



ANGVA2U Info 18/2021. 22nd November 2021 (for ANGVA members only)

ANGVA2U Info aims to share information, data, and news related to low and net zero carbon fuels with ANGVA members. However, these information, data, and news are collected and shared in good faith, without any guarantee of accuracies. Members are advised to use these information and data prudently and at their own risks.

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1.0 Selected News / Articles

1.1 United Kingdom

COP26: What was agreed at the Glasgow climate conference?

17th November 2021.

A new global agreement - the Glasgow Climate Pact - was reached at the COP26 summit.

It aims to reduce the worst impacts of climate change - but some leaders and campaigners say it does not go far enough.

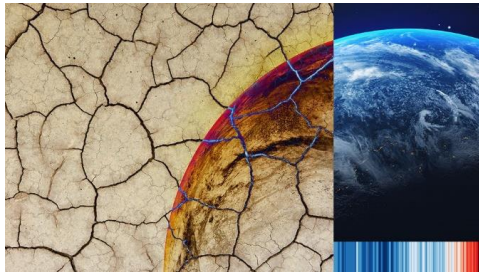


Image from Getty Images. Climate stripes visualisation courtesy of Prof Ed Hawkins and University of Reading.

What was in the COP26 agreement?

The agreement - although not legally binding - will set the global agenda on climate change for the next decade:

Emissions

It was agreed countries will meet next year to pledge further cuts to emissions of carbon dioxide (CO₂) - a **greenhouse gas which causes climate change**.

This is to try to keep temperature rises within 1.5C - which scientists say is required to prevent a "climate catastrophe". Current pledges, if met, will only limit global warming to about 2.4C.

Coal

For the first time at a COP conference, there was an explicit plan to reduce use of coal - which is responsible for 40% of annual CO₂ emissions.

However, countries only agreed a weaker commitment to "phase down" rather than "phase out" coal after a late intervention by China and India.

Developing countries

The agreement pledged to significantly increase money to help poor countries cope with the effects of climate change and make the switch to clean energy.

There's also the prospect of a trillion dollar a year fund from 2025 - after a previous pledge for richer countries to provide \$100bn (£72bn) a year by 2020 was missed.

While some observers say the COP26 agreement represented the "start of a breakthrough", some African and Latin American countries felt not enough progress was made.

Fossil fuel subsidies

World leaders agreed to phase-out subsidies that artificially lower the price of coal, oil, or natural gas.

However, no firm dates have been set.

What else was agreed in Glasgow?

A flurry of other announcements were made:

US-China agreement

The world's biggest CO2 emitters, the US and China, **pledged to cooperate more over the next decade** in areas including methane emissions and the switch to clean energy.

China has previously been reluctant to tackle domestic coal emissions - so this was seen as recognising the need for urgent action.

Trees

Leaders from more than 100 countries - with about 85% of the world's forests - **promised to stop deforestation** by 2030.

This is seen as vital, as trees absorb vast amounts of CO2.

Similar initiatives **haven't stopped deforestation**, but this one's better funded. However, it's unclear how the pledge will be policed.

Methane

A **scheme to cut 30% of methane emissions by 2030** was agreed by more than 100 countries.

Methane is currently responsible for a third of human-generated warming.

The big emitters China, Russia and India haven't joined - but it's hoped they will later.

Money

Financial organisations controlling \$130tn **agreed to back "clean" technology**, such as renewable energy, and direct finance away from fossil fuel-burning industries.

The initiative is an attempt to involve private companies in meeting net zero targets.

However, some environmental organisations have said without a greater commitment to ending support for fossil-fuels, this could be little more than a PR exercise.

