Wholesale Electricity Market – Submission to IMO Consultation Paper: Emissions Intensity Reporting (Ref:EII_CP_001)

Submitted by

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Submission

Synergy welcomes the opportunity to make a submission in respect of the IMO's proposal to develop and publish an Emissions Intensity Index for the WEM as set out in the in consultation paper EII_CP_001.

In Synergy's view, actions to improve the transparency of market operations and transactions or reduce information asymmetry are worth considering to the extent that they support or better achieve the market objectives.

In this regard Synergy supports the IMO proceeding with developing and publishing an Emissions Intensity Index (EEI). It is Synergy's view that such an index would deliver up-to-date and reliable information about emissions, in terms of quantities and changes in trend, and provide a market published metric that could be referenced as a matter of administrative convenience in both sales and purchase transactions, for example in much the same way the CPI is referenced.

Synergy notes that the proposed EII methodology appears to be broadly consistent with that employed by AEMO in regard to the Carbon Dioxide Equivalent Intensity Index published in respect of the National Electricity Market, albeit that some data sources would be different (emission intensity factors potentially sourced directly from generators in the WEM as opposed to publicly available estimated data from the National Transmission Development Plan in the NEM) and publishing periodicity would be much more frequent (half-hourly in the WEM as opposed to weekly in the NEM).

In response to the options and recommendations raised in the consultation paper, Synergy offers the following comments:

Issue 1. What should the primary data source for emissions intensity factors for individual generation plants be?

The ACIL Tasman report underpinning the consultation paper listed three alternative data sources in declining order of desirability. Synergy agrees that the best and likely most accurate source (and also least cost to provide) would be the data set compiled by qualifying entities to meet their NGERs energy production, consumption and greenhouse gas emissions reporting obligations from which Synergy understands emission intensity data by generating facility would be available or easily calculated.

While noting that individual generating facility emission intensities, albeit estimated, are made public through the National Transmission Development Plan and used in calculating the NEM's Carbon Dioxide Equivalent Intensity Index, Synergy is aware that there may be some concern by WEM participants in respect to a requirement to publicly disclose such information. However, Synergy notes that the market already publishes information at facility level, such as assigned capacity credits, and in the interests of transparency considers there is merit in individual facility emission intensities also being published.

The report suggests an alternative to participant supplied individual facility emission intensities, although a second-best solution, is for the IMO to derive emission intensities from participant supplied historical HHV thermal efficiency data on a sent-out basis and fuel spilts/volmes by facility. For mutli-fuelled power stations, this would require a thermal efficiency to be listed for each fuel, clearly adding to the administrative effort of all involved and creating an increased risk of calculation error.

The third listed alternative, where there is a disinterest or reluctance for participants to provide the minimum necessary information for the IMO to produce the EII, then the report suggests the IMO would estimate emission intensities based on estimated thermal efficiencies. This approach, in Synergy's view, would be the least acceptable methodology as it relies upon a high level of estimation, even if sourced from experienced consultants, which would lead to the least accurate index of the three alternatives, albeit that the difference between the second and third alternatives may be marginal depending on expertise and knowledge of the consultants. However, estimating emission outcomes for multi-fuelled facilities with markedly different thermal efficiencies depending on the fuel being utilised, will always be difficult and subject to varying and potentially unknowable degrees of error.

Accordingly, Synergy's ranked preferred approach mirrors that proposed by the IMO with the first best solution being for participants to supply emission intensities from their NGER data sets, followed by participants supplying efficiency and fuel splits/volumes and lastly for emission intensities to be estimated by consultants.

Issue 2. Should the index include Scope 3 emissions or be limited to direct emissions (Scope 1) from the power stations only??

Synergy understands that the Carbon Pricing Mechanism (CPM) is only concerned with Scope 1 emissions, i.e. those emissions arising from energy transformation at facilities that exceed 25 kilo tonnes of CO_2 equivalent emissions and that the Scope 3 emissions being referred to here are concerned with the emissions released from the upstream processing and delivery of fuel to generating facilities. However, Synergy takes the view that upstream emissions caught under the CPM are an integral part of the total emissions liability picture for stationary energy generation and that upstream liable entities will seek to pass on their compliance costs.

