



Energy for
generations

Generation & Wholesale Markets

ESB Generation & Wholesale Markets
27 Lower Fitzwilliam Street
Dublin 2

By email:
cogormain@cer.ie

14 October 2014

Dear Colm

Future of Gas Entry Tariff Regime: Initial Modelling Evidence (CER/14/455)

Thank you for providing the opportunity to comment on the above named consultation.

Please see below ESB's response to each question as listed in the consultation document. If you require any clarification to these responses, we would be happy to discuss them with you.

Yours truly

Jag Basi
Regulation Manager

Kirsty Ingham
Gas Regulatory Analyst

Q1. Inputs

Bearing in mind that the CER is not at this time proposing one methodology as best suited to the Irish market; do stakeholders view the modelling of the three proposed methodologies as suitable? Please provide details where possible.

The three models selected for modelling appear relevant for exploration given the options provided under the Framework Guidelines/draft Tariff Network Code and in the context of the Irish situation in the short- to mid-term.

ACER favours incremental cost approaches in markets with increasing consumption or changes in general system supply sourcing, the latter of which applies to Ireland, with the Corrib gas field due to come onstream in 2015, bringing a new source of gas to the island. This will lead to changes in gas flows and interconnector usage as less gas is required to be imported from GB.

However, ACER is not clear on whether the grounds for its recommendation are major investment in the system, such as a new import pipeline and connections to it, or changes of flow direction in an existing system. The alternative condition given by ACER of increasing demand would suggest the requirement for investment in new infrastructure to serve users. It could be inferred that consideration should be given to the incremental costs relevant to the change in sourcing mentioned, and hence any reinforcement or investment in new pipelines required for this new source. ACER also refers to flow stability and quality of forecasting as issues to be addressed, and these should be considered within this process.

We note that, according to Gaslink's network development plan, annual demand is forecast to continue to decrease and the sourcing changes may represent short-term disruption rather than a long-term change. Therefore, the models may not be relevant in the future once, and if, stability in sourcing returns to the traditional one. ESB believes that The Republic of Ireland gas market would benefit from greater integration into the regional market for tariffication as well as all other aspects, recognising the integral role of the NBP/GB market in Irish gas and the goal of providing efficiency to consumers.

Q2. Inputs

Do stakeholders view the four Scenarios outlined above as appropriate for modelling purposes? Are there other scenarios with different active Entry points that should be considered?

The four scenarios are in essence temporal (current, 2015/16 with the addition of Corrib, 2018/19 with the addition of Shannon LNG, 20XX post-Kinsale and Corrib). The supply and projected booking assumptions change in line with these scenarios. However, the peak demand and capacity booking at exit used in each of the scenarios remains static. This does not seem appropriate or in line with the projected increase in average peak demand for to 2020.

Given that the TYNDP suggests some uncertainties over future operations at the storage facility at the Inch entry/exit point, it seems prudent to take these into account. The network development plan document states that storage operations may cease as production declines further. Given that no final investment decision has yet been made for Shannon LNG, it may be relevant to consider a scenario including only Moffat and Corrib (representative of a potential situation in 10 years' time). Conversely, as seasonal storage provision may continue to be viable in the long-term future from Inch – closure of the facility is not presented as an absolute certainty in the network development plan and it may be deemed important for

balancing purposes in future – the continuation of Inch as a storage point should also be considered, suggesting an additional scenario with Moffat, Inch storage and Shannon LNG.

It is also possible that the storage entry (and exit point) should be considered separately to the production point in terms of annual capacity bookings and flows, which in the context of production versus seasonal storage could be very different. In order to test the robustness of the methodologies to the future, it would be useful to be able to assess the impact of an additional entry point.

Q3. Inputs

Bearing in mind that ACER guidance suggests a 50:50 split between Entry and Exit for recovering allowed revenues what are stakeholders' views on the split?

