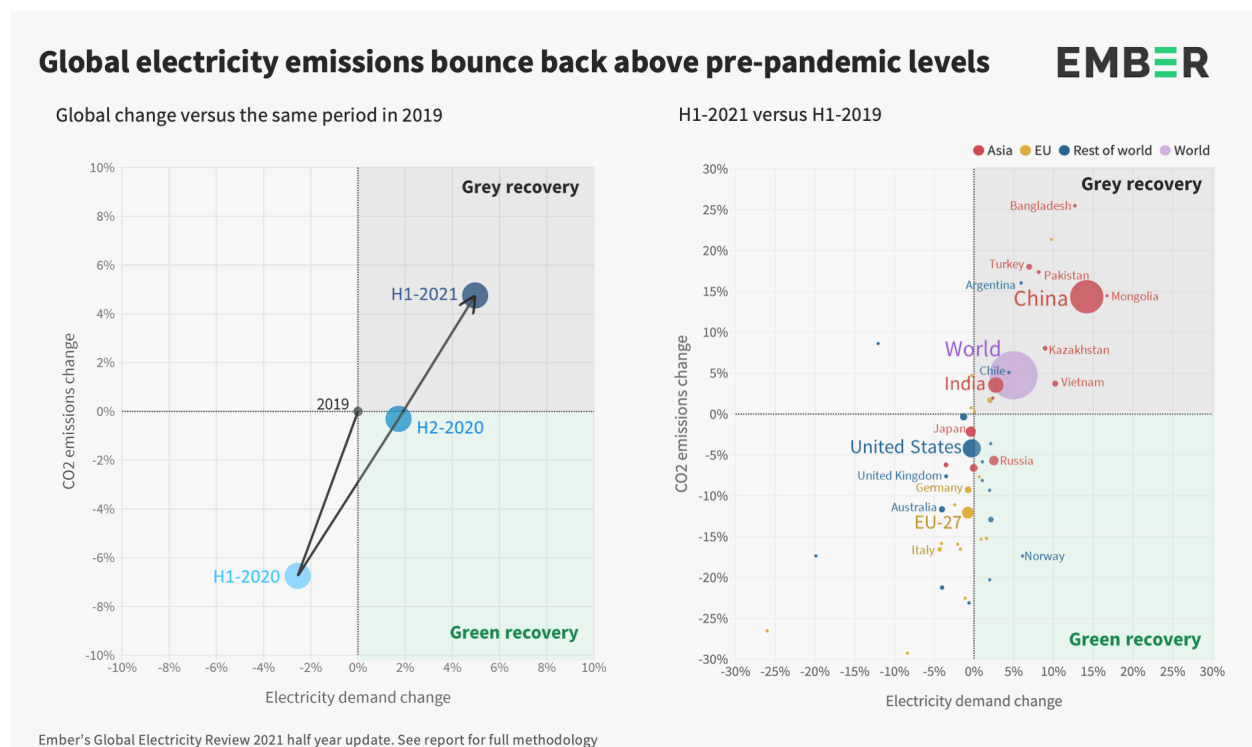


Wind and solar hit a record Tenth of global electricity in 2021

Wind and solar power made significant gains in new installed capacity and total energy generation in 2021, highlights a [recent report by Ember](#). Globally, wind and solar accounted for over 10% of all electricity generation, while total clean electricity - which includes biomass, hydro, and nuclear - reached 38%, outpacing coal (36%) and natural gas (20%). Being responsible for a tenth of all power generation is a major feat for solar and wind power, which accounted for only 4.6% of the world's energy when the Paris Agreement was signed in 2015.

Increasing Energy Demand: Driving Renewables

The larger power generation attributed to wind and solar results from increased demand and renewable energy capacity building across the world. Electricity demand increased at the largest rate since 2010, spurred by rising electrification rates, continued urban development, and a growing middle class in developing economies – mainly in Asia and Africa. To meet demand, new energy projects were undertaken. While renewables and low-carbon options were favoured, coal and gas have remained prized energy sources despite new international policies aiming to reduce reliance on coal. This led to a 7% increase in energy-related carbon emissions in 2021.



