



Endesa Ireland response to SEM's Consultation on Preferred Options to be considered for Implementation of Locational Signals on the Island of Ireland

Endesa Ireland welcomes the opportunity to respond to the consultation on preferred options for the implementation of locational signals on the Island of Ireland.

Endesa Ireland agrees that locational signals can help encourage efficient use of the network. However, the incentives offered by these signals are secondary. On the island of Ireland, investors in generation plant are looking for a location with access to water and gas, existing transmission lines to avoid the need to obtaining planning permission and consents for new lines and a neighbourhood that is not likely to protest the construction of a new plant. The benefits of finding such a location would well outweigh any locational signals offered by the TSOs.

Even so, long-term locational signals can provide an added incentive for generation investment. These signals must be long-term signals; signals to which investors can respond and which will provide a sufficient level of income surety to reduce project risk. Such signals may incentivise investment in areas beneficial to the network, providing support to the network and thereby reducing required investment costs for all participants. The new investment will benefit from the surety of reduced charges over a certain time horizon (10-15 years). Endesa Ireland considers that long-term locational signals may be of benefit to the SEM. The generation portfolio is set to diversify significantly in the coming years, placing greater importance on locational incentives.

Short-term locational signals that vary significantly year-on-year are not effective to incentivise investment, nor do they encourage efficient use of the network, as generators are unable to respond to these signals once an investment decision has been made.

The use of short-term locational signals can leave generators exposed to high income fluctuations. This unpredictability results in higher investment costs, as a risk premium must be included to account for potential income variability. The TSOs note that a reduction in volatility and an increase in predictability lead to reduced investment risk¹, which in turn reduces investment costs. In a competitive market, this will result in reduced costs for end customers.

Short-term locational signals are useful for regulators and TSOs to highlight areas where investment needs to be made or where losses need to be managed and provide no benefit to generators. Endesa Ireland does not consider that the current methodology for the allocation for losses is appropriate. In addition to failing to incentivise efficient use of the network, it is not possible for the TSOs to accurately attribute losses to individual generators in the absence of appropriate metering. The current methodology for allocating TLAFs is intransparent and subjective. This is not appropriate in a competitive market.

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None of the proposals outlined in the consultation paper sets out a robust methodology for the allocation of losses, nor are they based on an impact assessment or cost/benefit analysis. There is no strong justification for the TSOs preferred option, nor is there evidence that this option will deliver the desired benefits to the market.

Therefore, Endesa Ireland considers the implementation of uniform TLAFs to be the best decision until a robust methodology can be implemented. The utilisation of uniform TLAFs would greatly improve transparency, stability and predictability, which would help to reduce investor risk and would lead to reduced costs for final customers.

Endesa Ireland considers that the majority of options presented for the allocation of Use of System charges are also insufficient. Again, the TSOs preferred option is not based on an impact assessment or a cost/benefit analysis. There is no evidence that this option will meet the set objectives.

The leading principle for the allocation of charges is to charge those who are driving transmission investment. This might be appropriate if investment in generation was driving transmission investment, but that is not the case in Ireland. The Grid25 programme has been approved. It is transmission investment that is leading generation investment. Transmission capacity is a scarce product and the connection queue goes out beyond 2025. Grid25 is driven from a historic lack of investment in certain parts of the country, by government policy and by changes in demand. In Ireland, transmission investment is driving generation investment, as generation investments will only be made in areas with available transmission capacity. As such, the only option that Endesa Ireland supports is the uniform allocation of Use of System charges.

We note that there is no mention in this paper of incentivising the TSOs to reduce losses. As the TSOs are best-placed to manage losses, Endesa Ireland considers that this as a serious gap in the policy and urges the Regulatory Authorities to implement an appropriate incentive scheme for the TSOs.

Endesa Ireland would also like to raise our concerns that this consultation is being led by the TSOs as opposed to the Regulatory Authorities. Endesa Ireland would be much more comfortable if this consultation led by the RAs, who have statutory duties in respect of public consultations, rather than the TSOs, who have a vested interest in the outcome of this consultation.

Transmission Loss Adjustment Factors (TLAFs)

Ratings

This consultation presents four options for the treatment of losses. Each of these is rated in the consultation paper based on weightings for 1) efficient dispatch, 2) cost-reflectivity, 3) efficiency, 4) volatility, 5) predictability and 6) transparency.

