NSW EPA Guide for Large Emitters – information for agricultural proponents

The *NSW Guide for Large Emitters* sets out the climate change related information the EPA expects to see in a proponent's environmental impact assessment when they are seeking planning approval or a change to an existing planning approval for a project that is likely to result in an **additional** 25,000 tonnes (scope 1 and 2) of carbon dioxide equivalent (CO_2-e) or more being emitted per year.

This fact sheet provides additional information about how the guide applies to the agricultural industry. It is intended to help the industry identify, estimate and mitigate relevant greenhouse gas (GHG) sources.

The EPA may take a more flexible approach when applying the guide. We encourage agricultural proponents to contact the EPA if they are having challenges meeting the requirements set out in the guide.

Overview

Agricultural emissions include methane, carbon dioxide and nitrous oxide from livestock, crops, horticulture and fish production, agricultural soils and the inputs related to these activities. The greatest source of GHG emissions in agriculture is enteric methane emissions from ruminant animals. These animals are predominantly kept on grazing land, which is not regulated by the EPA. However, the EPA does license emissions from livestock-intensive activities (e.g. feedlots). The licensing thresholds for these and other agricultural activities (and activity definitions) are set out in Schedule 1 of the *Protection of the Environment Operations Act 1997*.

GHG emissions for the agricultural sector

The GHG emission types that will need to be addressed for a specific proposal vary depending on the industry and nature of the proposal. Agricultural proponents may find information on the Department of Primary Industries and Regional Development (DPIRD) website useful for understanding GHG emissions.

The *NSW Guide for Large Emitters* refers to scope 1, scope 2 and scope 3 GHG emissions. These are defined in Australia's *National Greenhouse Accounts Factors* reports. How they apply to agriculture and livestock management is described below.

- **Scope 1**: Direct emissions are those generated within the proponent's boundary. They include livestock emissions, emissions from the use of fuel, and emissions from on-farm feed production. The relevant scope 1 GHG emissions sources associated with agricultural production are identified in Chapter 5 of the Australian National Greenhouse Gas Inventory and include enteric fermentation, manure management, rice cultivation, agricultural soils, prescribed burning of

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savannas, field burning of agricultural residues, liming, and urea application.[1] The results from these calculations are used to report Australia's GHG emissions to the United Nations Framework Convention on Climate Change.

- Scope 2: Indirect emissions are those generated outside the proponent's boundary e.g. outsourced energy use, including purchased electricity from the grid. Scope 2 GHG emissions can be sourced from the most recent National Greenhouse Accounts Factors report.
- Scope 3: Indirect upstream and downstream emissions. These should be sourced from suppliers or robust databases (e.g. the Australian Life Cycle Inventory database):
  - Upstream emissions are those from third parties that directly relate to the proponent, such as purchased inputs including emissions from purchased livestock, the production of feed and supplements, fertiliser and chemicals, and extraction of fossil fuel for electricity and fuel.
  - Downstream emissions (post-farmgate) are those associated with the processing, consumption and disposal of the agricultural commodity. These are excluded for assessments of agricultural commodities in this framework.

The calculations contained in the National Greenhouse Gas Inventory should be used to estimate the GHG emissions from an agricultural facility.

Mitigation measures

The guide requires proponents to identify practical mitigation measures that can reduce their GHG emissions. All proponents need to describe mitigation techniques that they propose to use to reduce their emissions. For the agricultural industry, this may include reducing emissions from livestock production as well as fuel, fertiliser and electricity use and manure management. Guidance about opportunities to reduce emissions is available on the DPIRD website *Abatement Opportunities in Agriculture* and at tools for calculating emissions. Also see resources listed at the end of this fact sheet.

We recognise that there may be limited mitigation options that can be applied to ruminant enteric fermentation emissions from cattle and sheep. DPIRD can provide assistance, guidance and tools to assist agricultural proponents to develop emissions management strategies for these emissions (see *On-farm Carbon Advice Project*).

[1] However, some of these activities are not regulated via an environment protection licence. For example, in-situ burning of agricultural resides may be regulated via generic requirements or considerations specified in the Protection of the Environment (Clean Air) Regulation 2022. More information about agricultural premises the EPA regulates via a licence is available at https://www.epa.nsw.gov.au/your-environment/climate-change/survey/results.

How many animals would trigger the threshold for the Large Emitters Guide?

It is difficult to provide clear indicators about when an agricultural premises would be expected to emit more than 25,000 tonnes per year of CO_2-e and when the large emitters guide needs to be addressed. It will depend on many factors, including:

- the type of animal and the feed
- the nature of the business – for example, whether the animals are housed at the premises for most of their life (e.g. dairy cattle), or for shorter periods (e.g. feedlots)
- electricity use and the source of that energy
- fuel usage
- manure and effluent management practices.

However, the following types of premises are likely to be approaching or exceeding the 25,000 tonnes per year of CO_2-e (at which the Guide applies) at the following stocking capacities:

- cattle feedlots – 20,000 head of cattle
- dairy facilities – 5,500 head of dairy cattle
- piggeries – 40,000 standard pig units/4,000 sows.

At these levels, we anticipate that the combined annual scope 1 and 2 greenhouse gas emissions will generally exceed (or be approaching) the large emitter threshold. However, some operations may trigger the threshold at lower stocking rates (or conversely, at higher rates), depending on energy and fuel use, the design of the facility and operating practices. Where these rates are approached or exceeded, proponents are advised to estimate their projects' emissions.

Other resources

Emissions calculation tools for primary producers are also available at:

- Department of Primary Industries – links and resources
- the Agricultural Innovation Australia (AIA) Environmental Accounting Platform
- the Greenhouse Accounting Framework for Australian Primary Industries.

The EPA website has information about NSW government projects and support for the agricultural sector.