Source: [Ember](#)

Coal Energy Remains a Leader in Asia

Coal remains a contentious energy source for developing economies, especially in Asia, where demand has not yet peaked. Records were set throughout Asia last year for coal power consumption, with Mongolia (+13%), India (+11%), China (+9%), Pakistan (+8%), the Philippines (+8%) and Kazakhstan (+6%) all increasing their total output. Indonesia, which does not have data available, has also been identified as a major coal powerhouse in 2021. For comparison's sake, while coal consumption increased in the United States, European Union, and Japan, it remained below 2019 levels.

ASIA COAL CONSUMPTION

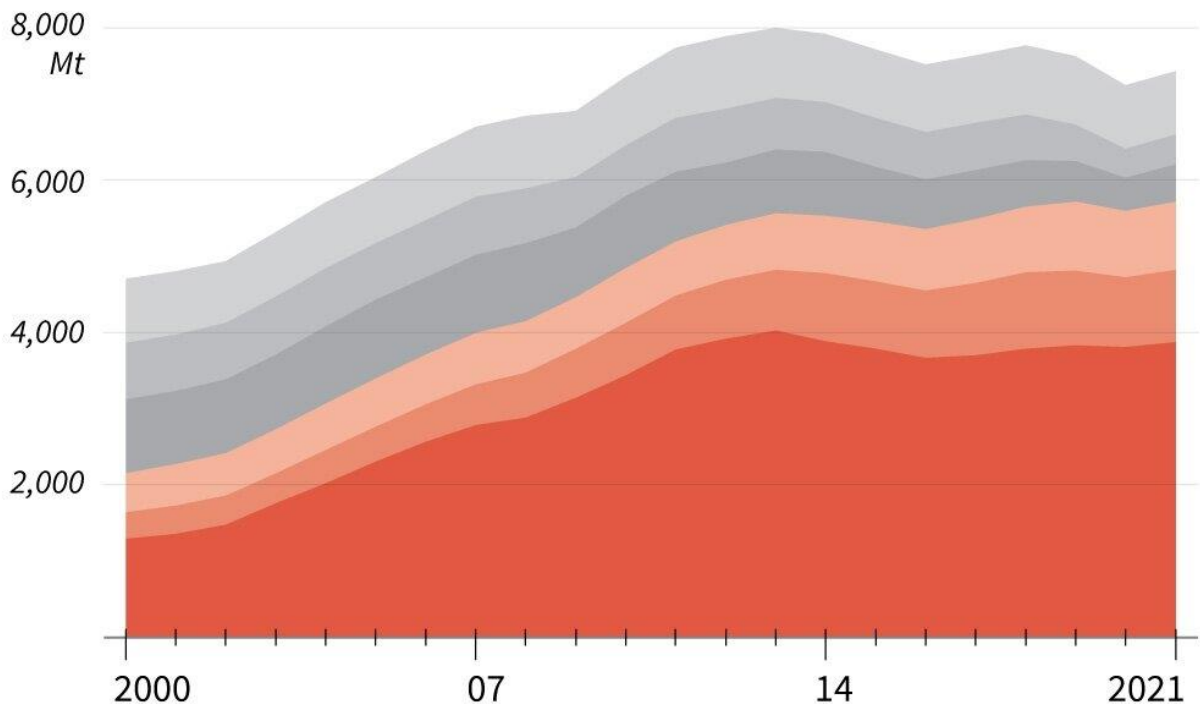
COP26

Asia's addiction to the fossil fuel is threatening climate targets

Global regions compared

2000 - 2021

■ China ■ India ■ Other Asian countries ■ US ■ EU ■ Rest of world



Source: IEA

AFP

Source: [Phys.org](https://www.phys.org)

