Where:

N is the expectation of the number of interruptions over D;

D int is the average duration of the expected interruptions expressed in hours;

D is the total duration in hours of the respective type of standard interruptible capacity product;

CAPav.int is, for each interruption, the expected average amount of interrupted capacity related to the respective type of standard interruptible product;

CAP is the total amount of interruptible capacity for the respective type of standard capacity product for interruptible capacity.

Interruptible: Article 16 – Ex-Ante calculation 'A' factor

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- An Adjustment Factor 'A' applies to reflect the estimated economic value of the type of standard interruptible capacity product. In practice, it reflects that the costs of hedging interruption for a network user are higher than the probability of interruption.
  - Entry & Exit – National Grid has considered a number of aspects in relation to the calculation of the A factor:
    - The results of our initial calculations for Entry and Exit fall within the range of < 10%.
  - Could use ranges to accommodate some movement, e.g. ranges of 10%. If within a band it attracts the higher end (if within 0-10% then it attracts 10% discount).

Interruptible: Ex-Ante Discount Example from TAR NC iDoc

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- For illustrative purposes only from TAR NC iDoc:

EX-ANTE DISCOUNT

Example: Calculation of ex-ante discount for monthly standard capacity product for interruptible capacity, based on the formula:

$$Di_{ex\text{-}ante} = Pro \times A \times 100\%$$

The Pro factor is calculated as set out in Article 16(3) according to the following parameter.

PARAMETERS USED TO CALCULATE THE PRO FACTOR	
Expectation of the number of interruptions over D	N = 5
Average duration of the expected interruptions expressed in hours	D_{int} = 12 hours
Total duration of monthly standard capacity product for interruptible capacity in hours	D = 744 hours
Expected average amount of the interrupted capacity for each interruption related to monthly standard capacity product for interruptible capacity	CAP_{avint} = 150,000 kWh/h
Total amount of interruptible capacity for the respective type of standard capacity product for interruptible capacity	CAP = 10,000,000 kWh/h
'A' factor	A = 100

24 hours

Table 63: Parameters used to calculate the Pro factor

$$Pro = \frac{5 \times 12}{744} \times \frac{150{,}000}{10{,}000{,}000} = 0.00121$$

$$Di_{ex\text{-}ante} = Pro \times 100 \times 100\% = 12.1\%$$

Gas Charging Review: Interruptible

Area	Detail
Proposal in draft discussed on 13 October	• Interruptible will be a discount from corresponding firm capacity product • To have an adjustment calculated through subsequent consultation • Interruptible adjustment will not allow zero reserve prices • Calculated ex ante, Single approach for all points
Additional thinking for 6 November	• To have an ex ante value in the proposal for October 2019 • Value linked to a probability of interruption and the 'A' factor • Likelihood of interruption is very low. • Propose ranges (e.g. 10% bands) for adjustments linked to the outcome of the Interruptible calculation. • Initial views are that interruptible would be priced 90% of firm (i.e. a 10% discount) using this approach.
Rationale for the proposal	• Acknowledge there is a probability of interruption even though it would likely be small, would be subject to National Grid's forward view of interruption probability. Therefore not zero for probability. • Can use the EU TAR NC framework for interruptible which would use a combination of the probability and an 'A' factor linked to the economic value associated to the interruptible capacity. • Combination of elements increases likelihood of discount from firm. • Use of ranges helps manage variances of resulting calculations.
Further Discussion	• Timeline and method for updates beyond 2019

Gas Charging Review: Specific Capacity Discounts

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Area	Detail
Proposal in draft discussed on 13 October	• Storage to receive 50% discount from the CWD generated capacity charge • No other specific capacity discounts proposed
Additional thinking for 6 November	• No change to proposed values for storage. • For compliance may need to include other qualifying categories under TAR NC even if the proposed values would be zero (under this proposal) to allow for future changes as needed or beneficial to do so.
Rationale for the proposal	• We have considered the positions put forward. On some areas we do not agree with the "value" attributed to certain categories and other aspects we understand the desire to consider in making a decision for a proposal however we do not believe we can address all of these as they are subject to the views of other industry participants. • We have yet to hear many views in support of any discounts beyond our proposals for Storage and Interconnection (those parties who have formally provided representation to date). • Mindful that any discounts have the potential to drive recovery of revenues elsewhere into the methodology • Some criteria assessed against are better suited to consideration under an Impact Assessment • Aligns with the minimum proposed under the TAR NC therefore ensuring compliance with the TAR NC
Further Discussion	• Timeline and method for updates beyond 2019

Gas Charging Review: Avoiding Inefficient Bypass of the NTS

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Area	Detail
Proposal in draft discussed on 13 October	• Transmission Services only charge (no link to Non Transmission) • Methodology can be in the UNC, any formula can be outside to allow efficient update over time allowing components to be updated each year. • Use of a distance cap for use of the charge (initial value of [50km] placed in draft) • Recognise this must work with the overall methodology and framework both from October 2019 and with the Transition approach.
Additional thinking for 6 November	• As per 13 October plus some further work required to fully explore the options. • Exploring capacity or commodity as options to ensure can work with overall methodology, incorporating transition. • Use of distance cap still relevant to maintain the “short” nature. Reviewing what the distance cap should be.
Rationale for the proposal	• Given the size of the current charges not paid by shorthaul users and paid by non shorthaul users this is something in need of material change • Should be reviewed along with the rest of the methodology given the interaction with other charges • To be in keeping with the objectives of the charge being for “short” distances and not have a material influence on other charges • Should be a genuine alternative to investment.
Further Discussion	• Further development needed, based on the overall charge calculation. • Needs to work with the overall charging framework including how any transition arrangements may be accommodated.