1. Efficient Dispatch

As highlighted in the TSOs medium-term option, it is not necessary to link efficient dispatch and TLAFs. The TSOs are obliged to ensure short-term efficient dispatch.

However, the TLAFs may not be the best tool to ensure this obligation is met. Endesa Ireland would suggest that TLAFs are not the appropriate tool to ensure short-term efficient dispatch. Therefore, Endesa Ireland considers that efficient dispatch should be taken out of the equation when rating the different options put forward.

2. Cost-reflectivity

The methodology for assigning losses is subjective and inaccurate. Endesa Ireland questions how the TSOs can determine if the loss factors are cost-reflective without appropriate metering on the lines. The current network is highly interconnected and it is not possible to accurately assign losses to a particular generator. The TSOs highlight cross-subsidisation as a situation to be avoided, however, without a robust method to assign losses, cross-subsidisation is inevitable.

In addition, Endesa Ireland notes that the TSOs look to recover their exact forecast of transmission system losses. By definition, forecasts are imperfect, so it is unlikely that the assigned loss factors will equate to the exact losses on the system. There is no mention of an ex-post reconciliation. How are any over/under recoveries treated?

3. Efficiency

Efficiency, as defined by the TSOs, is a combination of running an efficient transmission network and sending a strong locational signal to prospective investors. As set out earlier, short-term locational signals are insufficient to provide locational incentives. Furthermore, to efficiently allocate risk, it must be allocated to those that can manage the risk. In terms of loss factors, the TSOs are best placed to manage the risk. Demand customers are also better placed than generators to manage this risk, as the cost is fully recoverable from final customers and the associated volatility does not affect their income.

4. Volatility

The significant year-on-year changes in the TLAFs is a major challenge for new investment. Reduced volatility helps to reduce investor risk. The TSOs suggest that the inclusion of a locational signal in TUoS is beneficial, but will result in volatility. It is suggested that if this volatility is offset by predictability, the risk is lessened.

Endesa Ireland agrees that predictable volatility is less risky than unknown volatility, but this still increases investment risk. In addition, long-term rather than short-term locational signals are needed to provide appropriate locational incentives these long-term signals reduce volatility.

5. Predictability

It should be reasonably possible to predict forward losses for a number of years.

6. Transparency

Sufficient information should be published on the methodologies employed to allow market participants to replicate the results of the TSOs allocations.

Scoring



The TSOs have scored the options based on the outcomes of the studies conducted for each methodology. The TSOs have included very low weightings for predictability and transparency in their scoring, which is not appropriate in a competitive market.

Endesa Ireland has rescored the options based on our assessment of the objectives. We consider all of the objectives listed by the TSOs to be of equal importance, with the exception of effective dispatch, which we think should not be linked to TLAFs. Table 1 below shows revised scores for the options put forward based on Endesa Ireland’s weighting of objectives.

TLAF Options

1. Loss Adjustment Factors

Rolling Average

This option uses the current methodology utilising several load flow analyses to determine the appropriate losses allocated to each generator, scaled to ensure that the exact forecast of losses is recovered and then averages the TLAF over a period of three years in an attempt to smooth out large TLAF fluctuations.

	TSO rating: 2.55		Endesa Ireland rating: 1.4	
Efficient Dispatch	2	TLAFs are diluted due to averaging	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	2	Reduced due to averaging	1	Subjective allocation of losses
Efficiency	3	Volatility is reduced, leading to a slight improvement in efficiency	0	Efficient use of the network can only be incentivised by methodologies that utilise long-term locational signals
Volatility	3	Slightly reduced due to averaging	3	Slight improvement over the current methodology
Predictability	3	Slightly reduced due to averaging	2	This methodology remains unpredictable
Transparency	3	Same as current methodology	1	The basic methodology remains intransparent and subjective.

Endesa Ireland considers that this is a slight improvement over the current methodology, as year-on-year volatility is reduced. However, this option does little to improve the remaining shortfalls of the current methodology.

The TSOs give a low score for short-term dispatch as TLAFs are diluted as a result of averaging. Endesa Ireland however considers that TLAFs are not necessarily required for dispatch purposes and has not scored this objective.



