Energy Security Board
Contracts Technical Working Group

Emissions Registry – Emissions Reduction Requirement

Issues Paper

Introduction

The purpose of this issues paper is to facilitate discussions with Jurisdictions and the Technical Working Group (TWG) on the detailed design elements of the emissions registry. Following the SCO Reference Group and TWG meetings, a more detailed technical working paper will be developed. The technical working papers and draft final design document will be available for public consultation in mid-June.

High level design

The high level design document set out the role of the emissions registry and broadly how it would operate:

- The registry will keep a record of all electricity production and associated emissions profile for each electricity generator by year. Throughout the compliance period, actual generation data from AEMO, combined with an emissions intensity value based on National Greenhouse and Energy Reporting Scheme (NGERS) data from the previous year, will be provided into the registry. At the end of the compliance period, total emissions for each electricity generator will be updated to reflect more accurate figures and ensure consistency with the NGERS framework.

- The design of the registry will allow retailers to have a share of a generator's combined production and associated emissions by station allocated to them, after the allocation is accepted by that generator. The allocation will be presented by the retailer for the purposes of compliance.

- Any unallocated energy and emissions within the registry would then contribute to calculating the emissions intensity applied to any unallocated loads.

- If retailers needed to adjust their portfolios after the compliance year has finished but before the reporting date, then further reallocations of production and associated emissions values could occur.

- The transfer and allocation of generation and associated emissions profile will be driven by contracting between retailers and generators. The design of the registry should be such that the flexibility of contracting arrangements remains.

- Under the emissions reduction requirement of the Guarantee all Controlling Corporation loads would be aggregated and their generator production and associated emissions would be automatically allocated to the relevant retailer. This would occur even if it resulted in the retailer being allocated more generator production and associated emissions than its load. The retailer may then choose to enter into contracts to reallocate some of these allocated amounts.

- At the end of a compliance period, once NGERS emissions data has been reported, the registry would automatically match up the emissions to a retailer based on the allocated generation volumes and associated emissions recorded in the registry. The AER would compare the average emissions intensity of the retailer against the electricity emissions target in assessing compliance.

Detailed design elements

This issues paper seeks input on the following elements to add detail to the high level design:

1. Who should administer the registry?
2. When should information be recorded in the registry?
3. How should allocations between parties in the registry be recorded?
4. How long should participants be given after the end of a compliance period to record their allocations in the registry?
5. How would output be automatically allocated within a Corporate Group?
6. How is the emissions intensity of the residual (unallocated) generation calculated?
7. What happens when allocated output exceeds a retailer's load?
8. What data should be accessible in the register?
9. Should third parties have access to the register?

Issues for consultation

1. Who should administer the register?

The high level design paper noted the registry used could be an enhancement to AEMO's systems or a newly implemented compliance registry operated by the AER.

The administrator of the registry would likely be responsible for developing detailed procedures for interacting with the register and managing IT requirements. AEMO has relevant experience in developing and operating data systems and is the main source of the required data on purchase and generation volumes. The AER will be responsible for monitoring and enforcing compliance and may benefit from being the administrator to maintain data quality for compliance purposes.

Questions:

- What are the advantages and disadvantages of AEMO administering the register?
- What are the advantages and disadvantages of the AER administering the register?
- Are there any other bodies that should be considered for administering the register?

2. When should information be recorded in the registry?

Retailers would use information recorded in the registry over a compliance year to monitor their compliance position. The AER would use this information when undertaking compliance activities after the compliance year has ended.

The frequency of when the data is available for entry into the registry differs by source. The registry requires the following main inputs:

- Pool purchases and pool generation for each market participant – sourced from AEMO's settlement systems. This information is available in weekly batches, settled 4 weeks in arrears and is subject to 20 week and 30 week revisions.

- Scope 1 emissions and generation data to calculate a generator's emissions intensity (tCO_2-e/MWh) – sourced from the Clean Energy Regulator's (CER) NGERS, which is published annually by 28 February for the previous financial year, after undertaking verification of reports corporations submit by 31 October.

- Records of agreed output allocation between retailers and generators - would be available once both parties record their agreement to the transfer with the registry.

- Details of relationships of market customers and generators within Corporate Groups, and changes in ownership status.

Questions:

- Should information be recorded in the registry as soon as data is available from each of the sources described above, or less frequently – for example daily, monthly or quarterly?

- How should potential revisions within the settlement cycles be factored into the registry?

- Should exempt EITE load, voluntary action, output from embedded generation (and rooftop PV if applicable) and potentially the use of offsets be captured within the registry? Or should this information sit outside the registry?

- What are the advantages and disadvantages of recording information in the registry more frequently versus less?