ACER's guidance for a 50:50 split appears reasonable. However, it is guidance and should not be seen as a constraint should the realities of the changing energy market (e.g. potential impact on annual capacity booking levels caused by external factors for some sectors) lead to its implementation not being practicable.

Q4. Inputs

What are stakeholders' views on the expected merit order? If alternatives are proposed please provide supporting evidence.

The merit order in the modelling is set in the order: production, storage, LNG, then interconnector and cannot be changed. It would be useful to be able to adjust the merit order to be able to test the robustness of the methodologies to changes in it. We would question the position of LNG in the merit order ahead of the interconnector on the grounds of uncertainty of LNG supplies at peak and potential higher cost of LNG imported gas. For example, it is unknown whether long-term contracts for LNG would be signed for some or all of the import capacity, or whether some or all of the capacity would be used for spot gas.

Q5. Inputs

What are stakeholders' views on the expected capacity bookings? If alternatives are proposed please provide supporting evidence.

For Scenario 1, the source of the expected bookings (or proxy capacity demand – the two terms appear to be used interchangeably) is given as 'bookings 2013/14' in the accompanying slide pack. However the consultation document states that 'assumed booked capacity figures do not reflect actual commercial booking behaviour, but the amount of capacity that would need to be booked by shippers to satisfy demand on a peak day'. It is not clear what has been assumed: the figures on the Gaslink transparency data website for 2013/14 differ from those used (Inch yearly bookings lower at c. 34GWh/d and Moffat higher at c. 198 GWh/d). We note that figures are published for 2014/15 which could also be used in the model but appear not to have been (Inch c. 33.3 GWh/d, Moffat c. 103 GWh/d); we may be misinterpreting the transparency data, but there should be more information on the source and basis of the assumptions used.

Aside from Scenario 1, the basis of the expected capacity bookings is not explained other than 'forecast'. It is not clear whose forecast this is or what it is intended to represent. This information should be provided in order to be able to give an opinion on the expected capacity levels and also to be able to flex these assumptions. We note that for Inch in Scenarios 1 and 2, the rounded up limited technical capacity appears to have been used for Inch. This exceeds both historical booking levels

(Gaslink transparency data) and forecast peak flow (per the network development plan), and thus appears to be too high an assumption.

In our answer to Q4 we queried the position of LNG in the merit order. Questioning the assumption that LNG import is used ahead of the interconnector clearly affects the capacity booking assumption made for Scenario 4, which has 142 GWh/d for SLNG entry and 45 GWh/d for the interconnector.

For demand, the assumptions remain static despite the temporal nature of the Scenarios. As the Scenarios are designed to reflect situations that occur at different points in the future, it would suggest that the demand figures and booked capacities should also change for the various time windows. There is no explanation of the expected booked capacities once more; this information is required in order to be able to comment fully and flex the assumptions. We have no visibility of regional demand or capacity bookings to test the assumptions. We note that the total used significantly exceeds Gaslink's calendar year 2013 actual booked exit capacities as published in its performance report (283 GWh/d excl. IoM used in the modelling v. 207 GWh/d reported by Gaslink) and peak day demand in the network development plan, and therefore query this.

The nature of the requirements placed on electricity generators, due to the intermittency of wind generation in particular, has led to a reduction in the amount of annual capacity booked. It is not clear if this trend is included in the expected exit capacity bookings already. As generators are likely to be called on more in the future to provide short-term back up for renewables, we do not expect this trend to reverse, and that the use of any historical averages is likely to be inappropriate.

Q6. Inputs

What are stakeholders' views on the application of expansion constants to the system?

The use of expansion constants in itself as a means of taking account of forward looking costs would be acceptable as a practical solution to the problem. The determination of the constants to be used is important. In the example models, we note that they are based on a blended average of past projects. There is no transparency on how the blended average was calculated, which projects were included, when they took place, or how relevant they are to the current system's expansion needs.

