ZERONews

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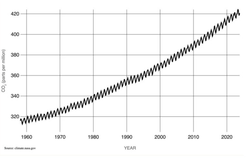
AgZero2030 is committed to supporting the WA Agriculture sector to be part of the climate solution by targeting carbon neutrality by 2030, sharing stories of the diverse range of profitable climate-smart practises and actively contributing to improved climate and carbon literacy and education. AgZero2030 also aims to contribute to and promote good climate policy.

CO_2 Levels

November 2023

420ppm



Merry Christmas & Happy New Year!

On behalf of the AgZero2030 working group, we would like wish you a happy and relaxing Christmas!
We look forward to seeing you and working with you in 2024.

Technologies to reduce WA greenhouse gas emissions

The clean energy transition has been described as our "greatest challenge" at a workshop hosted by the Australian Academy of Science at Curtin University in October.

AgZero2030 chair Simon Wallwork joined Emeritus Professor Stephen Powles, WA chair of the Academy, as well as Academy Fellows, leading researchers, policymakers, and representatives from the private sector to discuss technologies to reduce WA's emissions toward zero.

The event aimed to inspire positive change and offer valuable insights into achieving carbon neutrality, with speakers discussing current developments and innovative solutions in the field.

The workshop was opened by Darren West, Parliamentary Secretary to the Environment Minister, who emphasised the urgency of the clean energy transition and highlighted the State Government's Sectoral Emissions Reduction Strategy, which involves collaboration with businesses and investments in green technologies like battery technology.

A wide range of speakers covered a vast variety of topics many topics, with just a small handful covered below.

Professor Malcom McCulloch – ARC Laureate Fellow
China is now the largest emitter globally, contributing 30 per cent of total emissions, while India's emissions are rapidly increasing.

Land and oceans serve as significant CO2 sinks, and the emission gradient between the northern and southern hemispheres is expanding.

The global carbon cycle currently appears stable, with a consistent land-to-ocean CO2 ratio, though approximately 44 per cent of total emissions remain in the atmosphere.

Notably, Australia's Black Summer bushfires emitted double the country's annual emissions, while COVID-19 induced a temporary reduction in emissions.

Recent observations signal concern, as Earth's average temperature surpasses historical records, with land warming twice as fast as the ocean, heightening fire risks, especially in the Arctic where the tundra warms at an accelerated rate.

Professor Kliti Grice – ARC Laureate Fellow, Curtin University
A study on the deep-time climate changes spanning 600 million years identified five major extinction events, and these historical events, such as the Triassic Extinction, offer insights into current global warming.

For instance, the early Triassic period, characterised by temperatures six degrees hotter than today and the absence of ice caps, is not unique and has occurred at other times.

The Paleocene-Eocene epoch, marked by a thermal maximum 56-66 million years ago, experienced a slower temperature change compared to the current rate, driven by increased CO2 levels and methane release from marine gas hydrate reservoirs, leading to a significant extinction event.

Despite varied causes of past climate changes, such as meteorite impacts or tectonic movements, these historical events provide a basis for comparing and understanding the impact of contemporary global warming.

Dr Linda Stalker – Senior Principal Research Scientist, CSIRO
Carbon capture and storage (CCS) encompasses two types: industrial capture and direct air capture, playing a crucial role in achieving the carbon neutral 2050 goals by swiftly mitigating substantial CO2 levels.

As the cost of direct air capture (ACCUS) rises, it becomes a stronger rationale for embracing CCS, aided by the federal government's safeguard mechanism.

Despite Australia's considerable potential for CCS at 227 gigatonnes of CO2 equivalent, challenges arise from the mismatch between emission sources and suitable geological sinks, emphasising the necessity to cluster CCS projects for shared facilities among emitters. Currently, various industries in Australia are actively exploring CCS, with numerous feasibility studies in progress.

READ THE FULL SUMMARY FROM ALL SPEAKERS

Attendees at the workshop to discuss how science and technology can help to reduce WA's greenhouse gas emissions towards zero.

AgZero in 2023 - reflecting on the past year

In 2023, AgZero2030 had a busy year, taking part in events such as "Primary Industries in the Energy Transition: Market Incentives" and "Navigating Decarbonisation in Agriculture and Rural Communities."

The organisation actively participated in appeals, submissions, and consultations related to the State Government Climate Bill and the Federal Government Agriculture and Land Sectoral Plan.

We enlisted Shannon Beattie for communication support, collaboratively developing a communication strategy to help us achieve our goals.

Looking ahead. AgZero2030 plans to organise an event in mid-2024 on "just transition agriculture," focusing on the opportunities for agriculture and communities in the context of the energy transition.

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