

The world's slow transition to cleaner energy

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While the COVID-19 pandemic initially caused a drop in [greenhouse gas emissions](#) as [economic activity](#) dropped, the pandemic may not have accelerated the shift to renewables:

Renewables boom

Renewables are now the number two source of electricity in the world with a 26 percent share in 2019—behind coal, but ahead of natural gas and nuclear.

Wind and [solar power](#) have grown at annual rates of 22 and 36 percent, respectively as their prices have plunged since 1990.

Even during the pandemic, 26 gigawatts (GW) of capacity was added last year, setting a new record, according to the International Renewable Energy Agency (IRENA).

But the use of fossil fuels in final consumption (electricity, transportation fuel, heating and factory production) has held steady.

At 80.3 percent in 2009, it was still 80.2 percent in 2019, as overall energy consumption increases thanks to [population growth](#) as well as rising incomes in Asia.

Sharp turn by automakers

Pushed by tighter pollution regulations, leading automakers are aiming to scrap internal combustion engines within the next decade or sharply cut their production as they shift towards all-electric futures.

Roads are still crowded with polluting cars: Electric vehicles only make up five percent of new units sold.

The International Energy Agency says consumers continue to prefer big SUVs—they accounted for 42 percent of sales in 2020—that pollute more than smaller models.

Hydrogen

From Australia to China to the EU, more and more nations are setting their sites on green hydrogen for lorries and factories.

While burning hydrogen as a fuel emits just water, most of the gas is made in a process that produces harmful emissions.

Finding cost effective ways to produce hydrogen cleanly and developing the infrastructure for its use will require more effort, with the IEA urging a quadrupling of investments in the sector.



The solar tower of Israel's Ashalim power station, is surrounded by solar panels, in the Negev desert near the kibbutz of the same name, on September 27, 2021. The 240-meter tower is part of a 121-megawatt solar thermal power plant which concentrates the sun's heat from thousands of small mirrors onto a boiler mounted on the tower, the latter producing high-temperature steam used to generate electricity.

Carbon pricing

In mid-2020 some 44 countries and 31 cities accounting for 60 percent of global economic output had carbon pricing (taxes or quotas) schemes in place, according to the I4CE think tank.

Carbon prices aim to make polluters pay for some of the social costs of emissions such as health care costs due to poor air quality and crop damage due to climate change.

Experts say the price needs to be between \$40 and \$80 per tonne of CO₂ to push polluters to increase efficiency or shift to [renewable energy sources](#).

However, the price is under \$10 for 75 percent of covered emissions.

Pandemic investment

The Ren 21 think tank said the coronavirus pandemic provided an opportunity to shift public policy, but countries provided six times as much investment money to fossil fuel than renewable energy projects in their economic recovery plans.

After dropping by seven percent thanks to the pandemic, CO₂ emissions are expected to hit new records by 2023 if those investments are not shifted.

Emerging difficulties

Investment in renewable energy has been sliding for several years in emerging and developing nations except for China, and the coronavirus pandemic has done nothing to change the situation.

These countries hold two-thirds of the world's population and are responsible for 90 percent of the growth in emissions, but they are receiving only 20 percent of investments into clean [energy](#), according to the IEA.

King coal still reigns

Long ago baptised "king coal" for its outsize role in powering the world economy, the fuel remains in wide use in Asia to meet the growing needs for electricity in the region.

The global economic recovery means that coal demand is likely to surpass its 2019 level and thus also retain its crown of being the leading source of greenhouse gas emissions.

China, which has been a major financier of coal projects in other nations, announced in September it is halting the practice.

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