We have therefore been unable to verify whether the level used is reasonable. As past projects, the costs are clearly historical costs being used to project future costs, which seems not entirely to meet the goal of being forward-looking. We expect that for any expansion constant used, the derivation should be completely transparent to demonstrate relevance (of level and projects considered in its calculation). We also suggest that international benchmarking should be incorporated to ensure that the level is reasonable in a broader industry context; this is standard practice in many markets for reviewing TSO projected investment costs.

The annuity factor appears not to be part of the consultation nor is it explained in any way. Without any information on the basis for this figure it is hard to comment on its level, although it seems clear that as it is not a round number, some form of calculation has taken place to produce it. The annuity factor should be subject to the same transparency conditions and relevancy test as the Euro figure for the expansion constant. It is also important for the user to have clarity that it has not already been incorporated in the calculation of the expansion constant.

We would also highlight the confusion over the units and cost level used in the information provided: €11,000/MWh/km in the accompanying texts, €11.08/MWh/km in the spread sheet modelling. We can only assume the spread sheet is correct in its statement of the figure, but have not been able to replicate it using available rules of thumb.

We do not believe that the lack of requirement for expansion in some stretches of the network has been taken into account in the example models and feel that this should also be considered. Where there is spare capacity in the network it would seem logical for that to be used up first prior to expansion.

Q7. CWDA

Do stakeholders view the application of a historical approach such as the CWDA as appropriate to Ireland? Please provide reasons as to why the approach is suitable, or not to Ireland.

It is clear from CER/12/087 that the intention is to use a forward looking methodology with the aim to use marginal or incremental costs. The CWDA is deemed to be historical in outlook as it allocates the historical costs - which are termed allowed revenue and the same pot in all methodologies. These costs are allocated simply by the weighting of the capacity booking (or technical capacity) and the pipeline distance between all points on the system, thus achieving the objective of costs being recovered from the entire system. The other methodologies eventually allocate the remainder of the same pot of revenue via a secondary adjustment method. If using the capacity bookings rather than technical capacity, the input assumptions reflect current and future system activity rather than historical activity alone. Flow direction is not taken into account in the model as presented, although the framework guidelines and the draft network code suggest this is possible through combining only relevant combinations of points. The CWDA may not use incremental costs as a departure point, as was desired, but should not be dismissed (see response to Q1 in addition).

Q8. CWDA

Do stakeholders propose any modifications to the CWDA approach? If so, please provide reasons why.

No. Also, we consider that the pipeline distance and expected capacity bookings are the relevant options to use in the calculation.

Q9. CWDA

Does the CWDA methodology promote tariffs that are stable and predictable? Please provide details.

Of the three methodologies provided, it appears to provide least variation in the tariffs overall for the specific entry points between the Scenarios. This is also true for sensitivities that we have run (on the basis of pipeline tariffs and capacity demand). Therefore, this could be seen to be promoting stability relative to the other models. It also benefits from being the least complex model with no secondary adjustment factors, and therefore the most transparent and in some senses predictable. It is the most sensitive methodology to changes in demand/exit capacity booking assumptions, which have an impact on the entry tariff as well as exit; this is not observed for the other methodologies in all scenarios. The resulting range of tariffs between the scenarios remains narrow and the effects of changing exit capacity are relatively minor, therefore in our view this should not be seen as a negative aspect of the CWDA.

Q10. CWDA

The CWDA methodology has the ability to incorporate either technical capacity or booked capacity. What are stakeholders' views on the merits of using either?

As revenue is to be recovered by payments for capacity booked and not payments for capacity in situ, it seems logical to use booked capacity for the weighting element. If technical capacity is used, then charges may be skewed to a point where over-capacity was constructed compared to today's requirement, perhaps due to an over-estimate of demand, a change of usage patterns or alternative routes being introduced to the system. We also note that technical capacity is based on an assessment made by the TSO and can be subject to revision.

Q11. Virtual Point

Do stakeholders view the application of a forward looking Virtual Point based approach as appropriate to Ireland? Please provide reasons as to why the approach is suitable, or not to Ireland.