Avoiding Inefficient Bypass of the NTS: Current calculation (commodity)

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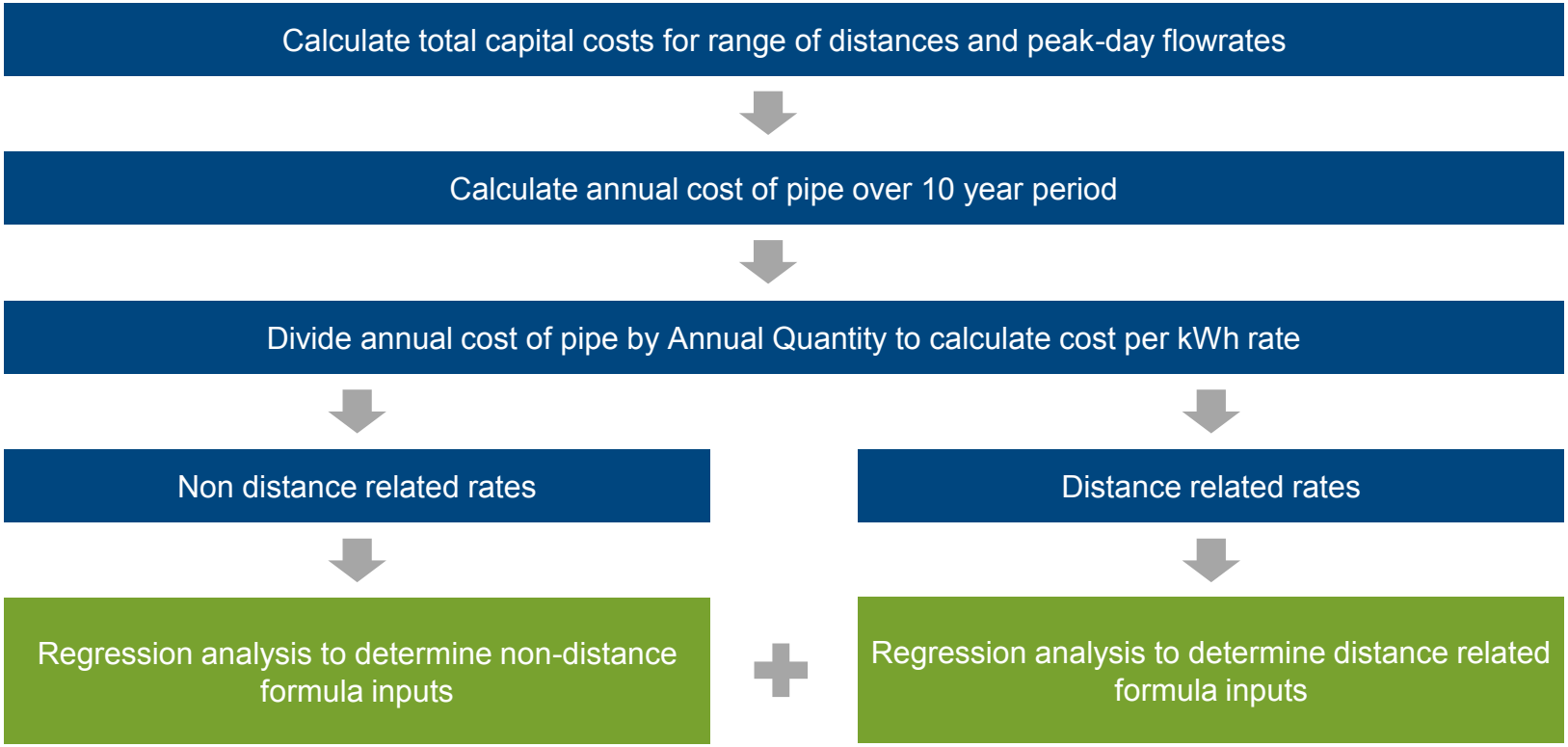

Avoiding Inefficient Bypass of the NTS: Potential Capacity charge calculation

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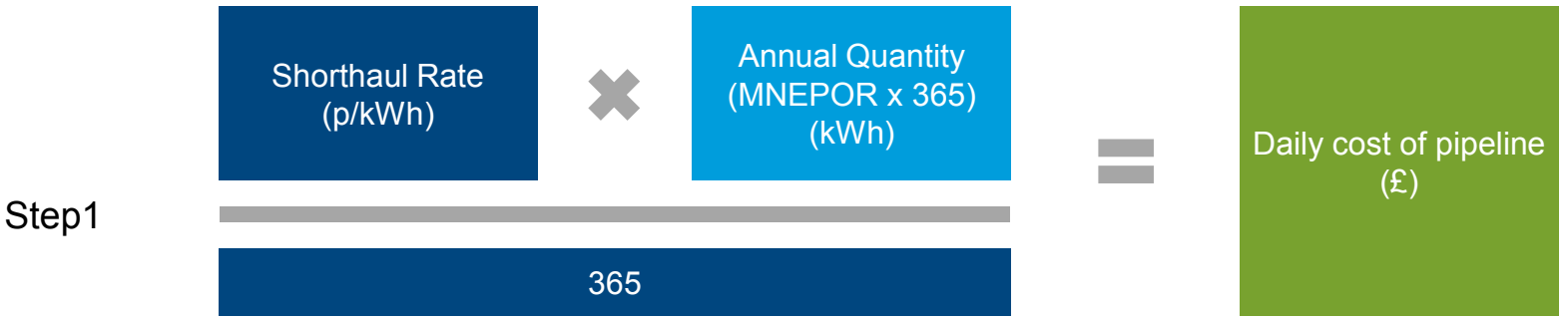