The TSOs consider cost-reflectivity to be reduced also due to averaging; they find this to be especially true in the case of very volatile TLAFs. Endesa Ireland considers this methodology is not cost-reflective, as the allocation of losses is subjective. The SEM is a fully integrated system and appropriate metering is not in place to accurately determine the losses that have been allocated to individual generators.

In terms of efficiency, the TSOs consider that this technique improves efficiency as the volatility of the TLAF has decreased, causing reduced investment risk. However, the TSOs also acknowledge that it would not reduce the cost of investment capital and would not help to encourage new generation on the system in beneficial locations. The TSOs declare it to be only a slight improvement on the current methodology. Endesa Ireland agrees with this assessment, but rates it much lower than the TSOs.

Volatility is slightly reduced due to the averaging of the TLAF over three years and is a slight improvement on the current methodology.

The TSOs consider this methodology to offer an improvement in predictability as the TLAFs from the previous two years are known. Endesa Ireland however considers that locational signals of 2 years to be insufficient to drive significant improvements in efficiency.

Banding

With this option the TLAF is also estimated using the current methodology with the additional step of normalising the TLAF to fall within pre-determined bands.

	TSO rating: 2.75		Endesa Ireland rating: 1	
Efficient Dispatch	2	Actual TLAFs are not used for dispatch, reducing efficiency.	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	2	Reduced due to manner TLAFs are bunched together.	1	Subjective allocation of losses
Efficiency	4	TLAFs are within tighter bounds, so efficiency should improve due to decreased volatility.	0	Efficient use of the network can only be incentivised by methodologies that utilise long-term locational signals
Volatility	3	This is improved as TLAFs on the whole must make a large jump to change band.	1	Volatility remains high. Year-on-year volatility is not addressed and within year there may be significant differences between the banded TLAFs and actual TLAFs
Predictability	3	Movement should only be from band to band.	2	Cannot be predicted several years out. Small changes in losses can result in a band change, resulting in significant income variability



Transparency	3	Banding would be as transparent as the current methodology.	1	This methodology is as transparent as the basic methodology, which remains intransparent and subjective.
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The TSOs give this methodology a low rating for efficient dispatch as the data can become distorted with banding and values far off the calculated TLAFs may be applied to generators. Endesa Ireland considers that efficient dispatch should not be linked to TLAFs and this has not been included in our score.

The TSOs also consider cost-reflectivity to be reduced due to the manner in which TLAFs are bundled. Endesa Ireland considers that allocation of losses is inaccurate with this methodology, both due to banding and the fact that it is based on the current methodology, which is unable to accurately allocate losses to individual generators.

In terms of efficiency, the TSOs consider this to be improved due to the maximum and minimum limits imposed on TLAFs. Endesa Ireland does not consider this methodology to offer any improvement in efficiency. There is no evidence presented to support the assertion that this would encourage more efficient use of the network.

The TSOs consider volatility to be improved with this methodology as the TLAFs must make a large jump in order to move from each band. However, if generators are on the border of each band, it would not take a large change to move from band to band. A minor change in monthly TLAFs may lead to a large divergence in the banding TLAF applied. In addition, this option does little to address year-on-year volatility.

The TSOs consider that there is a certain amount of predictability associated with this methodology due to the fact that while it is still possible for movement from band to band it is within tighter limits. Endesa Ireland considers that there is not sufficient predictability as it is possible that a slight change in TLAF may result in a different banded TLAF and the year-on-year volatility remains, making it difficult to predict TLAFs into the future.

The TSOs consider banding to have the same level of transparency as compared with the existing methodology. Endesa Ireland agrees with this assessment.

Compression

Compression of TLAFs is also based on the current methodology with the additional step of confining the TLAFs to lie within a tighter range through use of a compression factor. Endesa Ireland does not consider this a suitable option as annual fluctuations in TLAFs would still exist without addressing any of the current issues surrounding cost-reflectivity, transparency or predictability.

	TSO rating: 3.05		Endesa Ireland rating: 1.2	
Efficient Dispatch	3	Data has been manipulated into a tighter range.	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	3	Data has been manipulated into a tighter range.	1	Subjective allocation of losses

Efficiency	4	Slightly improved due to reduction in volatility.	0	Efficient use of the network can only be incentivised by methodologies that utilise long-term locational signals
Volatility	3	Reduced as TLAFs lie within a tighter data range.	2	The reduction in volatility is insignificant. Year-on-year volatility is not addressed.
Predictability	2	Unpredictability of the underlying methodology is still applicable.	2	This methodology remains unpredictable
Transparency	3	Has the same level of transparency as the current methodology	1	This methodology is less transparent than the basic methodology, which remains intransparent and subjective.

