

GAS TRANSMISSION CHARGING REFORM

Response to comments on Frontier's assessment of National Grid UNC modification proposal

25 November 2021

INTRODUCTION

This note concerns Frontier's analysis provided to National Grid to support the ongoing UNC modification process regarding the introduction of a new flow-based Transmission Services Entry charge. This analysis was presented to industry stakeholders at a workshop on 23rd November, where a number of comments and questions were raised.

The purpose of this note is to respond to the most important comments and questions. Please note that this note should be read in conjunction with the updated assessment - it is not intended to stand-alone.

Frontier's analysis was structured around assessing the impacts of the new charge on competition and on risk management costs due to reduced charge volatility, and then considering overall customer impact (i.e. a distributional analysis). The most important comments raised in the workshop that we discuss in this note were raised in the context of the distributional analysis (the methodology for which is set out in slides 34 - 36).

In this analysis, the most significant component of the benefit to customers relates to the reduction in the value accruing to Existing Contract (EC) holders. Two key questions were raised:

- ***The price of EC capacity assumed in the analysis*** – stakeholders asked for further detail regarding the price of EC assumed in the analysis, and were keen to ensure that the price did not simply reflect the contracted unit price of capacity, but also took into account the level of utilisation. In other words, stakeholders argued that if an EC holder only utilises 50% of their EC capacity, then the *effective* unit price of that capacity for the shipper is not simply the contract price. It should also reflect the cost of the unutilised 50% of capacity i.e. in this simple example the *effective* unit cost for the shipper is double the contract unit price.
- ***The analysis assumes that full Entry Reference Price (ERP) is always passed through to wholesale prices*** – while Frontier had recognised this as a key simplifying assumption, stakeholders raised a concern that it was unrealistic to assume this was the case when EC capacity holders were at the margin i.e. price-setting. In such a situation it was suggested that EC holders may not pass through the full ERP to the wholesale price.

According to both arguments above, stakeholders suggested that EC holders might derive a lower value than that assumed in Frontier's calculations, and that the benefit to customers of introducing a flow-based charge would be lower than suggested by Frontier's analysis.

We discuss each of these issues in turn.

ASSUMED PRICE OF EXISTING CONTRACT CAPACITY

While it was not explicitly stated during the workshop, we believe the motivation behind this question was to challenge the idea that EC holders currently earn rents at the expense of customers i.e. if the EC prices assumed in Frontier's analysis do not take account of the cost of unutilised capacity, then the scale of any rents would be overstated.

We would agree that the profits that an EC holder earns on its capacity holdings should take account of the total cost of its EC capacity bookings (as well as any revenues). We would also agree that, even if the full ERP were passed through into wholesale prices, it is at least in theory possible that the EC holder could make a loss on its EC bookings if utilisation is very low.

Imagine an extreme example, in which the utilisation rate for EC capacity is 1% during the year. The *effective* unit cost of flowing the gas would be 100 times the contract unit price of capacity, which is likely to exceed to the ERP. Hence, in this instance the EC holder may make a loss.

In reality, the effect of taking into account the full cost of EC capacity, utilised or not, is likely to be much more limited given utilisation levels of around 34% across all EC capacity in 2020/21.

