

WORLD
ENERGY
COUNCIL

BusinessNZ
Energy Council

COP28: RECAP

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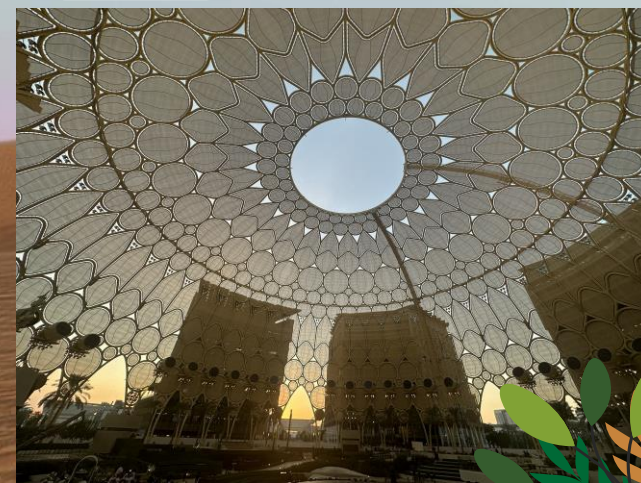
01

IMPRESSIONS



WHO
WHAT
WHY







02

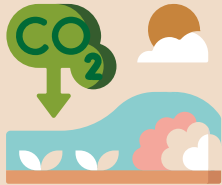
OUTCOMES



Global Stocktake

Fossil Fuels

Mentioned for the first time in text



Role of Business

text highlights important role of business in transition

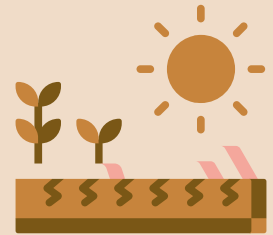


Removal Technologies

Including CCUS

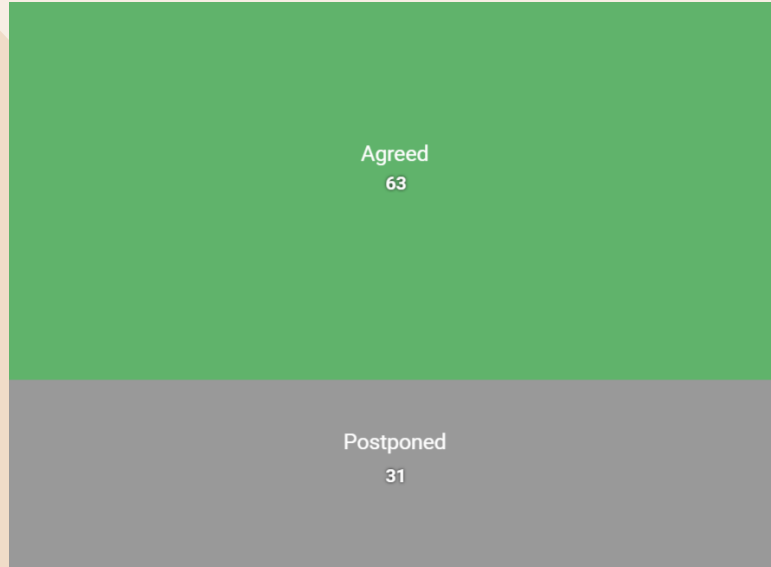
Renewable Energies

Including Nuclear



Status of COP28 negotiation

Number of Agreed Agenda Items



5 Pledges stood out

Triple Renewable Energy & Double Efficiency by 2030

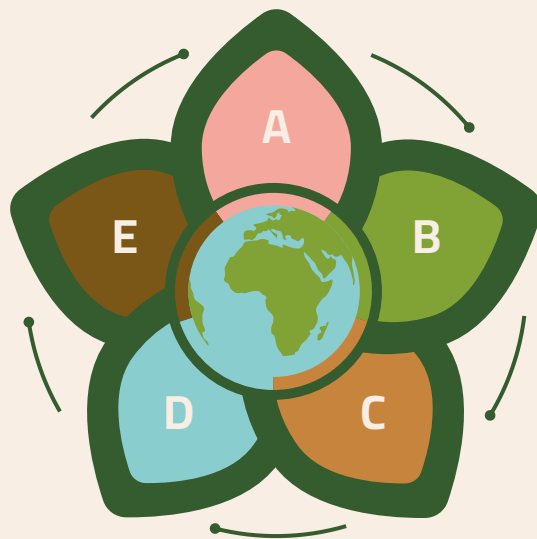
Endorsed by 130 Countries including New Zealand