The VPA fits the criterion of being forward looking in its approach to the initial cost allocation. It does this by 'expanding' the network between nodes and points by MWhkms using expansion constants, while taking into account flow direction. This is followed by adjustment to recover the full allowed revenue (effectively a k-factor to recover historical costs). In having a movable virtual point it can be seen to adjust for changes in flow patterns over time. However, it may be considered overly complex for the Irish system, in particular in realisation as a final modelling exercise compared to the simplified model we have reviewed. See also our response to Q1.

Q12. Virtual Point

Do stakeholders propose any modifications to the VP approach? If so, please provide reasons why.

The effects of taking into account spare capacity (or constraint) ahead of expansion are not shown in the example models, although we recall this being discussed as a possibility during the process. It would be useful to understand more about this, how it would be achieved and the impact on tariff levels of incorporating it. Clearly far more transparency is required around the expansion constant and the annuity factor in order to determine whether modifications can be suggested in these areas (see Q6).

Q13. Virtual Point

Does the Virtual Point Variant A promote tariffs that are stable and predictable? Please provide details.

Using the 'base case' provided, the VPA produces fairly stable results across the four scenarios – the exception being Inch, which has a wide tariff range from scenarios 1 to 3. We observe this effect on Inch in our sensitivity cases also, apparently as a result of changing flow directions due to new gas inputs to the system. The flow direction aspect therefore affects stability and predictability: it appears possible that an incremental unit of peak flow at one entry point can cause a step change in tariffs at another. Clearly trying to understand the tipping point can help with predictability, but given that exit peak average demand is also part of the equation in determining flow direction, this adds some degree of complication. The VPA appears to produce stable tariffs in response to solely exit side peak flow and capacity demand sensitivities (i.e. adjusting demand at exits alone has little or no effect on entry tariff). The VPA requires that a complex model and large amount of data and assumptions **must** be made transparent and available to all participants to achieve predictability.

Q14. Matrix

The draft Network Code on Tariffs indicates that NRAs have discretion as to the level of the negative expansion constant. Considering that the Matrix must take account of the flow direction what are stakeholder's views on the value of negative expansion that should be applied?

We assume this point refers to Article 14, 2. (a), (i), (2) of the draft Network Code on Tariffs, which refers to a constant to be applied to flows within the matrix which are in the counter direction to the prevailing flow (as developed from the flow direction model) and that this number should be between 0 and 1. This has not been included in the model (effectively the constant used is 1) and there is no functionality which allows the user to change it. It is difficult to answer this question without having an idea of the implications for the Irish system and the modelled scenario outcomes. We note that the matrix system is implemented in Italy where a constant of 0.14 is applied to backhaul. It may be useful to review how this factor was derived and whether the analysis has been undertaken in any other markets also. Industry is not best placed to complete this task.

Our response therefore is that we cannot answer this question based on the information and models provided.

Q15. Matrix

Do stakeholders view the application of the Matrix approach as appropriate to Ireland? Please provide reasons as to why the approach is suitable, or not to Ireland.

As with the VPA, the Matrix approach fits the criterion of being forward looking in its approach to the initial cost allocation. It uses an optimisation process to attempt to minimise the difference between path costs and path charges using an expansion cost for segments. This is followed by adjustment to recover the full allowed revenue (effectively a k-factor to recover historical costs). It can take into account changes in flow patterns caused by new sources of gas and changes in demand locations. It aims to allocate costs relevant to cost of paths through the system, thus a higher charge at a specific point would reflect higher costs to be recovered. In the case of Ireland, this places additional weight on the entry tariff at Moffat as the offshore cost of pipeline is higher (included via the relevant expansion constant for offshore), plus the pipeline length is longer and the capacity booked forecast to decline. This impacts the wholesale price of gas in Ireland and therefore the consumer. Potentially through a circular process of high tariffs leading to still lower bookings, the tariff levels can be further increased. This appears to have the potential not to solve the original problem of asset stranding and to be of great disbenefit to the consumer. The Matrix approach may be overly complex for the Irish system and more suited to meshed networks of greater length and density.