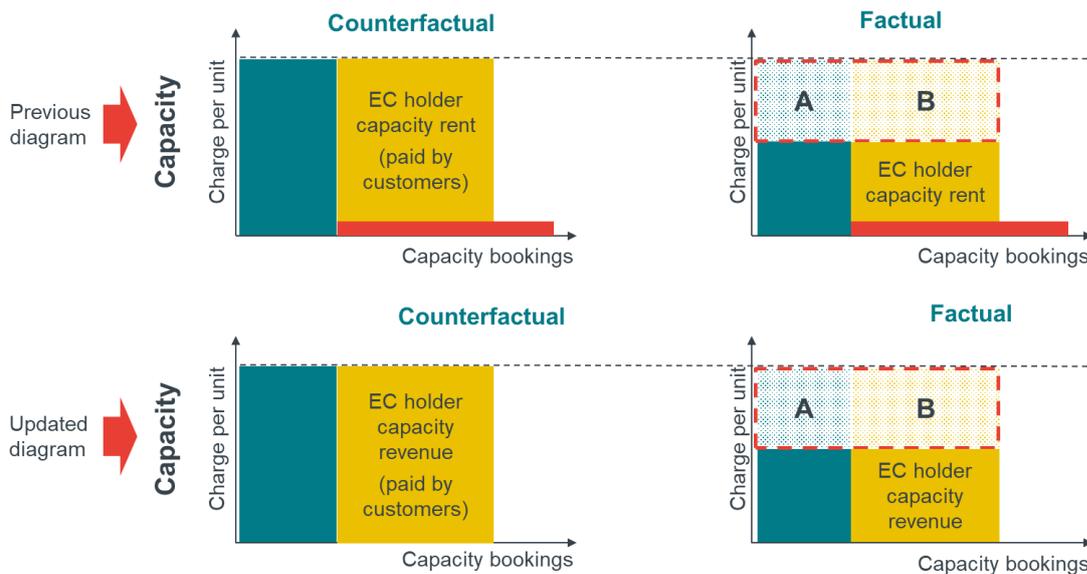
However, whether EC capacity holders make a profit or not on their EC holdings is not actually relevant to this assessment. The cost of EC capacity has already been incurred in the past i.e. it is sunk, and is therefore paid by EC holders in both the counterfactual and factual. It therefore has no bearing on the *customer impact* that is the subject of this assessment.

The key point is that, if the cost of EC capacity is sunk, the marginal cost of using this capacity to EC holders is zero (ignoring any other flow based charges) i.e. they would be willing to use the capacity (or provide it to another party to use it) at any positive price. In doing so, the EC holder earns an incremental revenue equal to the price they at which they sell their capacity (say, at or just below the ERP as currently assumed). It is this revenue that is a transfer to EC holders from customers in the counterfactual, and which is reduced in the factual.

This 'revenue' was labelled as a 'rent' in Frontier's assessment, and we can understand the confusion this could potentially have created. Therefore, to clarify this point in the report,

we have changed the distributional analysis diagrams to only relate to ‘avoidable’ costs i.e. those costs that could be avoided by not flowing gas. Therefore, we have removed reference to the EC capacity on the diagrams, and we have renamed rent to be ‘revenue’. An indication of this change in the report is shown below.

FIGURE 1 CHANGES TO DISTRIBUTIONAL ANALYSIS DIAGRAM IN FRONTIER’S REPORT



Source: Frontier Economics
 Note: [Insert Notes]

In summary, in response to this question, we have not changed our approach to the estimation of the distributional effects. However, we have updated the presentation of this aspect in order to be clearer regarding our approach.

ASSUMPTION OF FULL ERP PASS-THROUGH

The potential customer savings estimated by Frontier assume that the full value of the ERP in the counterfactual and factual passes through to the wholesale price. Stakeholders have suggested that this may not always be the case when EC holders are marginal.