Oil and Gas Decarbonization Charter

Endorsed by 52 Major Oil and Gas Companies

Declaration to Triple Nuclear Energy

Endorsed by 22 Countries



Responsible Deployment of Renewables-Based Hydrogen

Endorsed by 59 companies

Certification Schemes for renewable and low-carbon hydrogen

Endorsed by 37 Countries including New Zealand

03 SUPPRISES





PROGRESS IN CLEAN ENERGY

- **Geothermal** discussed often in the context of electricity generation, heat and eMethanol. Google launched its new target to focus on generation such as geothermal. There is a huge potential to attract investment to New Zealand.
- **Hydrogen, Green Methanol and SAF** key topics at COP28. Work more advanced than expected.
- **Offshore Wind** predominantly featured under the campaign to triple renewable energy capacity by 2030, with wind having to contribute 1/5 of the global electricity demand.
- **Low carbon concrete and green steel** supply and demand is growing. More companies providing clean alternatives now cost-competitive additional to a 50% carbon emission reduction, using existing production facilities with minor modification (example CarbonCure)



HYDROGEN



- Announced hydrogen projects growing from 700 in 2022 to 1,400 in 2023, representing \$570 billion investments through to 2030 (300GW), around 6% will be used for eSAF
 - This is despite increased production costs (increased by 30-65% or \$4.5-6.5kg)
 - Current installed 1GW, 12GW reaching FID, China leading the way (50% of global capacity)
- Hydrogen demand concentrated in industry & refining, < 0.1% coming from new applications
 - 300GW/\$570billion announced projects won't be enough, another \$430 billion worth in projects are needed to meet the IEA's net-zero scenario by 2030
- ~ 40 Countries have introduced hydrogen strategies, roadmaps, incentives, & industrial policies
 - Governments focusing on hydrogen for green steel (7-9% global emissions, equivalent to India). Replacing of all Europe's kit would cost \$130b
 - International trade is important but progress is slow, with 50 terminals announced

SAF

- Aviation accounts for 2% global emissions, global fleet needs to double to keep up with demand by 2050
- SAF can reduce the aviation sector's carbon footprint by up to 80%
- 490,000 flights using SAF in 2023. However, SAF represents only 0.2% of all global jet fuel
- Boeing committed to all planes capable to run on 100% SAF by 2030. Airbus and Lufthansa are strong advocates, with Lufthansa already using ~20% in Business Class
- EU's new aviation fuel mandate (2% in 2025, increasing to 70% by 2050) is sparking significant interest in production expansion and supply contracts.
 - In 2026 EU will start phasing out free emissions allowances for carriers under its ETS
- However, rolling out SAF in EU alone requires ~ €820bn (2018 prices) + €1.1trn required for BAU
 - Companies like Neste simply can't scale fast enough, with more producers entering the market (BP, ENI, Total Energy, Valero, ...) challenges include available feedstock & limited financial capability, this is where E-SAF can play a role
- SAF could provide NZ with new export opportunities & add positively to energy security



Green Methanol

- Shipping accounts for ~ 3% of global emission
- green methanol emerges in the shipping industry, 65-90% lower in emissions than conventional methanol
 - ~ 80 green methanol projects have been announced, examples mentioned at COP28, EU Commission, Breakthrough Energy, & European Investment Bank announced to support EU's largest e-methanol plant for shipping (Ørsted's FlagshipONE), Maersk launched first methanol dual-fueled feeder vessel in 2023, another 14 vessels are planned by the end of 2025, MethaShip project in Germany, focusing on methanol powered cruise ships and ferries, and there is also the SUMMETH and GreenPilot projects in Sweden
- green methanol production currently sits at ~ 1mt & is expected to reach 8mt by 2027
 - premium eMethanol is still 3 to 4 times more than conventional methanol
- EU emission reduction targets for shipping will be impactful (6% by 2030, 31% by 2040, 62% by 2045)
- While the challenge of scaling up green methanol is significant, countries like NZ might have a competitive advantage (highly renewable electricity grid, already existing methanol infrastructure)



04

Impact on NZ





New Zealand's Climate Commitments

New Zealand has taken significant steps in various areas:

- mitigation, adaptation, and addressing loss and damage.
- NZ's ambitious NDC is set to reduce net GHG emissions by 50% below 2005 levels by 2030

Focus Areas for New Zealand

The new government is committed to achieving its target by addressing emissions drivers and collaborating with the private sector:

- Resilient infrastructure, renewable energy, and low-carbon fuels.
- Innovations to reduce agricultural emissions and capture carbon.

Climate Adaptation and Collaboration

- New Zealand will equally focus on adaptation and mitigation.
- Collaboration with Pacific neighbors is a priority.
- Mobilising financing, scaling up research, and ensuring food security are key.





THANKS!

Do you have any questions?

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