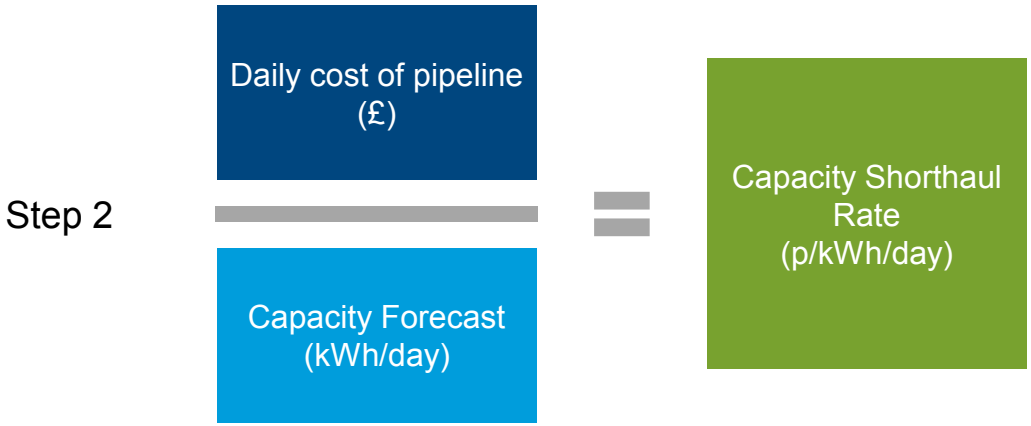

Gas Charging Review: Transmission Services Revenue Recovery

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Area	Detail
Proposal in draft discussed on 13 October	• Primarily managing Revenue Recovery through a flow based recovery charge • Recovered across flows excluding storage flows (as flow based charges are currently)
Additional thinking for 6 November	• Continue to review the justification for this as part of the overall proposal for the use of commodity from 2019 • Concerns on revenue recovery and impacts to charges could be mitigated for short period as behaviour changes in capacity bookings are understood more. • As part of the transition, we are supportive of transmission charges being wholly capacity based after a short period to manage the impacts of unpredictable behaviour changes for capacity bookings. Use of commodity in this period can help mitigate some of these issues. • Certainty of timing around these changes needed, ties with FCC change timetable. • Commodity from October 2019 with capacity as revenue recovery charge from October 2021.
Rationale for the proposal	• Commodity provides an established way for managing revenue recovery compared to the expected unpredictable changes in capacity bookings • Storage exemption avoids double counting flows • Expect to reduce in line with the transition for FCC under the CWD approach
Further Discussion	• Compliance still an outstanding question for levying a revenue recovery via a flow based charge • Application of revenue recovery charge at IPs • Application of revenue recovery via capacity from 2021.

Gas Charging Review: Non Transmission Services Charging

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Area	Detail
Proposal in draft discussed on 13 October	• Primarily levied through a flow based recovery charge to recover revenues not anticipated to be collected from St Fergus Compression, DN Pensions and NTS Metering charges. • Recovered across flows excluding storage flows (as flow based charges are currently)
Additional thinking for 6 November	• No change.
Rationale for the proposal	• Provides an established way for managing revenue recovery compared to the expected unpredictable changes in capacity bookings • Storage exemption avoids double counting flows
Further Discussion	• Are there any further questions for Non Transmission Charging?

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Gas Charging Review

UNC Modification 0621

Key areas

Gas Charging Review: Main objectives and deliverables for UNC0621

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Area	Detail
Compliance	• The intention for the overall proposal for UNC0621 is that it will be compliant with the EU Tariffs Code and this includes any transition arrangements • We recognise there may be areas where compliance with aspects of the EU Tariff Code may require further discussion and clarification and potential updates
Delivery	• UNC0621 proposes a methodology to be in place to adjust payable prices from 2019. • The proposal acknowledges that it should deliver a methodology that provides a framework for changes and refinements beyond 2019 • To refine and update key parts of the proposed methodology over the short term • There will be a number of ways this could be done and the modification will be updated appropriately • To support the evolution of the charging regime

Gas Charging Review: Compliance

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- Some areas where compliance is under discussion
  - Use of commodity for Transmission Services for the purposes of revenue recovery
  - Application of revenue recovery charges for IPs
  - Application of revenue recovery charges for Existing Contracts
  - Application of revenue recovery charges for Entry capacity booked after EIF of the TAR NC and before implementation of UNC0621

Gas Charging Review: Transition arrangements

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- Transition arrangements are intended to give a specific date for certain aspects to change
  - FCC
  - Revenue Recovery charge
  - Any other aspects that may be linked to the above
- Transition rationale to principally manage the unpredictable capacity booking behaviour given all the changes proposed as part of the updated charging framework, and the resulting impact on charges and managing revenue recovery.
- In our updated thinking we've proposed that a Transition such that some arrangements will apply from October 2019 and then be revised to a specific arrangement from October 2021.

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Plan and change process

Gas Charging Review: Plan and Change process

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- UNC0621 and the EU requirements for consultation
- Discussed one consultation to be used for both based on the UNC0621 workgroup report incorporating any alternates
- Ofgem issued “Consultation on proposals to implement aspects of Regulation (EU) 2017/4601, the European Network Code on harmonised transmission tariff structures for gas (TAR NC)” on 4 October 2017
  - Responses were due on or before 1 November 2017

https://www.ofgem.gov.uk/system/files/docs/2017/10/tar_nc_implementation_proposals.pdf

Gas Charging Review: Impact Assessment Questions (1)

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- At 26 September, 13 October and 25 October NTSCMF discussed providing input to help shape any impact assessment
- For any impact assessment, beneficial to capture thoughts on:
  - What should an Impact Assessment contain?
  - What impacts or analysis would parties like to see in an Impact Assessment?
  - What could be covered in UNC0621, if appropriate, that can support an impact assessment?