For effective dispatch, the TSOs consider that short-term efficiency may be reduced given that the data spread has been reduced; however they acknowledge that this approach should not alter the generator merit. The TSOs have indicated in their medium- and long-term options that it is not necessary to link efficient dispatch and TLAFs. Endesa Ireland does not consider that these should be linked.

In terms of long-term efficiency, the TSOs argue that this approach reduces volatility and increases predictability which should subsequently lead to a reduction in investment risk. Endesa Ireland does not consider the very minor improvement in reduced volatility is sufficient to reduce investment risk.

The TSOs are of the opinion that cost-reflectivity is diminished with this method due to the fact that the range of data is much tighter. As this methodology remains based on the current methodology, Endesa Ireland does not consider the allocations to be cost-reflective.

2. Zonal Loss Adjustment Factors

This option allocates losses on a zonal basis which are derived in a similar manner to the current TLAF approach, whereby participants within the same zone are charged the same TLAF.

	TSO rating: 2.10		Endesa Ireland rating: 0.8	
Efficient Dispatch	2	Averaging TLAFs reduces effectiveness	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	1	Averaging reduces cost-reflectivity	1	Subjective allocation of losses
Efficiency	2	Slight improvement due to reduction in volatility	0	Efficient use of the network can only be incentivised by methodologies that utilise long-term locational signals
Volatility	3	Slightly reduced due to	1	Slight improvement over the

		averaging		current methodology
Predictability	3	Slightly reduced due to averaging	1	Methodology remains unpredictable
Transparency	2	Same as current methodology	1	Methodology remains intrasparent

The TSOs consider that this approach could lead to inefficient dispatch as individual generator losses are averaged. Endesa Ireland does not consider that dispatch should be linked to losses.

The TSOs also express concern that cost-reflectivity would be reduced due to averaging. Endesa Ireland does not consider the current methodology to be cost-reflective and this option does not improve that situation.

Endesa Ireland does not support this option as it does not address the primary concerns with the current methodology. The allocation of losses is subjective and not cost-reflective, market participants may still be exposed to year-on-year volatility; transparency and predictability are not improved and efficiency is not enhanced. Endesa Ireland agrees with the TSO's opinion that this is not a feasible option.

3. Uniform Loss Adjustment Factors

With this approach each participant is allocated the same TLAF, based on the TSOs forecast of total system losses.

	TSO rating: 2.75		Endesa Ireland rating: 2.4	
Efficient Dispatch	1	Impact of individual generators is removed	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	1	Impact of individual generators is removed	3	Fair allocation of losses across all generators
Efficiency	3	Does not send locational signals	0	Efficient use of the network can only be incentivised by methodologies that utilise long-term locational signals
Volatility	5	Variability would be minimal	5	Variability would be minimal
Predictability	5	Highly predictable	5	Highly predictable
Transparency	4	Highly transparent	4	Highly transparent

There is no evidence within this consultation to support how removal of TLAFs would have an adverse impact on efficient dispatch, therefore Endesa Ireland does not agree with the TSOs in their assertion that uniform loss adjustment factors would have an adverse effect on dispatch. Endesa Ireland does not consider that efficient dispatch should be linked to TLAFs. This is supported by the TSOs in their proposal on Splitting.



The TSOs do not consider this to be cost-reflective, as there is no indication of individual generators' impact on losses. The TSO proposals for the calculation of TLAFs are all based on subjective allocation of losses. As the proper metering is not in place to accurately allocate losses, Endesa Ireland does not consider any of the proposals is cost-reflective. In the absence of an accurate allocation methodology, allocating losses proportionally to all participants is the most suitable option.

Endesa Ireland strongly supports this option as it minimises volatility and is highly transparent and predictable. All of these features are essential components for a fully competitive market, which will help to ensure that end consumer face the lowest prices.

Splitting

As a subset of the Uniform Loss Adjustment Factors, the TSOs have proposed that in the medium-term, the cost-recovery requirements should be separated from the locational signal and a new tool should be implemented to achieve short-term efficient dispatch. This would result in a uniform loss factor for all generators supported by changes to the Reserve Constrained Unit Commitment (RCUC) software or the use of a similar tool.