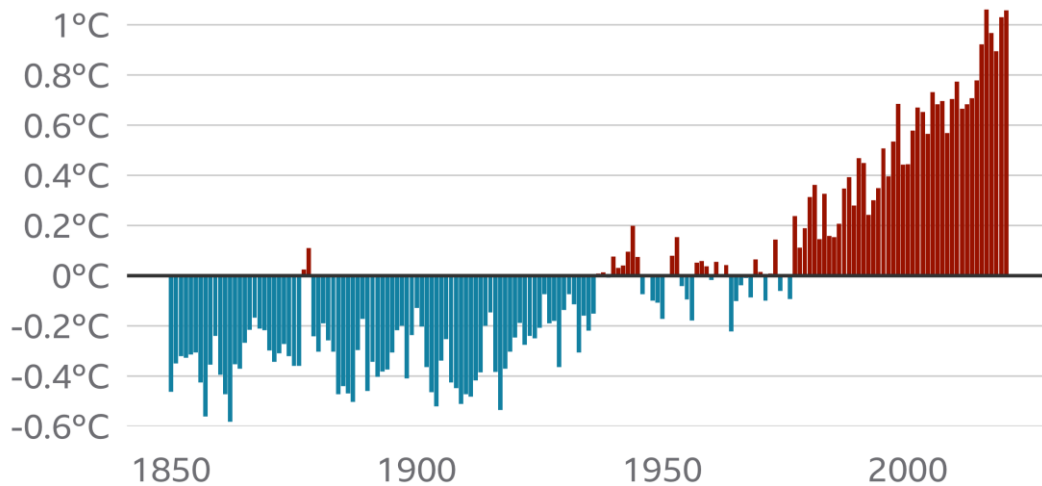
How will countries be made to meet their pledges?

Most commitments made at COP will have to be self-policed.

Only a few countries are making their pledges legally binding.

The world is getting warmer

Annual mean land and ocean temperature above or below average, 1850 to 2020



Note: Average calculated from 1951 to 1980 data

Source: University of California Berkeley



What was COP26 and why was it necessary?

COP26 was the moment countries revisited climate pledges made under the 2015 **Paris Agreement**.

Six years ago, countries were asked to make changes to keep global warming "well below" 2C - and to try to aim for 1.5C.

COP stands for "Conference of the Parties", and the one in Glasgow was the 26th annual summit. Ahead of it, 200 countries were asked for their plans to cut emissions by 2030.

The goal is to keep cutting emissions until they reach **net zero** by mid-century.

Next year's COP27 summit is in Egypt.

Source: <https://www.bbc.com/news/science-environment-56901261>

1.2 India

Going Green: Kolkata to Have Over 1,000 CNG Buses Soon; EV Charging Stations to Come Up

11th November 2021.



West Bengal Transport minister Firhad Hakim had recently said that Kolkata will have only e-vehicles and CNG vehicles by 2030

As global warming intensifies around the world and climate change keeps accelerating, most countries are planning to build green cities. West Bengal, Kolkata, is no exception. For the last several years, the state government has been trying to make

Kolkata, Bidhannagar, Rajarhat and New Town eco-friendly cities.

West Bengal Transport minister Firhad Hakim recently in an event said that Kolkata will have only e-vehicles and CNG vehicles by 2030. “Since 2011, plans have been made to create a smart city, a green city in the state. The city has long had an eco-friendly tram and an underground metro. Plans are there to launch electric buses. Already 300 government buses in Kolkata have been converted to CNG. More than 1,000 CNG buses will be launched soon.”

Newtown has already been identified as a Green City. The state government has made every effort to make the entire New Town eco-friendly. Solar panels, separate bicycle tracks, public bicycle sharing systems, green buildings, electric charging stations are also being constructed.

In the coming days in Kolkata, with the help of CESC, there will be electric vehicle charging stations at different places, where e-vehicles will be able to charge.

Hakim said that plans have been made to build Kolkata and New Town model cities for other cities in the state to follow. Top officials of the Bengal Chamber of Commerce and Industry (BCCI) said that the chamber of commerce would extend all possible assistance to the state government in the future.

Source: <https://www.news18.com/news/india/going-green-kolkata-to-have-over-1000-cng-buses-soon-ev-charging-stations-to-come-up-4432241.html>

1.3 India

Govt aims to set up 1,000 LNG stations in next three years

16th November 2021. By Vikas Srivastava



Automobile manufacturers have shown interest in manufacturing LNG-compliant vehicles to ride the benefits of efficiency and lower emissions, Tarun Kapoor, Union petroleum secretary, told FE.

LNG trucks/ buses have a fuel carrying capacity that is 2.5 times of CNG trucks/ buses and can travel around 700 km in one refill, according to experts.

The ministry of petroleum and natural gas, along with Society of Indian Automobile Manufacturers Association (SIAM), has identified 1,000 locations across India to set up

liquefied natural gas (LNG) outlets over the next three years, in a bid to replace diesel and petrol with cleaner fuel in long-haul vehicles and to achieve the target of a 15% share for natural gas in India's total energy mix by 2030.

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LNG trucks/ buses have a fuel carrying capacity that is 2.5 times of CNG trucks/ buses and can travel around 700 km in one refill, according to experts.