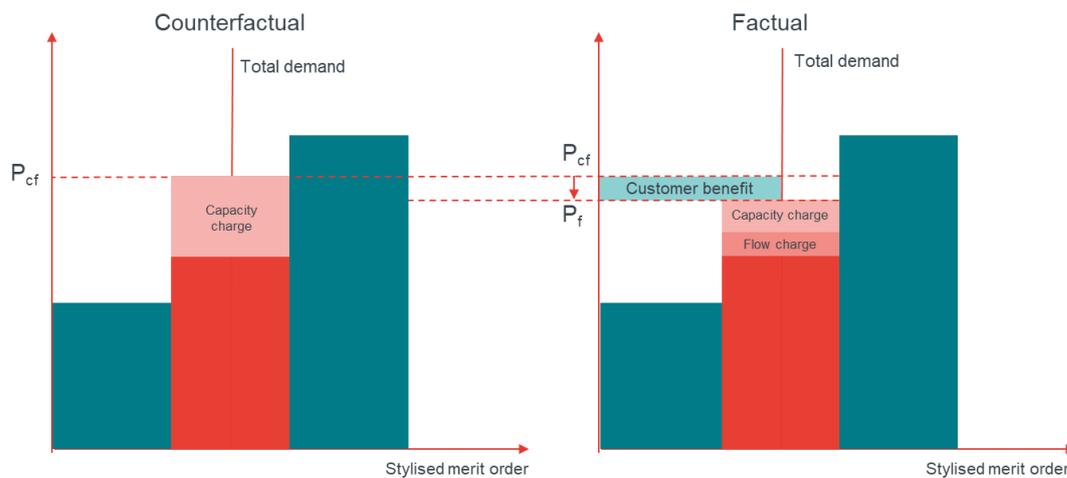
We would agree that if there are a significant number of periods where EC holders are marginal and if they are unable to pass through the ERP, the estimated benefits to customers would be reduced. In the extreme, if EC holders are always marginal and are unable to pass-through any of the ERP value then there could be a customer cost. This is because there would be no benefit from the ERP reduction, and we would expect the flow-based charge to be passed through to customers in the factual.

The implication of the pass-through assumption on the benefits case for a single gas day is illustrated below for the two ends of the spectrum:

- **Full pass-through** - we first illustrate the case where capacity charges are assumed to be passed-through along with the flow based charge i.e. consistent with Frontier’s current assumption; and
- **No pass-through** - we then consider the case where capacity charges are not passed-through, but the flow-based charge is.

In the first case (illustrated below), the wholesale price in the counterfactual (P_{cf}) includes passthrough of the full ERP value, whereas in the factual, the wholesale price (P_f) is reduced as the total transport cost (sum of capacity and flow-based charges) passed through to the wholesale price is reduced.

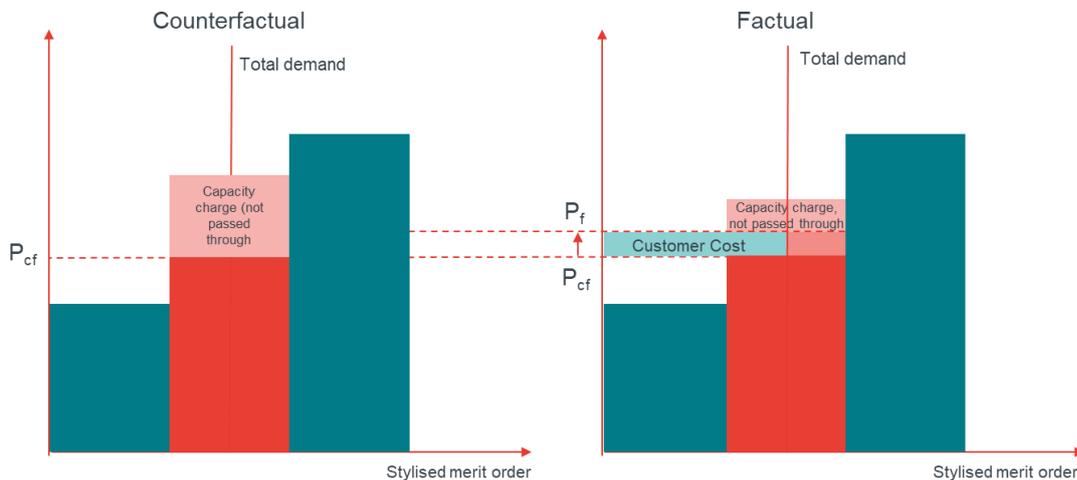
FIGURE 2 ILLUSTRATION OF CUSTOMER BENEFIT ASSUMING PASS-THROUGH OF CAPACITY CHARGES



Source: Frontier Economics
 Note: [Insert Notes]

In the second case (illustrated below), if we assume that the capacity costs are not passed through to the wholesale price, the counterfactual price (P_{cf}) is lower than in the first example as it does not include any of the ERP value. In the factual the wholesale price (P_f) now *increases* as the flow-based charge is passed-through to the wholesale price. This results in a customer cost.