	TSO rating: 2.4 - 5		Endesa Ireland rating: 4.17	
Efficient Dispatch	5	Significant modification to the current system design is needed to implement	5	Agree with the proposal to remove the link between Effective dispatch and TLAFs
Cost-reflectivity	1-5	Impact of individual generators removed	4	Removes subjectivity
Efficiency	3-5	Locational signals removed, potentially reducing inefficiency	4	No evidence that this will lead to inefficiency. The associated implementation of a long-term locational signal may enhance efficiency.
Volatility	1-5	Variability minimised	4	Variability minimised
Predictability	1-5	Predictability enhanced	4	Predictability enhanced
Transparency	1-5	Transparency enhanced	4	Transparency enhanced

Endesa Ireland considers that efficient dispatch should not depend on TLAFs and so welcomes the proposal of splitting. Endesa Ireland appreciates that such a move would require significant modification of the market software tools, however, this option would enable efficient dispatch and would reduce generator income volatility. Endesa Ireland considers that this proposal should be investigated further and considered for implementation.

In terms of cost-reflectivity, Endesa Ireland considers this is a suitable option as it removes the subjective allocation of the current methodology.

Endesa Ireland supports this option. Provided a long-term locational signal is implemented, this option will also result in more efficient use of the network. However,



Endesa Ireland questions the value of the implementation of a three-stage approach to improving the losses methodology.

4. Purchase of Losses

This option proposes that system losses are purchased by the TSOs. However, the TSOs indicate that this is a long-term solution which would take several years to implement.

	TSO rating: 2.4 - 5		Endesa Ireland rating: 3	
Efficient Dispatch	5	Link between TLAFs and dispatch is removed.	n/a	Effective dispatch should not be linked to TLAFs
Cost-reflectivity	1-5	Losses can be more accurately measured	4	Costs are based on actual losses
Efficiency	3-5	No locational signal	0	No locational signal. A separate locational signal can be implemented.
Volatility	1-5	Volatility is minimised	3	Volatility is minimised
Predictability	1-5	Predictability is enhanced	4	Predictability is enhanced
Transparency	1-5	Transparency is enhanced	4	Transparency is enhanced

Endesa Ireland supports this option, which removes the link between TLAFs and dispatch, improves cost-reflectivity, reduces volatility, improves predictability and is highly transparent. This option more efficiently allocates risk, which will reduce investment risk.

The TSOs express their concern with the removal of a locational signal with this option. Endesa Ireland considers that more effective long-term locational signals can be implemented through another market mechanism, such as capacity payments / auctions.

The TSOs have indicated that this option will take several years to implement. Endesa Ireland questions this timeline as it would seem possible to implement such a methodology in a shorter timeframe.

Endesa Ireland also considers that a three-stage revision to the current methodology is not appropriate. In the event that the TSO purchasing of losses option is agreed as the long-term solution, a medium-term solution should not be introduced. Rather, the TSOs should implement a short-term solution consistent with this approach, i.e., uniform TLAFS, and focus their efforts on a speedier implementation of this option.

In conclusion, Endesa Ireland considers the application of uniform loss adjustment TLAFs to be the most feasible short-term option and welcomes the implementation of the purchasing of losses for a longer-term option. In the event that the purchasing of losses is not approved as the longer-term option, Endesa Ireland would welcome the implementation of the Splitting option.

Use of System Tariffs

Transmission tariffs allocate the annual costs of maintaining and operating the transmission network to all generators. The current practise is to allocate the tariff based on a generators contracted maximum export capacity (MEC) and network location.

Generators connected to the distribution system with a contracted export capacity of less than 10MW are not charged TUoS. The TSOs have proposed to reduce this threshold to 5MW, due to the increase in smaller-scale generators. In addition, the proposal suggests that these generators would only be assessed TUoS for their MEC in excess of 5MW, based on the assumption that the first 5MW would be transported via the distribution network. Endesa Ireland supports this proposal, as these generators also utilise the transmission network and should contribute to the costs for maintaining and operating the network.