Q16. Matrix

Do stakeholders propose any modifications to the Matrix approach? If so please provide reasons why.

We note that the draft network code refers to segmental costs or a unit cost index relating to technical characteristics of the pipeline. It is not clear from the information provided whether the expansion constants used in the VPA approach cover either of these. The segmental costs can presumably be specific rather than blended average and be as cost reflective as possible, using forward looking expansion costs as required. As already mentioned, the ability to take account of backhaul flows is not

taken into account in the modelling, as well as the level of the constant to be used for this.

Q17. Matrix

***Does the Matrix approach promote tariffs that are stable and predictable?
Please provide details.***

Using the example models provided, the Matrix approach produced a wide range of tariffs overall across the four scenarios, in particular between Scenarios 1 and 2. In response to sensitivity cases, we observed a wide range of results also, suggesting that stability is not promoted. We add that as yet we do not have a view of the effect of taking into account backhaul flows. Similar to the VPA, the Matrix approach requires that a complex model and large amount of data and assumptions **must** be made transparent and available to all participants to achieve predictability.

Q18. Matrix

What are stakeholders' views on applying project based costs to the Matrix approach?

The project based approach appears to produce a narrow range of tariffs across the scenarios provided. However, in the models provided it is clear that this is because the projects apply only to some parts of the network, therefore the proportion of cost recovered by this approach is so low and the under-recovery adjustment proportion so high (under-recovered revenue divided by booked capacity), that this tariff stability is reflective of constant allowed revenues and similar assumptions for booked capacity across the scenarios. The effect is similar to postalisation. Whether this were to be true to a greater or lesser degree in implementation or in the long run would be dependent on the projects to be included (number, location, type). This would also impact on tariff stability and predictability, as projects come and go across the system. On the other hand, this approach can reflect the additional costs of new sources of gas to the system and actual required investments. As mentioned in Q1, this may be relevant to an expanding market with demand growth or large investment needs due to changed sources of gas, but not to a contracting gas market.

Q19. Matrix

Do stakeholders' view the application of a Matrix approach using Expansion Constants or a Matrix approach using project based costs as more suitable to Ireland?

The project-based approach would seem to meet several of the preferred conditions: forward looking, incremental cost basis, while using the entire asset for tariff setting. Unlike expansion constants, the costs should be specific and clear (and must be made transparent). Our concerns would include the longevity of the project based approach in an Irish context and the possibility of inappropriate locational signals.

Q20. Tariff Stability & Predictability

How can stability and predictability in tariffs be evaluated and quantified?

We understand that stability of tariffs would be displayed by tariffs remaining the same or close to the same over a price review period. There could be step-changes in tariffs between periods, as under/over-recovery of revenues must be allowed for in the following period, and as changes occur in the market throughout the period. Stability would therefore be likely to lead to the tariff being set at an artificial and inefficient level for most of the time in order for it to remain flat. Attempting to create stability in tariffs between price reviews would be likely to exacerbate the under/over-

recovery issue, or lead to additional measures having to be implemented (e.g. k-factors or returning revenue to Shippers), which would in turn undermine the intended stability.

Predictability, in our understanding, would mean that a methodological framework is set which can incorporate market changes and be used by the CER to provide foresight of the tariff annually for the period. This foresight is already made available in several markets, including GB, with the understanding that the figures are based on information available at the time of calculation and are indicative. We also understand that it would be a requirement that transparency of information (inputs and calculations) is provided to industry, and the wider investment community and indeed general public, in order for tariffs to be synthesised by the user within the methodological framework, in order for them also to be able to 'predict' the tariff. This concept cannot rule out unexpected events which would affect the tariff level; however, the inherent methodological stability would help industry to anticipate the effects of changes and events in the market.