FIGURE 3 ILLUSTRATION OF CUSTOMER COST ASSUMING NO PASS-THROUGH OF CAPACITY CHARGES



Source: Frontier Economics

Note: [Insert Notes]

In reality, the extent of pass-through will not be binary. EC holders will not be marginal all of the time. When they are, while there may be circumstances in which they may not be able to pass-through the full value of the ERP, they may still be able to pass-through some of the value.

It is therefore informative to consider the conditions under which there may be less than full passthrough, in order to inform an assessment of the likelihood of such a situation.

The first necessary (but not sufficient) condition for some loss of passthrough, is that EC holders are marginal (as illustrated in the examples above) i.e. price-setting. Only in this situation will their ability to pass-through the charge directly influence the wholesale price. If EC holders are not marginal then the wholesale price will be set on the basis of new capacity purchases at the ERP. To the extent EC holders sell their EC capacity at a price less than the ERP value, neither the wholesale price nor payments from customers change. The ERP sale simply results in a transfer to another shipper that uses the capacity to flow gas.

If we assume this first condition is met, the second condition is that competition between EC holders to sell their capacity means they are not able to fully pass-through the ERP value to the wholesale price.

As we note above, to an EC holder, the cost of the capacity is sunk, and the opportunity cost of its use is zero (ignoring other commodity costs). Therefore they would be willing to use it (or sell it to someone else for use) at any positive price. That said, they will clearly seek the highest profit possible. In an extreme situation, if there is only one EC holder at a location, and demand for use of incremental capacity exists at that location, the seller is likely to

have some market power, and they should be able to charge a price close to or at the ERP. In contrast, if there were many sellers of EC at the location that the price achieved may be materially lower and full passthrough will not be achieved.

It is when these two conditions are met that there is likely to be less than full passthrough¹.

It is clear that in reality, it is difficult to assess with any certainty the potential for the full value of the ERP not to be passed through to the wholesale price. We do not know with certainty what proportion of the time EC holders will be marginal, and we do not know the competitive conditions at each terminal during these times and the degree of residual passthrough that might result if competition is intense. Even if we had good information on these points today, we would also need to consider how they will evolve over time.

As a result, our analysis is based on the explicit simplifying assumption of full passthrough. Given the uncertainty, in our view such an assumption is a practical and proportionate approach. It is not clear that even more detailed shipper specific information, even were it available, would form the basis for a more precise analysis. It is, however, informative to consider the sensitivity of our conclusions to different assumptions. In this regard, given the scale of the resulting benefit, if we assume that when it is marginal it can only pass through 50% of the ERP, EC would need to be marginal for more than 82% of the year in order to remove the customer benefit.²

Hence, while our results are clearly subject to some uncertainty, we believe together with sensitivity analysis they make it reasonable to assume a positive customer benefit.

SUMMARY

In summary, we have set out our response to both of the key challenges received by stakeholders:

- With regard to ***the price of EC capacity assumed in the analysis***, we have explained our understanding of the issue and shown that it is in fact not relevant to the estimation of customer impacts on the grounds that the contract prices associated with ECs are sunk and therefore are the same in both the counterfactual and factual scenarios. We have made some clarifications regarding this issue in the slidepack.
- With regard to the ***pass-through of the ERP to the wholesale price*** we continue to make what we consider to be a reasonable and practical assumption of full pass-through. In this note we have set out an additional discussion recognising the

¹ We note that even if the competition condition is not met, then there may still be less than full passthrough if the cost of using the EC involves the purchasing shipper in more cost or risk than using other capacity. This will reduce their willingness to pay for the EC, relative to ERP.

² This is based on the scenario in the slides that assumes utilisation of EC capacity in line with historic levels

conditions under which less than full pass-through may occur, and how if these conditions are met for some proportion of the year, the benefits would be lower than presented. However, while our results are clearly subject to some uncertainty, we believe our approach is proportionate and together with sensitivity analysis makes it reasonable to assume a positive customer benefit.

The discussion in this note should be read alongside the assessment set out in Frontier's slidepack. We have not added all of the material explained in this note to the slide pack.