In allocating TUoS charges, it is important to identify the main drivers of transmission investment. The tariff options based on dynamic models focus on charging generation units which will drive future investment. Endesa Ireland would only consider this appropriate for a scenario in which investment in new generation drove transmission investment. In Ireland, Grid 25 has been approved. These transmission investment plans were not driven by new generation investment; rather the plans were developed to reinforce the existing network due to historic under-investment and included TSO assumptions for future network requirements. Given the current transmission congestion and the queues for connection, it is not expected that there will be further investment in greenfield sites until post 2017. Because the main driver of current investment is to remedy historic under-investment and to support the growth in demand, Endesa Ireland considers that it is more appropriate to allocate TUoS charges to generators on a uniform basis or to charge demand directly.

Ratings

This consultation presents six options for allocation of Use of System Charges. Each of these is rated in the consultation paper based on weightings for 1) efficiency, 2) cost-reflectivity, 3) volatility, 4) predictability and 5) transparency.

1. Efficiency

The TSOs seek to utilise the TUoS charges to drive efficient use of the network by generators through the locational signal. As the locational signals provided are not long-term, they are ineffective as generators are unable to respond to them

2. Cost-reflectivity

The TSOs seek to assess charges based on an allocation of common costs as well as allocating costs based on the assets utilised by each generator. This allocation is based on subjective load flow analyses to identify the lines used by each generator and the proportion of capacity they utilise. Generators that located in areas with weak networks due to historic under-investment will be charged higher TUoS rates in the event that these areas are included for investment under Grid25.

Endesa Ireland questions how the TSOs can determine if the TUoS rates are cost-reflective without appropriate metering on the lines and the inclusion of an ex-post reconciliation. The current network is highly interconnected and it is not possible to accurately predict network flows. In addition, Endesa Ireland notes that the TSOs look to recover their exact forecast of operating and maintenance costs. By definition, forecasts are imperfect, so the tariffs are unlikely to recover the exact revenue requirement.

The TSOs highlight cross-subsidisation as a situation to be avoided, however, without robust metering in place and an ex-post reconciliation, cross-subsidisation is inevitable.

3. Volatility
Year-on-year variances in tariffs should be minimised.
4. Predictability
It should be reasonably possible to predict TUoS charges for a number of years.
5. Transparency
Sufficient information should be published on the methodologies employed to allow market participants to replicate the results of the TSOs allocations

Similar to the weightings for losses, the TSOs have given low weightings to, predictability and transparency. Endesa Ireland considers that these three objectives are necessary for a competitive market. Endesa Ireland has rescored these options, using an equal weighting for all objectives.

1. Option 1: Pure transmission locational signalling Static Model

The charging methodology for this option is based on a static network model, based on today's existing network. The network is valued based on a Modern Equivalent Asset Model. Load flow analysis is utilised to assess the use of specific lines in the network by each generator. The costs associated with these lines are then proportionally allocated to the users. In order to ensure full recovery of projected revenue requirements, after the application of the locational charges the costs are scaled by a residual element.

	TSO rating: 2.6		Endesa Ireland rating: 1.6	
Efficiency	3	No signal for future investment, nor incentive to reduce need for future investment	1	Short-term locational signals are ineffective and inefficient
Cost-reflectivity	3	TSOs consider that participants are charged in direct proportion to their use of existing network assets	2	Costs are not reflective – charges are based on subjective assumptions by the TSO
Volatility	2	TSOs consider this option to be volatile	2	TSO score accepted
Predictability	2	TSOs consider this option	2	TSO score accepted

		difficult to predict		
Transparency	1	This method is not transparent.	1	TSO score accepted

Endesa Ireland does not support the above option as it has the potential to be very volatile, as with the current methodology. As stated previously, the load flow analyses are subjective – the TSOs select some random days to utilise in their study and it is very difficult for generators to replicate this data. This option lacks predictability, transparency and is quite volatile.

This option is also somewhat discriminatory as participants that use lines that are expensive contribute towards this higher cost. The RAs decision to move from a deep to shallow connection charging regime was to ensure a level playing field for all generators. Locational charging gives an advantage to certain generators that have sited in locations where prior investment in sufficient network capacity reduces their TUoS charges. This can be seen as discriminatory towards new entrants and certainly does not provide a level playing field for generators.