- Would market participants benefit from seeing in the register how they are tracking towards compliance during a compliance period?

3. How should allocations between parties in the registry be recorded?

Under the high level design, the registry would record the allocation of output that has occurred from a generator to a retailer. A retailer and generator may have a contractual arrangement that promises to allocate output in the future (this could be expressed in any form they wish, for example a percentage of a generator's output in a compliance period) but this contract would not be recorded in the registry. Instead, the registry would only record a MWh amount of output that has actually occurred even if this differs from the amount settled under the contract – meaning the output needs to have been produced and needs to have been transferred with agreement from both parties.

The detailed design needs to consider what constitutes agreement between parties to allocate output from one to another within the registry. The information submitted to the registry could be sufficient documentation of this agreement, or further information may need to be kept outside the registry.

Allocations could be required to be updated in the registry at different points in time, for example:

- on a specific timeframe (e.g. monthly or quarterly)

- within a number of days after generation occurs (e.g. 30 days)

- by the end of the compliance period

- at any time of the retailer's and generator's choosing.

Having the allocations recorded in the registry soon after generation occurs can provide the market with more accurate information about what output is available and what output has been secured by another party. Without a specific timeframe, retailers could hide how much generation is available and potentially understate the emissions intensity of the residual unallocated pool by delaying information being recorded in the registry.

The detailed design will need to identify which party *can* and which party *must* initiate an output allocation to another party. These parties may be retailers, generators, a buyer or a seller. The design also needs to determine when a party has an obligation to initiate an output allocation and in what timeframe a party must respond.

Questions:

- What information should be submitted to the registry to allocate output from one party to another? Should any documentation be required to underpin this agreement?
- Which parties can initiate an output allocation in the registry from another party? Should there be any restrictions on when a party can initiate an allocation?
- Which parties should have an obligation to initiate an output allocation in the registry? What are the circumstances and timeframes within which an allocation must be initiated?
- How long should parties have to approve or reject an output allocation requested by another party?
- Should there be specific cut-offs for when output allocations must be recorded (for example every month or every quarter of a compliance year)?

4. How long should participants be given after the end of a compliance period to record their allocations in the registry?

The high level design paper sets out that participants would record their agreed allocations throughout the compliance year. Retailers would be monitoring their position based on NGERS emissions data from previous compliance years as actual NGERS emissions data is not available until well after the compliance period has ended. NGERS data is reported on a financial year basis and is due to be submitted on the 31 October of the following financial year. The CER is required to publish data by 28 February of the following financial year.

If the dates the CER publishes NGERS data are taken as given and the compliance year were to be over a financial year, then retailers could continue to record output allocations in the registry until 28 February of the following financial year. Then a further period could be available after this date, potentially one, two or three months, where retailers can continue to record allocations to adjust their compliance position for actual data. The period after the compliance year could potentially be reduced if the dates corporations need to report their emissions data and the CER needs to publish them could be brought forward. However, corporations need sufficient time to gather and verify the data they report; and the CER needs sufficient time to review and validate the reported data.

Alternatively, the registry could be based on emissions intensity values that are calculated from the previous year's NGERS data. Mechanisms could be in place for limited circumstances where this is significantly inaccurate – for example, a turbine upgrade or major change in operations. In this case the period for reallocation after the end of compliance period could be relatively short, for example 30 days.

Questions:

- Should the emissions intensity of generators in the registry be based on the NGERS data for the current year or is the previous year's data sufficient in most circumstances?
- If emissions intensities are based on the previous year's NGERS data, what mechanisms are needed to deal with significant changes in emissions intensity?

- If emissions intensities are based on the current year's NGERS data, should the timeframes for reporting and publishing NGERS data be brought forward to help facilitate timely compliance with the Guarantee?
- How long should participants be given after the end of a compliance period to record their allocations in the registry?

5. How would output be automatically allocated within a Corporate Group?

The high level design sets out that all output from generators within a Corporate Group would be aggregated and automatically allocated to retailers within that Corporate Group. The Corporate Group would include the Controlling Corporation and its subsidiaries, and the facilities within their operational control. These concepts are defined under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act).

There are some existing retailers and generators that do not fit neatly into the definition of a Corporate Group and there is the potential for future ownership arrangements that also face this challenge. For example when a retailer is owned by a joint venture, it may not be clear which generators' output should be automatically allocated within the registry.

Questions:

- Are there any circumstances where automatic allocation should be avoided within a Corporate Group? What incentives would this create?
- What, if any, differences in incentives do generators with automatic output allocation face compared to generators without automatic output allocation?
- Should output be apportioned in circumstances where ownership is shared and there is no clear operational control? What are the administrative impacts of doing this?
- What approaches should be considered when automatically allocating output where the ownership of retailers and generators is not clear?
- What are the advantages and disadvantages of different approaches to allocating output where the ownership of retailers and generators is not clear?