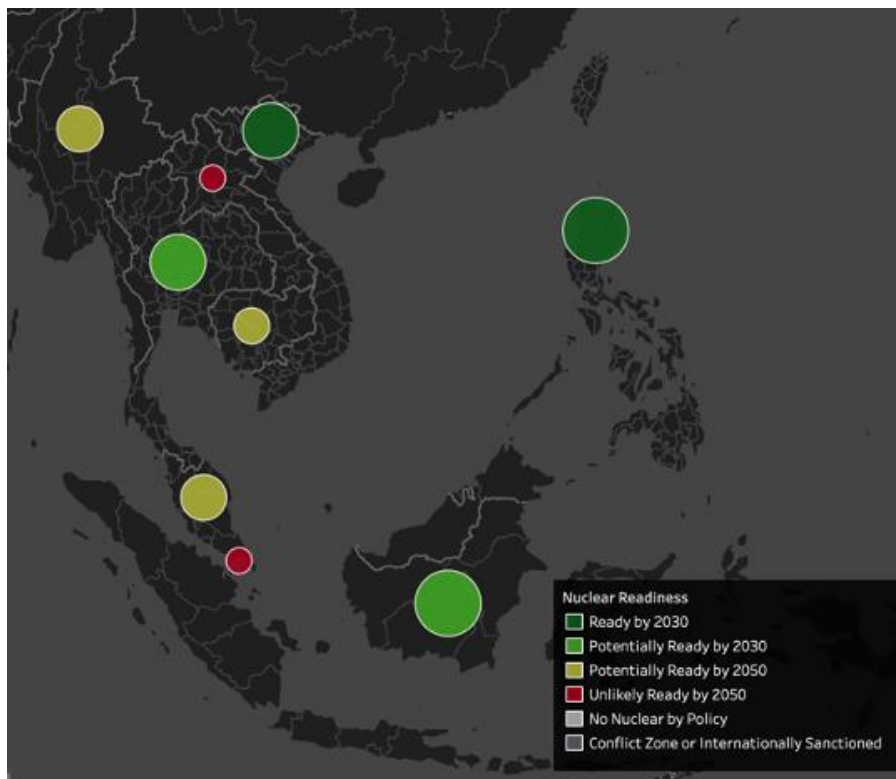
However, while fossil fuels remain a major power provider for the region, the Ember report points out that "most countries in Asia are seeing rapid demand growth, so although absolute coal generation is

increasing, [but] the proportion of electricity from coal is actually falling.” Asian countries are taking significant strides to adopt clean energy. China, Japan, Mongolia and Vietnam generated over 10% of their energy from solar and wind alone, with [Vietnam](#) shifting 8% of their total demand from fossil fuels in just the last two years.

The Outlook of Renewables for the Future

The increase in total capacity is an encouraging sign for global. Solar rose 23% and wind by 14% in 2021, and with more renewable projects in the pipeline, these numbers are sure to increase. To maintain the Paris Agreement goal of limiting global heating to 1.5 degrees, solar and wind capacity must increase by 20% every year until 2030, which Ember believes to be in line with current growth patterns. Rapidly developing regions like Asia are [integral to the global energy transition](#), and all indications point towards continued investment into their low-carbon power sector.

Reducing fossil fuel use is difficult for countries with high energy demands and [historically fossil fuel reliant industries](#). However, the rise of solar, wind and hydro has made it easier, especially when combined with grid-scale [energy storage](#). Batteries can reduce the intermittency of renewable energy while storing vast quantities of power, providing grid stability. But, as explained in the [Ember report](#), other clean energy sources like biomass and nuclear should be further explored as alternative options for relevant energy programs.



Source: [Energy For Growth Hub](#)

Biomass and Nuclear Are Less Attractive Low-Carbon Sources

While biomass and nuclear are low-carbon, they are far from being on the same level as other renewables and carry their own risks. For regions like Asia, biomass is not as attractive as wind and solar, which can be easily installed. The limited installed nuclear capacity in the region means it would take decades before powerplants could be operational - which does not line up with the 1.5 degree timeline. The hope for continued economic growth and power generation in Asia rests in renewables.

The Future Is Powered by Renewables

While coal has continued to play a significant role in electricity generation, it is slowly but surely losing ground to solar and wind. Developing regions with continually increasing power demands like Asia are highlighting how to increase overall energy generation capacity and integrate renewables. [Major financial firms](#) have already indicated a shift away from financing coal and other fossil fuels to support large-scale renewable projects, which will become more popular throughout the decade.