2. Option 2: Pure transmission locational signalling Dynamic Model

Option 2 is similar to Option 1 except that a Dynamic Model is employed as an alternative to a static one. This dynamic model attempts to apply costs to those who drive the need for future investment and charges participants for network upgrades that they may avail of in the future. The costs of assets to be provided in the future are charged at their Net Present Value (NPV) so they become more expensive closer to availability of the assets (assuming inflation). These payments are proposed to continue for 7 years after the assets have been built in order to avoid the “free-rider” problem.

	TSO rating: 2.3		Endesa Ireland rating: 1.4	
Efficiency	3	TSOs consider it sends appropriate signals regarding future network investments	1	Short-term locational signals are ineffective and inefficient
Cost-reflectivity	2	Generators driving the need for network upgrades are contributing towards cost of development	1	Costs are not reflective – charges are based on subjective assumptions by the TSO. Generators are not driving investment
Volatility	2	“Lumpy” nature of investment may increase volatility	2	TSO score accepted
Predictability	2	More predictable than a static model	2	TSO score accepted
Transparency	1	This method is not transparent	1	TSO score accepted



Endesa Ireland does not support this option for all the reasons stated in Option 1 with the addition of a basic flaw in the statement that investment plans are driven by new generation investment. Grid 25 is independent of new generation investment requirements

The TSOs are proposing to charge customers based on their line usage with higher charges for generators using new, more expensive lines. Endesa Ireland is aware that the TSOs are looking to move some existing connections in line with their newly planned network configuration. Existing generators that are located in these areas and those located in historically underdeveloped areas of the network will likely be facing significantly higher TUoS charges, due to Grid25 investments. These investments are not being driven by these generators. This allocation seeks to recover the costs for overdue investment by increasing charges on generators in these areas. Endesa Ireland considers that these costs should be shared equally by all.

Of further concern is the heavy reliance of this option on the time alignment of charges with the physical addition of new assets. This option does not take account of delays and even the possibility that a generator due to be decommissioned may be charged for an asset for which it may not use due to delays of network upgrades. As Endesa Ireland is considering decommissioning some of its units in the coming years we are concerned regarding the incurrence of charges for transmission assets from which we may derive no benefit.

3. Option 3: Transmission locational signalling marginal cost Static Model

Option 3 is similar to Option 1 except that the residual element employed is not a multiplier but a “delta” which can be described as a uniform €/kw/year amount that is added or subtracted to each tariff to ensure adequate revenue recovery. A further difference with Option 1 is that this model is based on marginal costs.

This option presents all the same drawbacks associated with Option 1. Endesa Ireland does not support this option.

	TSO rating: 3.70		Endesa Ireland rating: 1.8	
Efficiency	5	TSOs consider that this does not optimise efficiency	2	Short-term locational signals are ineffective and inefficient
Cost-reflectivity	5	Generators driving the need for network upgrades are contributing more	2	Costs are not reflective – charges are based on subjective assumptions by the TSO. Generators are not driving investment.
Volatility	1	More volatile than option 1	1	TSO score accepted
Predictability	3	Volatility with technique makes it difficult to predict	3	TSO score accepted
Transparency	1	This method is not transparent	1	TSO score accepted

4. Option 4: Pure transmission locational signalling Dynamic Model with Postage Stamp

This option is similar to Option 2 except that the adjustment method applied to ensure adequate revenue recovery is a “delta”/postage stamp as opposed to a multiplier. There is also a limit on the percentage of the revenue which can be recovered through the locational component, which would not account for more than 60% of the TUoS tariff.

Endesa Ireland is not in favour of this option. Although the postage stamp portion of the tariff is guaranteed to make up at least 40% of the overall tariffs Endesa Ireland considers that generators are still subject to high income volatility through the locational component of the tariff. This consultation paper recognises that due to the “lumpy” nature of network developments there is likely to be increased volatility year-on-year. As with Option 2, there are insufficient exit and entry signals to the market as the charges are not sufficiently long-term to provide signals to generators. Also in common with Option 2 is a discriminatory charge to existing units when a new unit would like to connect to the transmission grid in their area. This may be a risk that an existing unit is unable to manage.

Endesa Ireland notes that this is the preferred option of the TSOs. The TSOs have indicated in the Next Steps section of the consultation that additional studies will be conducted in relation to this proposal. This seems to imply that this is not an open consultation, but it is a foregone conclusion that the preferred TSO option will be implemented.