Kapoor said, "We have identified with SIAM around 1,000 locations on major highways, including the golden quadrilateral, to set up the LNG outlets. The outlets have been divided among various government and private organisations to ensure timely availability of supply. However, SIAM will have to ensure that long-haul LNG vehicles are manufactured to make use of this fuel. Companies such as Eicher, [Ashok Leyland](#) and [Tata Motors](#) have shown interest in providing these vehicles."

The petroleum ministry, on November 19, 2020, launched a programme to set up 50 LNG stations by oil marketing companies such as Indian Oil, [BPCL](#), [HPCL](#), [GAIL](#), [Petronet LNG](#), and [Gujarat Gas](#). [IOC](#) will set up 20, while BPCL, HPCL and GAIL will set up 10 LNG stations each.

According to sources in SIAM, auto companies have adopted a wait-and-watch policy on manufacturing LNG-compliant vehicles as the government has come up with various alternative fuels to replace fossil fuel. These include blending ethanol with petrol, CNG, biogas, and LNG apart from electric vehicles. All require separate engines.

"[Original equipment manufacturers] will have to look at the economic feasibility of these options before they can commit to manufacturing any one of them," the source said.

LNG as a heavy vehicle fuel segment is expected to provide around 20-25 million metric standard cubic meter per day of new gas demand by 2035. In India, where the transport sector guzzles 40% of diesel sold, the environmental benefit from LNG is huge. There is no sulphur dioxide emission and nitrogenous emissions are reduced by 85%.

Source: <https://www.financialexpress.com/industry/govt-aims-to-set-up-1000-lng-stations-in-next-three-years/2369861/>

1.4 United States of America

Clean Energy, bp Expand Joint Venture to Develop New RNG Projects

11th November 2021. By Ariana Fine



Photo by Stijn te Strake on Unsplash

Skyrocket [Clean Energy Fuels Corp.](#) and [bp](#)'s renewable natural gas (RNG) joint venture will build on previously announced plans to finance and develop new projects at dairy farms, starting in the Midwest.

Located in South Dakota and Iowa, the dairy farms, with more than 30,000 cows, have the estimated potential to convert the methane produced from waste into more than seven million gallons of RNG annually.

Agriculture accounts for nearly 10% of U.S. greenhouse gas (GHG) emissions, according to the U.S. Environmental Protection Agency. Capturing methane from farm waste can lower these emissions. RNG is used as a transportation fuel and has lower GHG emissions on lifecycle basis when compared to conventional gasoline and diesel. The California Air Resources Board has given similar projects a carbon intensity (CI) score of weighted average of -320 compared to CI scores of 101 for conventional diesel fuel and 15 for electric batteries.

“The demand for RNG is rapidly growing, highlighted by our recent announcement to fuel a new fleet of Amazon heavy-duty trucks deploying across the country,” says Clay Corbus, senior vice president and co-head of renewable fuels at Clean Energy. “Our joint venture with bp to develop new supplies is critical to keeping up with this demand. The RNG that is expected to flow from these dairies to our fueling infrastructure will allow our customers to dramatically reduce their carbon emissions and turn their sustainability goals into reality.”

Dynamic Holdings will oversee construction and develop and operate the facilities following the execution of an agreement with the joint venture to execute multiple phases of dairy RNG projects.

With over 550 dispensing locations, Clean Energy has the largest network of RNG stations in the U.S. bp’s trading organization transports RNG to California markets and monetizes the environmental credits associated with dispensing the RNG.

“These collaborations are critical steps toward our ambition of helping the world reach net zero by 2050 or sooner,” states Sean Reavis from bp’s biogas origination. “Our biogas strategy is focused on growth and developing an integrated business model that allows us to deliver the unique energy products the market is demanding.”

The first RNG production facility is expected to be operational in 2022.

Source: <https://ngtnews.com/clean-energy-bp-expand-joint-venture-to-develop-new-rng-projects>

1.5 United States of America

New Production Hubs to Make 20 Tons of Hydrogen per Day, for Fuel Cell Trucks

11th November 2021. by Otilia Drăgan



Hydrogen-powered vehicles would be nothing without the supporting infrastructure, which is why Hyzon Motors, a fuel cell heavy-duty vehicle manufacturer, is working with several partners to establish hydrogen production hubs across the United States.

