

NEMW CONSULTATIVE FORUM

FOR NOTING	
SUBJECT:	NEM POWER STATION EMISSION INTENSITIES – UPDATED IMPACT ASSESSMENT
AGENDA ITEM:	
PAPER#:	
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1. EXECUTIVE SUMMARY

AEMO is required by the National Electricity Rules (NER) to calculate the Carbon Dioxide Equivalent Intensity Index (CDEII) using emission data that is publicly available and from a reliable source¹. The CDEII is an independent index that measures the average intensity of generator emissions in the National Electricity Market (NEM).

On 28 February 2014, the Clean Energy Regulator (CER) published the first facility-level emission data through the National Greenhouse and Energy Reporting (NGER) scheme. This data, relating to the 2012-13 financial year, has allowed AEMO to more accurately calculate the CDEII. To date, AEMO has relied on consultant estimates of emission data to calculate the CDEII, and in energy planning.

AEMO has now completed an impact assessment of the 2012-13 NGER data. Using this data, the CDEII result is an average of 2.5% higher than the current CDEII over that period. AEMO published the first impact assessment in January 2014 for 2011-12 which showed that the CDEII would have been 2.2% higher if recalculated using NGER data.

AEMO will use NGER data from 1 June 2014 to calculate the CDEII and in energy planning.

2. PURPOSE

The purpose of this paper is to:

- Provide the results of a CDEII impact assessment using 2012-13 NGER data.
- Confirm the next steps for integrating NGER data into AEMO's planning studies, and calculation of the CDEII.

3. BACKGROUND

AEMO currently relies on consultant estimates for greenhouse gas emissions data. This data is used for planning studies and calculating the CDEII.

NEM participants and other parties (such as large industrial customers and financial intermediaries) use the CDEII to calculate carbon pass-through costs in hedging and customer contracts.

¹ NER clause 3.13.14(l)(2)

In July 2012, the NGER legislation was amended to enable greenhouse gas emissions and energy production data to be released for each generating facility.

In September 2013, a paper on this topic was presented to the NEM Wholesale-Consultative Forum (NEMW-CF) where AEMO undertook to produce an impact assessment of the CDEII using 2011-12 NGER data.

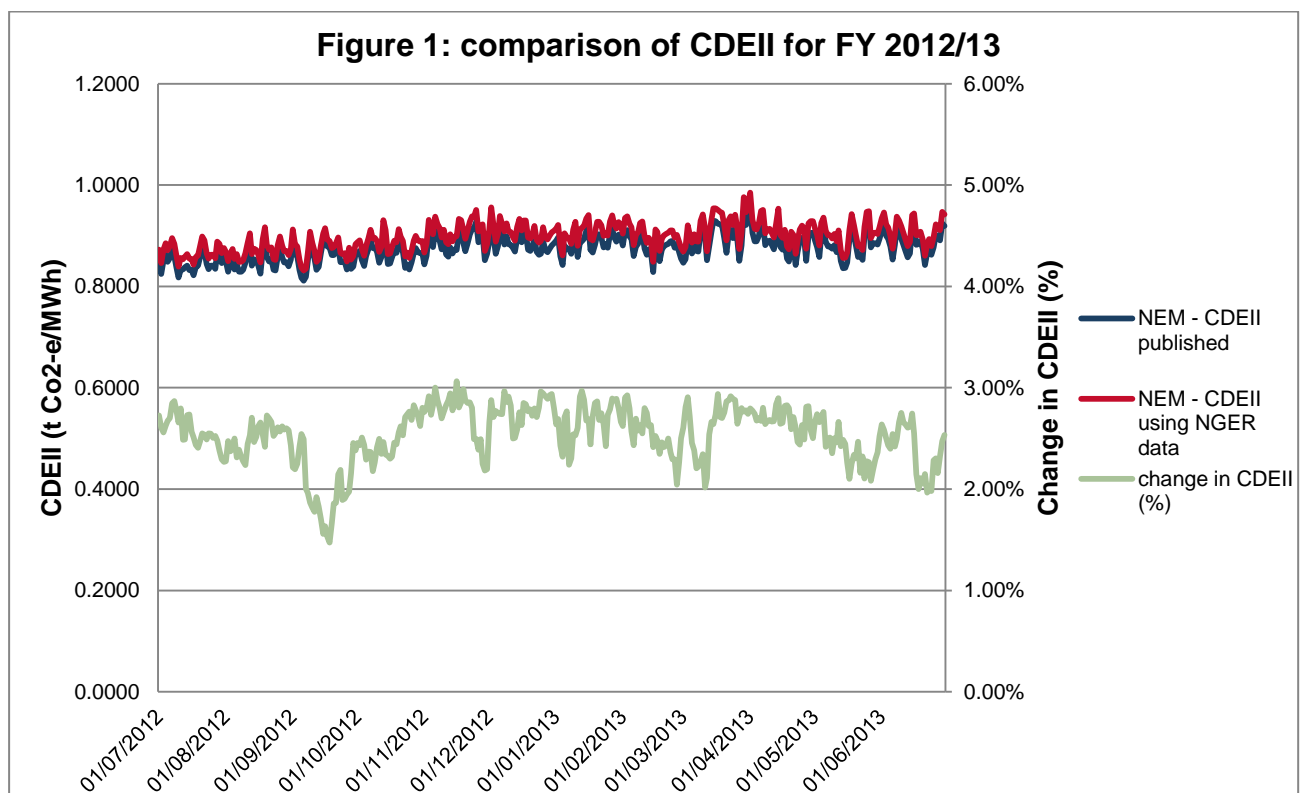
In January 2014, AEMO published an initial impact assessment showing that the CDEII would have been on average 2.2% higher during this period.²

