

Question 1: Regional Digital Connectivity Program

Mr PHILLIP DONATO: Ms Lorimer-Ward, earlier you said in your address when you were asked a question in relation to the conductivity issue about the \$400 million Regional Connectivity Program, which is a State-facilitated program. As I understand it, it was announced around or just before the last election in 2019. Do you know how much of that money has been spent so far?

The \$400 million Regional Digital Connectivity program is fully funded and includes the Gig State project to improve internet speeds and quality such as upgrading communities in remote, rural and regional NSW on a satellite internet service, and the Mobile Coverage project to invest in infrastructure, emerging technologies, and services to deliver improved mobile phone coverage in regional NSW.

In addition to this, \$48 million has been added for the expanded Farms of the Future Program to encourage farmers to adopt on-farm technology to boost productivity and resource management; enhancing farmers' ability to compete with producers around the world. The Farms of the Future program currently has an EOI out to market for technology suppliers to be part of the ag tech catalogue ahead of a grants program that is expected to commence in early 2023.

Question 2: Carbon neutrality for primary industries

Mr CLAYTON BARR: But it's not quite the same, Chair. I understand the professor sort of touched on carbon neutrality briefly. He indicated that there's probably a lot more to learn. I'm not sure if this is a question for DPI or the experts online. Where are we at with carbon neutrality? How practical is it going to be? How much more advancement in technology do we need and is it close? Are we getting where we need to be or is it sort of still a way off?

DPI Research in Carbon Opportunities

NSW DPI has a strong history of fundamental and applied research on emissions reduction and carbon sequestration in the primary industries sector and has more recently has engaged farmers in clean energy and energy efficiency programs.

Current focus areas include programs in:

- Livestock emissions - reducing enteric methane through feed additives, livestock breeding, pasture improvement and grazing management
- Soils - soil carbon management; management of nitrous oxide emissions; use of biochar
- Fisheries - blue carbon opportunities in kelp and seagrass forests, propagation, and genetic improvement for a range of algae
- Forestry - greenhouse gas accounting for production forest systems and wood products including bioenergy
- Energy - the feasibility of technologies, practices and business models to reduce farmers' energy use, operating costs and emissions, and improve on-farm energy security and energy productivity.

There is a substantial collection of information available on DPI's website on carbon and emissions in agriculture. Please see link below:

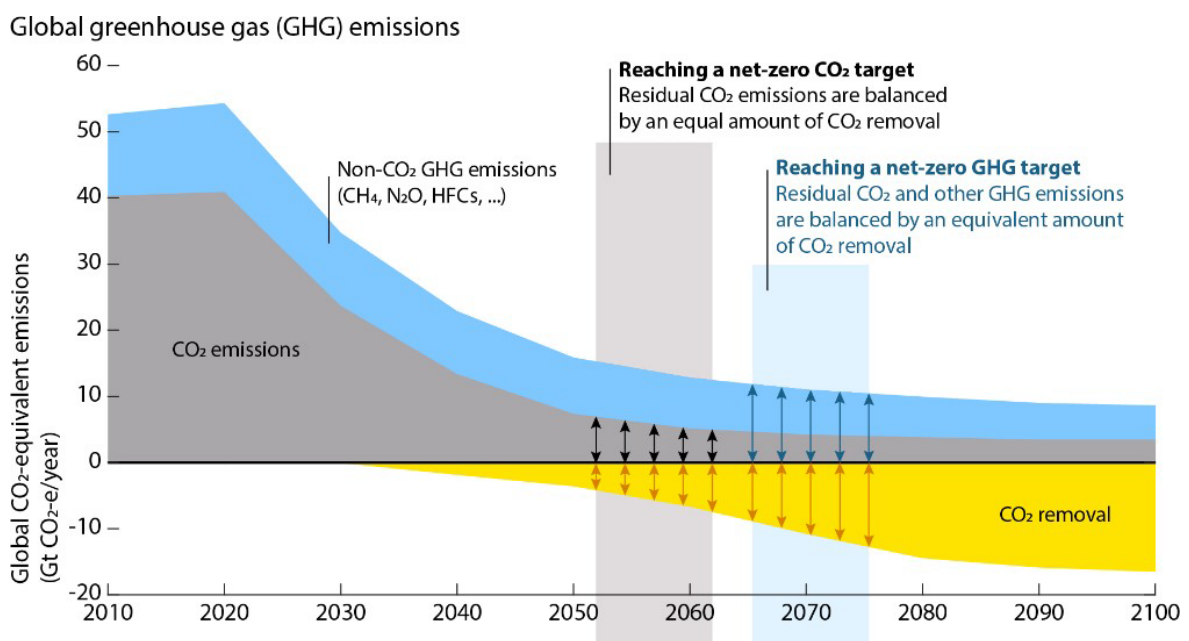
<https://www.dpi.nsw.gov.au/dpi/climate/Carbon-and-emissions>

Carbon neutrality – what does it mean?

Carbon neutrality refers to the production of products without increasing the atmospheric concentration of GHG. This can be done by offsetting emissions of GHG from production with the sequestration of carbon from the atmosphere. Sequestering carbon from the atmosphere can occur via activities such as revegetating areas, increasing soil organic carbon or locking up C in organic products as biochar.

A target of carbon-neutrality can be applied to any geographic scale be it a farm, state or country, or can be applied to a specific industry. For example, Meat and Livestock have a goal for the red meat industry to be carbon neutral by 2030.

Sequestering carbon in the landscape to become carbon-neutral may not be a long-term solution to climate change because the area of land that can be used to sequester carbon the atmosphere is limited, as is the amount of carbon that can be stored per hectare. Hence, it is critical to also undertake emissions reductions while also sequestering carbon out of the atmosphere.



(Source: [Illustrative pathway for reaching net-zero carbon dioxide and net-zero GHG emissions](#))

Progress towards net zero emissions

Information from the NSW State of the Environment Report (EPA). Details can be found here: <https://www.soe.epa.nsw.gov.au/all-themes/climate-and-air/greenhouse-gas-emissions#nsw-greenhouse-gas-emissions-status-and-trends>

NSW Emissions

In financial year 2018–19, NSW net greenhouse gas emissions were 136.6 Mt CO₂-e, which was 17.2% lower than 2005 levels (DISER 2021f).

Agricultural emissions

Agricultural emissions accounted for 16.3 Mt CO₂-e in 2018–19. This was 12% of NSW emissions and 26% lower than 2005 levels.

Emissions from agriculture generally vary from year to year due to the influence of drought on livestock numbers and crop production. Cattle and sheep production accounted for over three-quarters of NSW agriculture emissions in 2019, mainly due to the methane generated as these ruminant animals digest their food. This enteric fermentation will remain the major source of agricultural emissions to 2030, with emissions projected to grow in the near term as the state recovers from drought.

Although current policies will address agricultural emissions, they are projected to persist with the sector accounting for a greater proportion (19%) of NSW emissions by 2029–30 due to reductions in the contributions of other sectors, notably electricity generation.

Future abatement opportunities in agriculture

NSW DPI has undertaken an analysis to better quantify abatement opportunities from the agricultural sector in NSW. Actions that take up and store carbon in vegetation and soil and reduce greenhouse gases create environmental benefits and can contribute to regional economic growth. Adoption of these mitigation strategies will enable the NSW primary industries sector to make a strong contribution to the NSW target of 50% reduction in emissions by 2030 and net zero emission by 2050. Link to the report is below:

<https://www.dpi.nsw.gov.au/dpi/climate/Carbon-and-emissions/abatement-opportunities-in-agriculture>