Gas Charging Review: Impact Assessment Questions (2)

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- This is to help shape the Ofgem impact assessment
- Suggestions can be collated and shared to NTSCMF and to Ofgem with any relevant parts potentially included into UNC0621 analysis where appropriate
- Suggestions or requests should be sent to:

box.transmissioncapacityandcharging@nationalgrid.com

Gas Charging Review



Development of Transmission Services CWD spreadsheet and Non Transmission Services spreadsheets alongside UNC0621 development

Gas Charging Review: Charging Model development

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Further development

- Transmission Services:
  - Cost Allocation assessment to be added
  - Updates to align with UNC0621 developments
- Non Transmission Services:
  - Updates to align with UNC0621 developments
- Likely mid to late November for next update

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Gas Charging Review

UNC0621 Modification

Next Steps

Gas Charging Review: UNC0621 Next Steps

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- Further development and refinement of UNC0621 with updates applied to another draft
- Draft to be shared ahead of, and discussed at, NTSCMF on 22 November
- Development and publication of updated charging models
- Preparation for starting workgroup report
- Next NTSCMF is 22 November 2017

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Appendix: Updated analysis for Avoiding Inefficient Bypass of the NTS charges – updating from 26 September analysis

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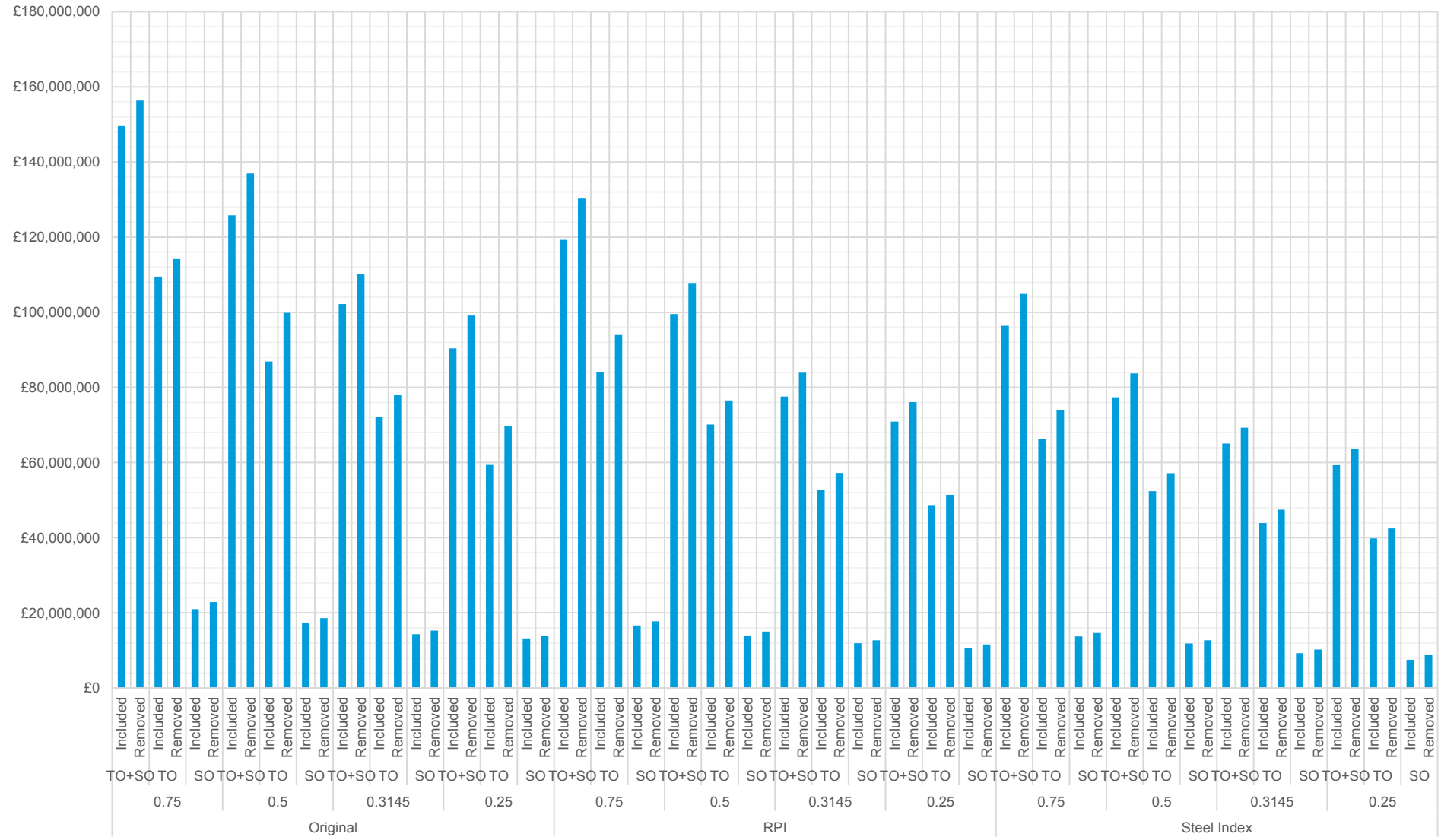
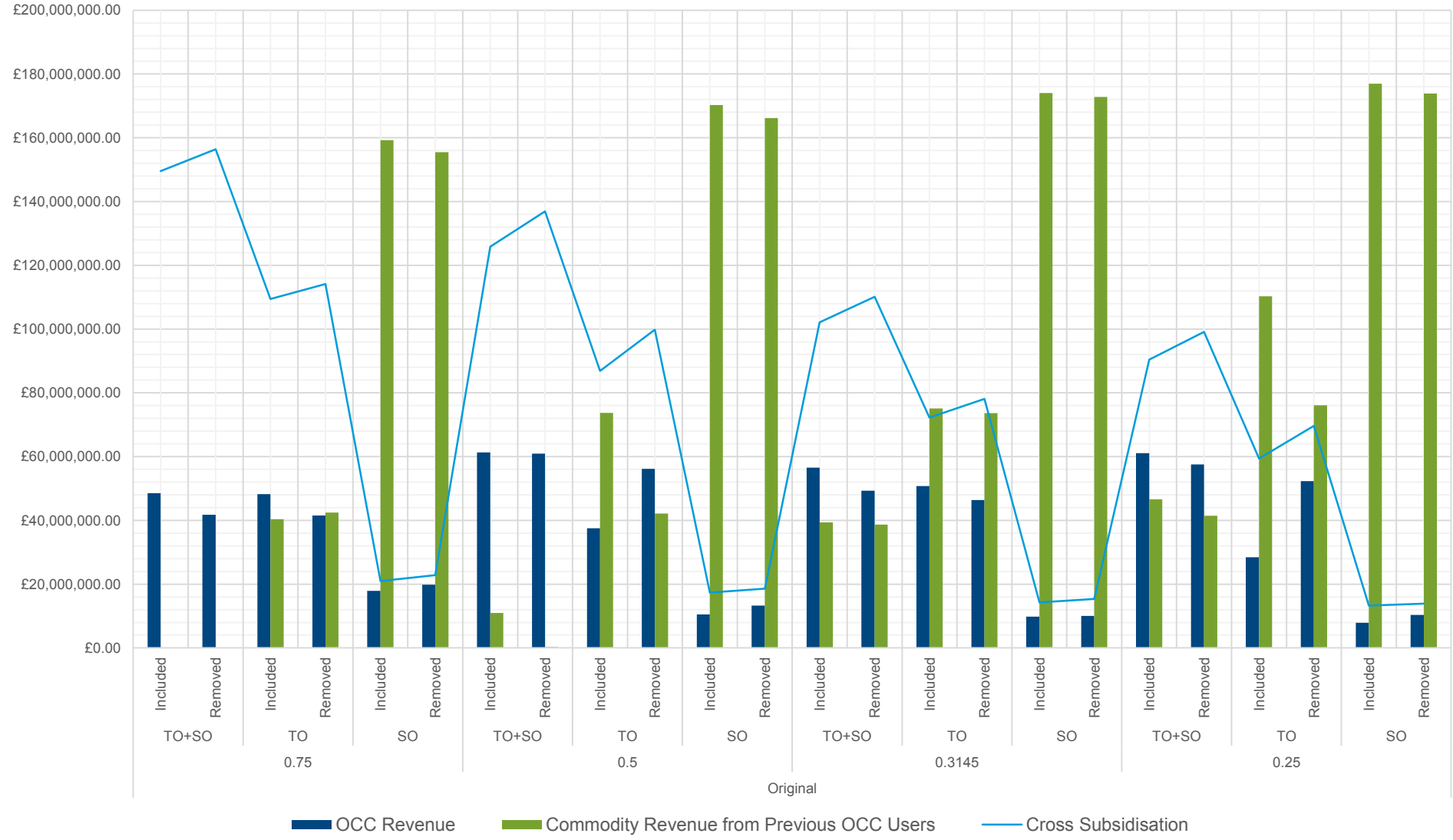
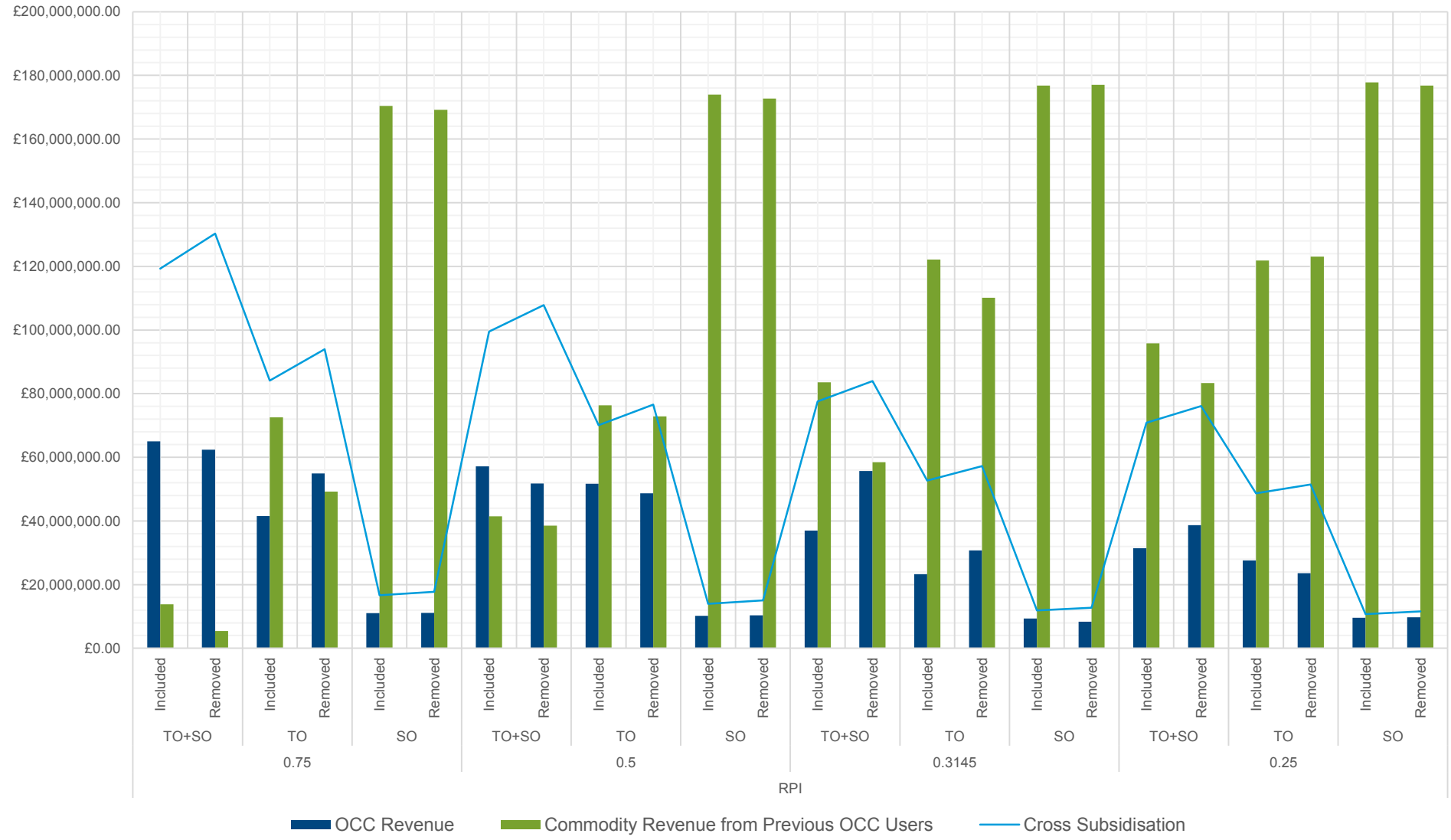
Cross Subsidisation across different input options