	TSO rating: 4.05		Endesa Ireland rating: 1.6	
Efficiency	4	TSOs consider it sends appropriate signals regarding future network investments	1	Short-term locational signals are ineffective and inefficient
Cost-reflectivity	5	Generators driving the need for network upgrades are contributing towards cost of development	1	Costs are not reflective – charges are based on subjective assumptions by the TSO
Volatility	3	Volatility reduced as locational element is limited to a maximum of 60%.	3	TSO score accepted
Predictability	4	TSOs consider this more predictable than static model and publications outlining future network development	2	60% of charges remain unpredictable.
Transparency	3	Postage stamp should be at least 40% of charges	1	60% of charges are subjective.



5. Option 5: Pure Postage Stamp

This Option allocates the same transmission use of system charge for all participants based on usage per MW (MEC), MWh (actual export) or a combination of the two. The option does not incorporate a locational signal. The rate per generator is derived by dividing the total revenue requirement by the total chargeable capacity eligible for TUoS charges.

	TSO rating: 2.4		Endesa Ireland rating: 4.2	
Efficiency	1	TSOs do not consider that this option provides correct signals for efficient use of system	3	Risks are not inappropriately allocated to generation
Cost-reflectivity	1	no differentiation between units reduces cost reflectivity	3	Cost allocation is not based on subjective assumptions but are shared equally by all generators
Volatility	5	Volatility is minimal	5	TSO score accepted
Predictability	5	This option is predictable	5	TSO score accepted
Transparency	5	This option is transparent.	5	TSO score accepted

Endesa Ireland supports this option as it spreads any volatility caused by revenue requirements across all participants equally and is highly predictable and transparent. This option also eliminates any issues of discrimination and timing posed by using dynamic models as new and existing units are charged the same rate. Such measures allow for increased competition among market participants and provide lower prices to the end consumer.

The TSOs have expressed concern that this may not encourage efficient use of the network or efficient investment in the network. Endesa Ireland does not consider that any of the prior options for TUoS charging provide appropriate signals for these objectives; therefore this is not sufficient reason to dismiss this option. Endesa Ireland considers that his option shares risk appropriately and does not include arbitrary cost allocations and therefore has scored it higher in these areas than the TSOs.

The TSOs also suggest that a pure postage stamp approach would not be compatible or consistent with the SEM High Level Design. Endesa Ireland considers that the decision to include locational signals in the TUoS charges that was part of the High Level Design decision was contrary to the “level playing field” objective that formed the basis of the move from a deep to a shallow connection charging policy. Endesa Ireland considers that the SEM Committee should review this decision and look to remove locational charges from the TUoS.

6. Option 6: Postage Stamp with discount

Option 6 is similar to Option 5 except that it allows system operators the flexibility to provide a discount on TUoS charges to participants that locate in an area that is considered favourable to the performance of the transmission network.

	TSO rating: N/A		Endesa Ireland rating: 4.4	
Efficiency			4	Risks are not inappropriately allocated to generation. This rating is based on the expectation that the locational signal implemented will be a long-term signal (10-15 years).
Cost-reflectivity			3	Cost allocation is not based on subjective assumptions but is shared equally by all generators
Volatility			5	TSO score based on Option 5 accepted. This rating is based on the expectation that the locational signal implemented will be a long-term signal (10-15 years).
Predictability			5	TSO score based on Option 5 accepted. This rating is based on the expectation that the locational signal implemented will be a long-term signal (10-15 years).
Transparency			5	TSO score based on Option 5 accepted. This rating is based on the expectation that the locational signal implemented will be a long-term signal (10-15 years).

Endesa Ireland considers this to be the most suitable of the options proposed. It carries the same benefits of Option 5 with the opportunity for system operators to incentivise new investment in favourable network locations. However, Endesa Ireland considers that any incentive offered must be on a long-term basis (10-15 years) in order to effectively incentivise investment.

The system operators have eliminated this as a viable option due to what they consider practical limitations, including involvement with planning authorities, different treatment for new and existing units and increased risk for existing users. These difficulties are not explained and Endesa Ireland does not consider these difficulties to be insurmountable. In addition, these disadvantages are also applicable to some of the other options put forward, including the preferred option set out by the TSOs. Therefore, Endesa Ireland considers that the implementation of this option should be re-examined.