4. DISCUSSION

4.1. Re-calculation of the CDEII using NGER 2012-13 data

Following the public release of facility-level NGER data for 2012-13 on 28 February 2014, AEMO engaged an external consultant (ACIL Allen) to review the NGER data and provide an updated set of emission intensity factors for individual generators.

AEMO has subsequently completed a new impact assessment using ACIL Allen's draft emission intensity factors. Figure 1 compares the published CDEII outcomes (blue line) with those using the NGER data (red line) over 12 months. The green line shows the daily percentage increase in CDEII, which is a 2.5% average increase in the CDEII for 2012-13.



4.2. Next steps

Next steps to implement the new data source include:

- On 23 May 2014, publish the reviewed dataset for planning studies, which includes emissions factors based on the facility-level NGER data for the 2012-13 period.

² NEM Power Station Emission Intensities paper can be accessed from the following link:
<http://www.aemo.com.au/Electricity/Settlements/Carbon-Dioxide-Equivalent-Intensity-Index>

- By 31 May 2014, load the updated emission factors for use in the CDEII from 1 June 2014. The CDEII will then be published with the integrated NGER data on 16 June 2014 with the NEM Preliminary Settlement for week 23 (which will include 1 June 2014).

5. RISKS / FINANCIALS

Any change in the CDEII will have the potential to create financial winners and losers. However, AEMO believes this is the most appropriate approach as AEMO's National Electricity Rules (NER) obligations require that it update the emission factors used in the CDEII if new data becomes publicly available from a reliable source.

The current impact assessment result using NGER data identified an average 2.5% increase in the CDEII for the 2012-13 period. An increase of around this level is expected to be observed in the CDEII from June 2014 onwards. However the CDEII exhibits fluctuations of up to $\pm 6\%$ on daily basis, so any increase is unlikely to be observed as an immediate step change.

If the carbon price repeal legislation proposed by the Australian Government is passed after July 2014 and leads to a change in the generation mix, this could in turn lead to a further increase in the CDEII above the expected impact of the change to emission factors.

6. RECOMMENDATIONS

It is recommended that the NEMW-CF note the:

- Results of the 2012-13 impact assessment associated with changing the data source for the CDEII.
- Next steps for integrating the NGER data into AEMO's planning studies, and calculation of the CDEII.