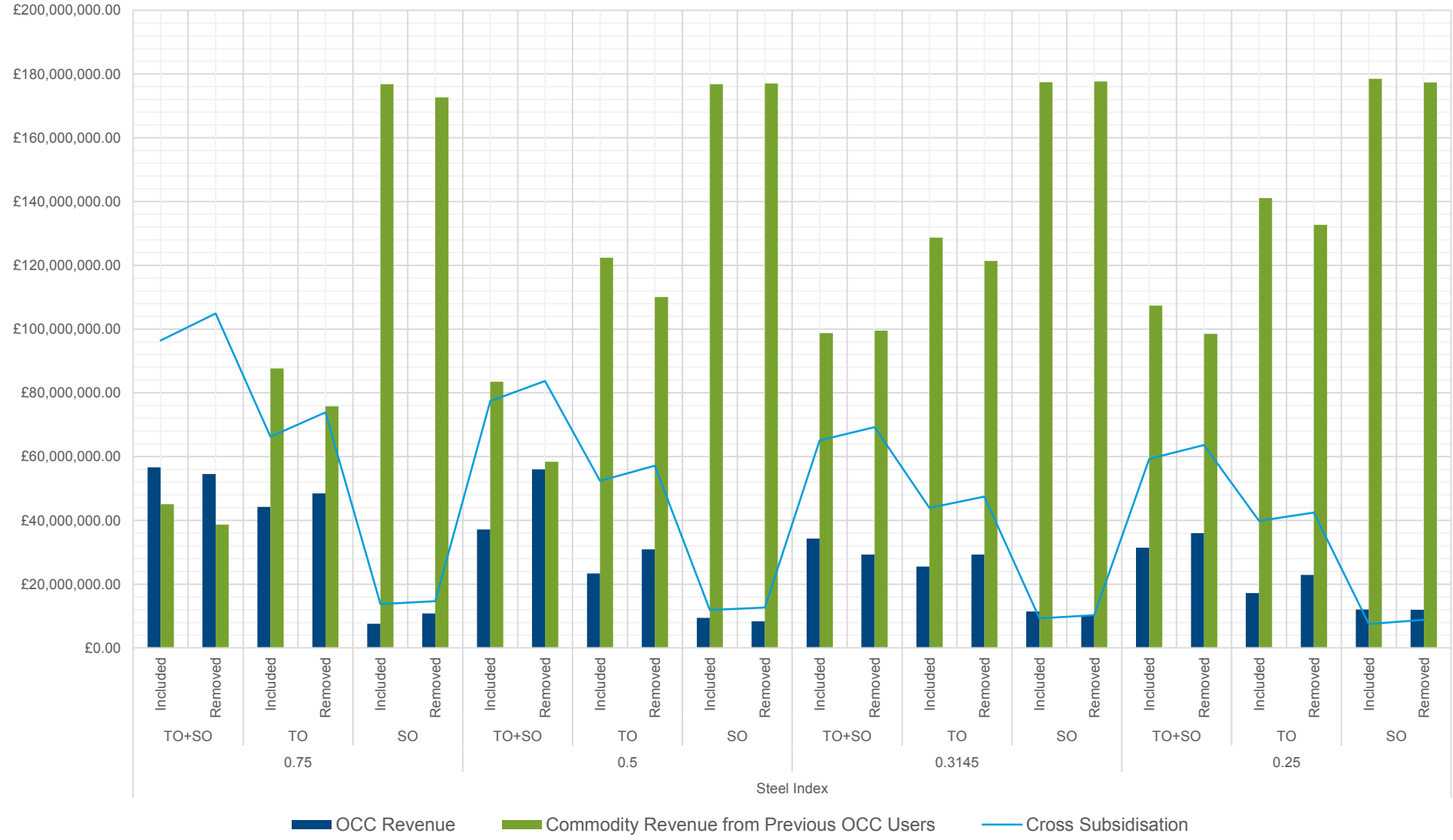
Original costs with different options



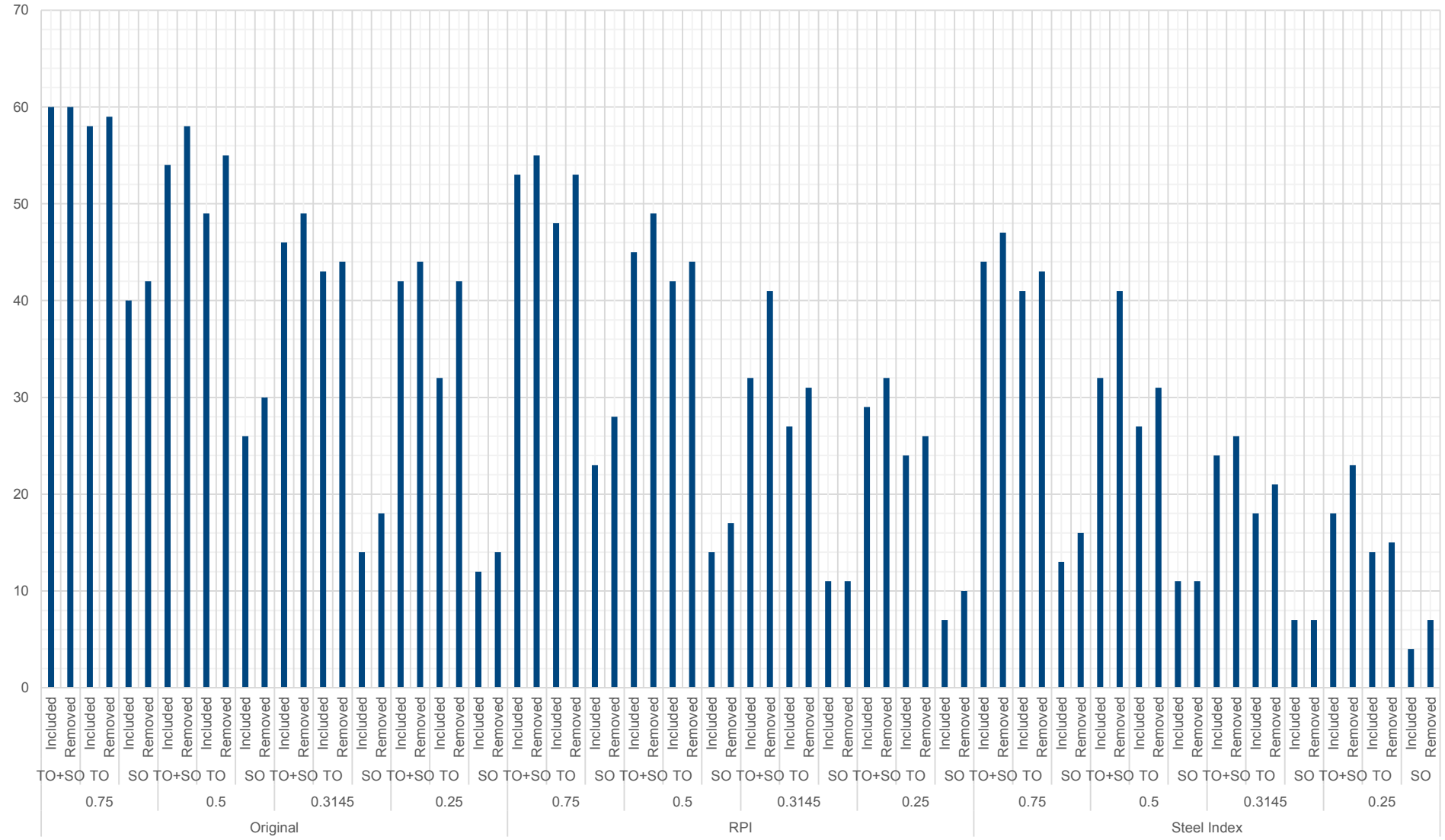
RPI costs with different options



Steel Index costs with different options