Synergy does not subscribe to the view that limiting the EII to Scope 1 emissions incurred through fuel transformation in the SWIS is sufficient but rather that incorporating such Scope 3 emissions into the EII will indicate to stakeholders a more accurate picture of the carbon intensity of electricity generated and sent-out in the SWIS. Synergy notes that this approach is consistent with that adopted by the AEMO in its published Carbon Dioxide Equivalent Intensity Index which incorporates fugitive emissions, i.e. those resulting from the production and transport of fuel[1].

Accordingly, Synergy takes the view that there is merit in endeavouring to incorporate Scope 3 or fugitive emissions into the development of the EII for the WEM.

Issue 3. Should the IMO calculate and publish both measures?

If both Scope 1 and Scope 3 emissions are not combined in the EII then given the discussion above, Synergy would support both measures being published allowing stakeholders to combine the measures to arrive at a more accurate and comprehensive estimate of carbon intensity for SWIS sent out generation.

Issue 4. Should power stations that potentially come under the 25 kilo tonne CO_2-e annual threshold be included or excluded from the index?

Including facilities that fall below the CPM threshold will ensure that the EII is representative of direct emissions released from energy sent-out in the SWIS albeit that such facilities will not incur a direct liability under the CPM. While excluding sub-threshold facilities will better align index the direct impact of CPM liabilities, it will come with the administrative burden of adjusting the index to include/exclude facilities as they move over and under the liability threshold for minimal impact on the

[1] Refer to ACIL Tasman's Final Report – Fuel Resource, new entry and generation costs in the NEM, April 2009, Pg 15 for a definition of fugitive emissions and also the CDEII Available Generators File on AEMO's website which lists the CO_2-e emissions factor by generator which includes a fugitive emissions component related to the generator's fuel type. For example, Bayswater power station has a total combustion and **fugitive emission** factor of 0.0989tCO_2-e/GJ which at a HHV sent out thermal efficiency of 35.9% converts to an emissions intensity factor of 0.99 t CO_2-e/MWh as listed in the Available Generators File.

average reported index. For example, at off-peak times it is unlikely that sub-threshold facilities will be operating whereas at peak times, their contribution, in terms of total energy sent-out in a Trading Interval is likely to marginal and therefore make little difference to the index value (i.e. unlikely to distort it in material way). However, on balance, in order to make the publication of the index as efficient as possible while maintaining an acceptable level of creditability, Synergy supports the IMO's proposed approach to include the emissions of sub-threshold facilities in the index.

Issue 5. How frequently should the index be published – Quarterly, Monthly, Daily or Trading Interval resolution?

Synergy acknowledges that the index is at best an estimate of SWIS emissions intensity reflecting averaged generator efficiency factors which in reality change as the level of dispatch changes potentially suggesting that a time aggregated value would be sufficient for most purposes. However, Synergy notes that the index will be calculated at the Trading Interval level and takes the view that publishing it at this level as opposed to an arbitrary aggregated level will allow users to construct their own time delimited aggregates, reflecting their individual requirements. Accordingly, Synergy supports publishing the index at the Trading Interval level.

Issue 6. Should the IMO publish peak/off-peak measures?

Publishing the index at the Trading Interval level provides the data for interested parties to construct a time aggregated values suitable to their needs which means it is redundant for the IMO to publish peak/off peak aggregated indices.

Issue 7. Should the index be an informal measure or be formalised within the Market Rules and IMO procedures?

One of the justifications cited for publishing the index was that it could be referenced in contracts in which case there would be a presumption as to the composition of the index (i.e. it is fit for purpose in the context of the referring contracts) and that it would continue for a period of time. These considerations suggest the index should be incorporated into the formal structure of the market to provide a consultative process by which changes or indeed the decision to cease publishing the index can be evaluated and progressed with input from affected parties and other stakeholders, who may rely on the index for other reasons.

Synergy acknowledges that incorporating the index into the formal administrative structure of the market will take time and therefore supports the IMO's proposed process, that in order to commence publishing the index as soon as possible, in the first instance participants are requested to voluntarily supply the necessary data. However, given the Clean Energy Act applies to transactions effected from 1 July,

Synergy believes the necessary rule changes to give effect to the EII should proceed as soon as possible to formally establish the index's credentials.

Issue 8. How regularly should input data (or estimates) be updated and what should the process be?

Synergy's preferred source of emission intensity data is for participants to supply it from their data set used to report their NGERs obligations. Accordingly, Synergy's preference is for emissions intensity data to be updated annually following close of NGERs reporting.