6. How is the emissions intensity of the residual (unallocated) generation calculated?

Retailers that do not assign output for any part of their load by the end of the compliance period would be assigned the emissions intensity of the unassigned residual generation. Over a compliance period, retailers would assign generation from the unassigned pool of generation and the relatively more emissions intensive generation may remain unallocated. Many of the coal-fired generators, including some of the most emissions intensive, would already be automatically allocated to retailers within a Corporate Group, but there are some stand-alone generation businesses.

There is a choice about how and when the emissions intensity of the residual pool is determined. The emissions intensity could be fixed from the beginning of a compliance period, or it could be floating over a compliance period – being updated as unallocated generation is assigned to retailers. The emissions intensity could also be locked in from a point after the compliance period has ended but before the AER assesses compliance (for example after a month from when the registry updates for actual NGERS data).

A floating residual creates uncertainty about what the emissions intensity will be, whereas a fixed residual may be too punitive if the actual residual emission intensity is lower than the fixed amount.

Questions:

- What approaches should be considered for determining the emissions intensity of the residual load?
- What are the impacts of the different approaches on the signals to invest and reduce emissions in line with the target, and the ability for participants to contract efficiently?
- What are the impacts of the different approaches on competition and small retailers?
- What are the advantages and disadvantages of different approaches for determining the emissions intensity of the residual load?

7. What happens when allocated output exceeds a retailer's load?

The intention of the registry is that by the end of a compliance year, a retailer's allocated output should match its load. However, during the compliance year, it is possible that a retailer's allocated output exceeds its load. This can happen because of two broad circumstances – when the output automatically allocated within a Corporate Group exceeds a retailer's load, or when a retailer voluntarily assign more output than its load. Retailers should then reallocate production and associated emissions so that their allocated output matches their load.

The National Electricity Law or Rules could include an obligation for a retailer's allocated output to match its load. If a retailer fails to comply with this obligation, the AER may undertake compliance activities – the compliance activities would sit outside the scope of this paper. Instead, the focus of this paper is on what happens to the calculation of the retailer's load and the calculation of the residual within the registry should a retailer not comply.

The broad options for any excess generation that remains above a retailer's load include:

- holding retailers responsible for meeting the emissions target for the excess allocation (which would raise questions about what balancing calculations are necessary within the registry to the residual pool or other retailers that face a shortfall in the allocated amount of their load[1])
- reallocating the excess within the registry to the residual unallocated pool or other retailers with a shortfall of allocated output (which would raise questions about which generation is reallocated).

Questions:

- Should retailers face an obligation to meet the emissions target for allocated generation in excess of their load by the end of a compliance period? If so, what balancing calculations are necessary in the registry?
- Alternatively, should allocated generation in excess of a retailer's load at the end of a compliance period be reallocated? If so where should the excess be reallocated to? Which generation should be reallocated (e.g. the least emissions intensive)?
- What are the implications for transaction costs involved in requiring a retailer to reallocate output once output has exceeded its load?

[1] For example the balancing calculation could be to record the excess as a negative amount of generation the retailer has with the residual pool, which increases the residual pool generation by this excess amount.

8. What data should be accessible in the register?

The level of information available to different parties accessing the registry can influence the effectiveness of the Guarantee. Having more data available to generators and retailers may help parties identify if others are in a position to allocate or re-allocate contracts. On the other hand, revealing data may influence commercial negotiations.

Questions:

- Should the registry operate so that generators and retailers can only see their own data?
- Should retailers be able to see the allocations of other retailers?
- Should retailers be able to see how much of a generator's production has been allocated?
- Should generators be able to see how much of another generator's production has been allocated?
- What, if any, data should be made public, and at what point in time?

9. Should third parties have access to the register?

Parties other than generators and retailers may wish to access the registry. For example, third parties may want access to any information available in the register to inform opportunities for facilitating the contract re-allocation process between retailers and generators. Other parties who are not retailers may wish to have the production of low emissions generators allocated to them via the register, then 'retire' these allocations, in order to take voluntary action to achieve emissions reductions beyond the target.

Questions:

- Should parties that are not generators or retailers be able to access the registry? What are the advantages and disadvantages of allowing access?
- Should allocations of a generator's production be allowed to be 'retired' by any party?

Interdependencies with other elements of the Guarantee

- Treatment of exempt load
- Penalties
- Compliance
- Flexible compliance options
- Calculation of load