Number of OCC routes across different input options



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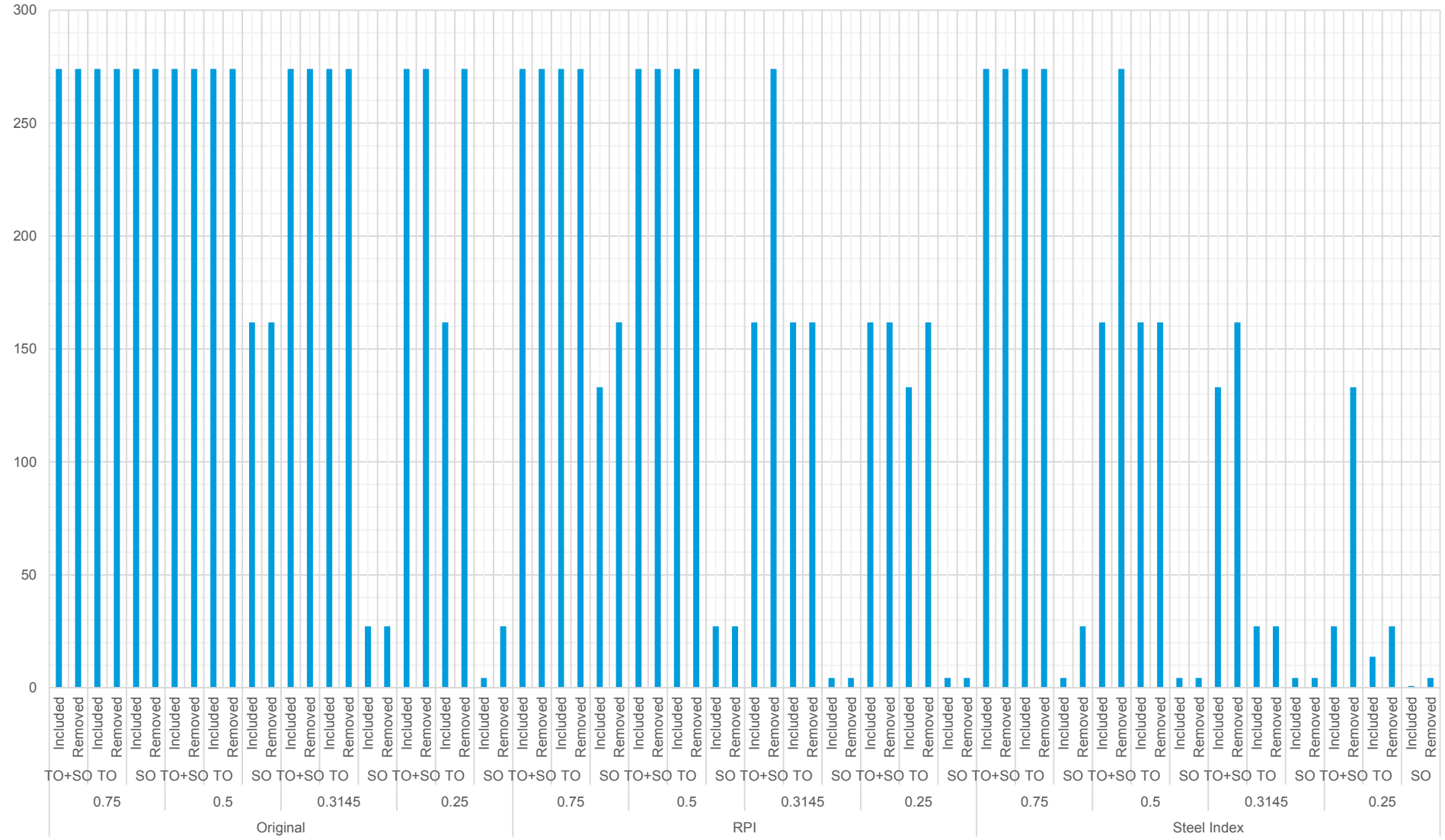
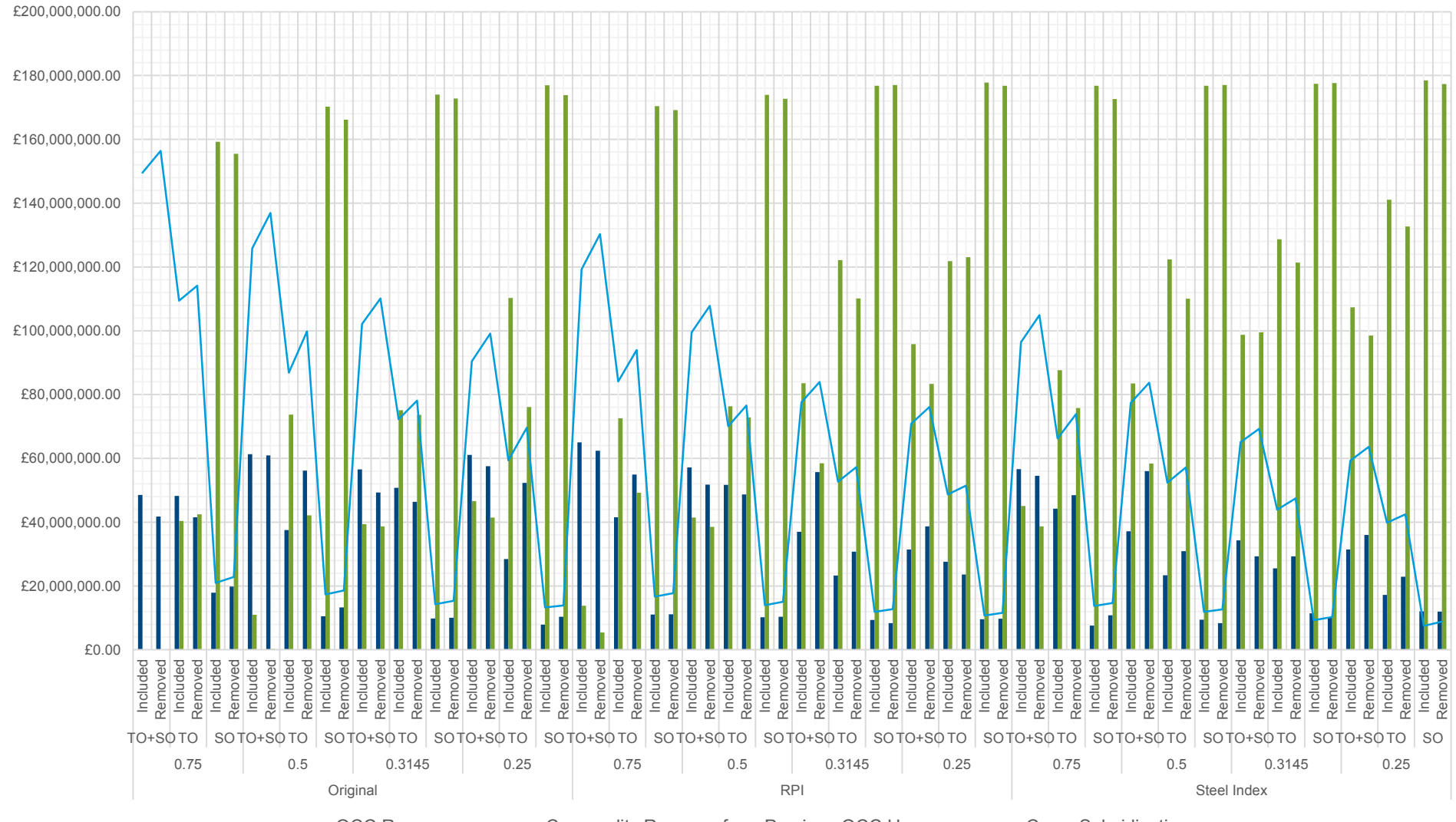
Max Distance across different input options



Appendix – Current formula (Cost, Load Factor, Fixed Cost, Tx/Non-Tx Optioneering)



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