In answer to the question posed, how can each be evaluated and quantified, it would appear that tolerance bands would need to be set, within which the CER would aim to keep the tariff, or indicate the future tariff to be, and assess whether it has achieved target of stability or predictability. We think the relevant question would rather be: which, stability or predictability, do we as network users prioritise?

Q21. Tariff Stability & Predictability

Apart from the publication of models behind tariffs what other factors do stakeholders view as necessary for tariff predictability and/or stability?

For tariff predictability, yes, the models used to calculate the allowed revenues for the Operator and the tariff methodology models would be required. Full explanation of all the inputs and assumptions, and consultation with industry where appropriate, would be required also. For example, any expansion constant or project cost would need to be demonstrated as relevant and benchmarked as appropriate. Capacity booking and demand information, inter alia, would need to be made available to a high enough level of granularity and timeliness for users to be able to understand the results and make their own predictions. Any risk or probability assessment which is used to form the assumptions should also be provided with reasoning.

As mentioned, we would expect the CER to provide indicative tariffs over a period of e.g. the following five years, as well as the annual tariff. This is in line with good international regulatory practice.

Q22.Storage

What are stakeholder's views on the benefits that Storage can provide the transmission system?

Storage of different types can provide obvious benefits to a transmission system in terms of seasonal security of supply from depleted fields, shorter term 'cold spell' type security of supply from salt cavities and very short-term system stability services from facilities such as LNG peak shaving storage or Röhrenspeicher. Line pack also plays a role. Ireland has the benefit of a single seasonal storage facility connected directly to the island, which may also provide short-term cycling according to the Gaslink network development plan, and the benefit of access to GB storage which covers the entire storage merit order.

Storage can be used by the TSO itself to help manage the system and historically this has been the case, with strategic storage requirements in addition to operational usage. The target model moves towards provision of system security and balancing by the market, within the framework of market rules. Therefore, access to storage and suitable products for the benefit of the market in turn benefit the system. This should be to the benefit of the consumer and therefore be a priority for the regulator. The usage and capacity booking patterns specific to a storage facility should be taken into account when setting the tariffs. We are aware that in other markets in the past a specific discount has been applied at storage entry/exit points. Aside from any benefits to the system, this has represented the desire not to penalise shippers by forcing them to double pay for aspects of transmission access when moving gas in and out of storage. Ultimately, if storage services are made sufficiently accessible to all Shippers and the products are useful and relevant to the market in question, this should be of benefit to the consumer and justify any special treatment for storage in tariff setting. If such flexibility and security of supply provision is available elsewhere, physically or virtually, this should be treated similarly.

Q23. General

Are there any other issues stakeholders would like to raise?

Overall, and as stated throughout this response, more information is required in support of assumptions to enable us to test them and the questions to be answered in full. We understand that the models are simplified versions, but unless the numbers used were dummy numbers, there should be more substance provided for them. **Any response to this consultation should not be considered complete until the full information required has been furnished to those responding.**

We highlight that the energy industry faces great uncertainty currently: I-SEM is not finalised and its impacts on gas consumption and capacity booking behaviour cannot be assessed. Further penetration of intermittent wind generation and the resulting requirements placed on power plant by the electricity TSO make the landscape unstable. The Network Code on Tariffs is not yet finalised and therefore the framework that we are placing some of our answers within may not turn out to be correct. CAM implementation is approaching and may affect annual IP booking behaviour. These uncertainties, and others, mean that firm answers can be hard to give. Communication and collaboration between the gas and electricity sectors is important at this time to ensure the best possible outcome is reached.

We also note that a separate consultation for NI is due soon and that we are in support of integration and – at the least – coordination between RoI, NI and GB on these matters.

Finally, we would highlight issues with consistency, as mentioned in Q6, as well as the lack of labelling, and the lay out and structure in the spread sheets provided makes them difficult to follow and use. Especially given the lengthy delay in issuing the materials, a more thorough review prior to publication would have been useful.