Based in Rochester, New York, Hyzon is one of the few companies that's dedicated to adapting the fuel cell technology for heavy-duty vehicles, including trucks, buses, and coaches. Making hydrogen readily available for future fleets is also part of the plan. And not just any hydrogen, but one that is obtained from sustainable resources, through processes with a low-to-negative carbon intensity.

Together with TC Energy, the truck manufacturer is now in the process of evaluating sites from various states across the U.S., for hydrogen production hubs. Of course, these sites are selected strategically, to be near current or potential customers operating Hyzon fleets. Each of these hubs is designed to produce up to 20 tons of hydrogen per day. According to the company, hydrogen will be obtained from renewable natural gas, biogas, and other sustainable alternatives.

These facilities are supposed to take little time to build and be able to supply clean fuel at low costs. TC Energy will be in charge of operating them, while also supplying the natural gas pipelines, and power generation equipment.

Earlier this year, Hyzon has also joined forces with Raven, a renewable energy-based fuel company that uses an innovative non-combustion process to make hydrogen, without releasing toxic emissions. Even better, the source that's used to make green hydrogen is municipal solid waste, which is also a way of eliminating the unwanted effects of this type of waste, namely toxic emissions.

Through this process, truck fleets can benefit from clean fuel, while also helping cities get rid of municipal waste. The first hub of this kind is currently being built by Raven in California, and the goal is to get to 1,000 hubs throughout the U.S.

Source: <https://www.autoevolution.com/news/new-production-hubs-to-make-20-tons-of-hydrogen-per-day-for-fuel-cell-trucks-173939.html>

1.6 Thailand

Bangkok Mass Transit Authority to upgrade current bus fleet to EVs

2nd November 2021.



The Bangkok Mass Transit Authority (BMTA), a state-owned bus operator, has announced plans to replace the city's fossil fuel-powered buses with a fleet of electric vehicles (EV). The agency will rent the electric buses from private operators, instead of purchasing them, to reduce maintenance costs.

BMTA also has plans to install automated ticket vending machines at all bus stops in Bangkok. Currently, BMTA kiosks at major bus stops sell monthly tickets that can be purchased during rush hour.

The BMTA operates a fleet of 2,888 buses that service 116 routes in the capital city of Thailand.

Source: <https://southeastasiainfra.com/bangkok-mass-transit-authority-to-upgrade-current-bus-fleet-to-evs/>

1.7 Indonesia

Indonesia introduces carbon trading policy to reduce emission

15th November 2021. Reuters / Yves Herman



Indonesia's President Joko Widodo speaks at a meeting during the UN Climate Change Conference (COP26) in Glasgow, Scotland, Britain, November 2, 2021.

JAKARTA, Nov 15 (Reuters) - Indonesia has introduced new rules on carbon trading to set up a market mechanism to help achieve the country's greenhouse gas reduction targets by 2030, according to a copy of the regulation seen by Reuters.

President Joko Widodo signed the regulation, called "the Economic Value of Carbon" ahead of the COP26 conference in Glasgow, according to the document, which has not been made public. The document was verified as authentic by the environment ministry.

The regulation introduces result-based payments, for initiatives that result in carbon reduction, as an instrument in the carbon trading mechanism, on top of the carbon tax that the Indonesian parliament passed last month.

The carbon trade will have a cap-and-trade system where pollution level is limited and allowances can be traded by business entities within the country and cross-border.

The regulation calls for a bourse to be set up to facilitate the trading.

Officials have said a fully fledged carbon market will likely operate in 2025, but the carbon tax will kick in next April for above-cap pollution level at a rate of 30,000 rupiah (\$2.09) per tonne of CO₂e for coal-fired power plants.

To be able to set the cap per sector, the government must calculate and report how much greenhouse gas Indonesia emits every year to evaluate it against baseline emission levels and the country's targets.

This will be Jakarta's roadmap to reach its pledge to reduce emission level by 29% below business-as-usual in 2030 by its own efforts, or up to 41% with international help on financing and technology, the regulation said.

Sectors that must act to mitigate climate change include energy, transportation, waste management, manufacturing, agriculture and forestry, it said.

The regulation also mandates authorities to make an inventory of the potential impact of climate change in the archipelago of 17,000 islands, so as to come up with better climate adaptation policy.

(\$1 = 14,345.0000 rupiah)

Source: <https://www.reuters.com/business/cop/indonesia-introduces-carbon-trading-policy-reduce-emission-2021-11-15/>

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