

CARBON DIOXIDE EQUIVALENT INTENSITY INDEX

November 2014 information update

The Carbon Dioxide Equivalent Intensity Index (CDEII) is an important operational index used for the settlement of financial contracts in the electricity industry. AEMO has become aware of interest following the repeal of the carbon price on 1 July 2014 in using the index to quantify changes in the level of emissions. However this is not its intended application, and there are a number of factors that must be considered when using the CDEII to measure changes in emissions over time.

This update provides guidance on the structure and application of the CDEII, and should be read in conjunction with the [CDEII Procedure](#).

What is the Carbon Dioxide Equivalent Intensity Index?

The Carbon Dioxide Equivalent Intensity Index (CDEII) is published by the Australian Energy Market Operator (AEMO) in accordance with obligations set out in the National Electricity Rules.¹

The purpose of the CDEII is to be used as an input into the settlement of over-the-counter (OTC) hedge contracts between electricity market participants.

It is an estimate of the average level of emissions across the National Electricity Market (NEM) at a point in time, based on the energy output from electricity generation registered with AEMO and the best available information at the time in relation to generating plant emission factors.

What emission factors are used for individual electricity generators?

AEMO uses an emission factor for each market or scheduled generator based on publicly-available information.

Prior to June 2014, AEMO used emission factors that were independently provided by ACIL Tasman as an input to the National Transmission Network Development Plan (NTNDP). This data is based on ACIL Tasman's estimate of generator emissions, based on publicly-available information, and an understanding of different generation technology and fuel sources.

From June 2014 onwards, AEMO uses emission factors that are published by the Clean Energy Regulator as part of the National Greenhouse and Energy Reporting (NGER) scheme. This emissions information is the definitive source in Australia, captured through a formal reporting and quality assurance process.

AEMO will continue to review the emission factors each year.

What was the impact of the change in emission factors?

AEMO conducted an [impact assessment](#) that estimated the CDEII would have been 2.5% higher using NGER data. This suggests that the change to using NGER data from June 2014 onwards is likely to result in an increase in the CDEII that is unrelated to any change in actual emissions.

When comparing the emissions before and after June 2014, it is important to understand the change in emission factors as this will impact such analyses.

Emission factors will also change each year, and so performing an analysis of emissions over time will be impacted by the changes.

¹ National Electricity Rules, clause 3.13.14. Available at: <http://www.aemc.gov.au/energy-rules/national-electricity-rules/current-rules>.

What other factors should be considered when using the CDEII?

The CDEII only reflects emissions from generators that are registered as market or scheduled with AEMO. Non-market non-scheduled generation, as well as generation under Small Generation Aggregators (SGA), are not included in the calculation.

The NEM does not include Western Australia and the Northern Territory, and so the CDEII does not reflect overall emissions from electricity generation in Australia.