Residents Against Wood Smoke Emission Particulates (see RAWSEPresidents.wordpress.com and Scroll Down for PDFs of articles with U R L's to search on, and on the website are links to 30 minute Youtube videos and Spotify podcasts as well as podcasts on Amazon Music Prime (free for Prime subscribers), podcasts.google.com, Cast Box, and Pocket Cast (Pocket Cast is only free on the phone App. Pocket Cast works on Apple phones).

United States

California, San Francisco Bay Area

"The exceptional events rule, added to the Clean Air Act in 2005, has enabled regulators to ignore pollution data from some events when deciding whether a particular region must do more to improve its air quality. The closer that regions come to meeting federal air quality standards, the fewer restrictions local businesses and other polluters face. Forgiving wildfire pollution helps them meet those standards — and it has been happening more frequently over the last decade, according to the new GAO analysis, which named California, Colorado, Rhode Island, and Texas as places that have sought to have wildfire pollution data excused."

Bay Area Clean Air Coalition

Aha!! This partially explains why our air is allowed to get so absolutely disgusting in the winter. Our air district needs to take the reins now, despite how long it'll take the EPA to act.

"You could ask anybody working on wildfire smoke and the answer is no, we're not doing enough," said Meredith Bauer, assistant director for the air and radiation division in EPA Region 9, which includes California. "Not yet. Not yet."

Over the last three decades, the number of acres burned by wildfire has grown, spewing smoke across California and the country. The new GAO report highlights how a loophole in the Clean Air Act permits the EPA to erase pollution — not from the sky, but from the record.

https://www.muckrock.com/news/archives/2023/may/23/wildfire-smoke-exceptional-event/?fbclid

As wildfire smoke worsens public health, government watchdog calls EPA response 'ad hoc'

May 23, 2023.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

Why are we reporting on wildfire smoke in California?

Climate change is warming the planet, leading to more drought, higher temperatures and more devastating wildfires. In the Western U.S., wildfires are growing in size and happening more often.

The new GAO report highlights how a loophole in the Clean Air Act permits the EPA to erase pollution — not from the sky, but from the record.

Wildfire smoke is one of the fastest-growing sources of air pollution in the United States. Particulate pollution from fires drives health risks that are significant to pregnant people, children, outdoor workers, residents of leaky buildings and anyone with heart or lung ailments.

Yet, the 1970 Clean Air Act gives regulators little ability to take actions that could limit wildfire smoke. That's because the landmark law focused on soot spewing from smokestacks and tailpipes.

In contrast, the EPA, which enforces the Clean Air Act, has treated some wildfires, dust storms and volcanic eruptions as naturally occurring outliers.

The exceptional events rule, added to the Clean Air Act in 2005, has enabled regulators to ignore pollution data from some events when deciding whether a particular region must do more to improve its air quality. The closer that regions come to meeting federal air quality standards, the fewer restrictions local businesses and other polluters face. Forgiving wildfire pollution helps them meet those standards — and it has been happening more frequently over the last decade, according to the new GAO analysis, which named California, Colorado, Rhode Island, and Texas as places that have sought to have wildfire pollution data excused.

Connecticut, Hartford

Couple facing endangerment charges after Middletown home condemned - Hartford Courant

Hartford Courant

... child endangerment charges after a home with exposed wiring, a wood ... police said they reportedly found a large wood-burning stove in the ...

Couple facing child endangerment charges after CT home condemned with exposed wiring, collapsing floor.

May 26, 2023.

A couple faces felony charges after a Middletown home with at least one child residing there was condemned when police discovered "potentially dangerous and life-threatening safety concerns," according to the arrest warrant affidavit.

Middletown Police Department officers responded to the single-family home on E. Main Street on Nov. 21, 2022, on the report of a domestic disturbance and immediately noticed that a five-foot staircase leading to a small wooden deck to get into the home "bowed under our body weight, almost collapsing," an officer wrote in the affidavit for William Clayton, 47, and Katie O'Brien-Clayton, 46.

Clayton and O'Brien-Clayton were both arrested last week and each faces three felony counts of risk of injury to a minor. They are free from custody and were expected to be arraigned on Wednesday in Middletown Superior Court.

The affidavit in the case was redacted to exclude information on how many children were residing in the home.

In the living room of the home, police said they reportedly found a large wood-burning stove in the middle of the room that served as the primary source of heat, as Clayton told police the oil furnace had not been used in at least 15 years.

Though the stove was on non-combustible stone, it was surrounded by hardwood floors that could catch on fire from a hot ember, the affidavit said.. City building officials told police the stove had been installed "illegally without any permits," the affidavit said.

"The wood stove created an immediate fire hazard…," according to the affidavit.

Officials condemned the home following an inspection, the affidavit said.

This is not the first time Clayton has been charged with risk of injury to a minor. He was arrested in 2014 after allegedly leaving his two children, ages 4 and 2, in a pickup truck for about a half-hour, archives indicated.

Clayton was also arrested in 2018 when Middletown police said he intentionally backed a truck with a 5-year-old inside into an occupied police car to avoid a ticket.

The outcome of those cases was not clear Thursday.

Canada, Alberta

RAWSEP View: The May 29, 2023 for Alberta Premier may be more influenced by Premier Danielle Smith's actions during the COVID pandemic than concern about controlling Alberta's wildfires.

https://www.nytimes.com/2023/05/26/canada-alberta-election-conservative-party.html

Alberta Election Tests Conservatives' Hard-Right Turn

The pandemic took the conservative party in the oil-rich province of Alberta far to the right. An election on Monday will test if voters, traditionally among Canada's most conservative, will follow.

Ernestine Dumont, right, and Audrey Cerkvenac at a cafe in Turner Valley, Alberta. Both said they tend to vote conservative but are rethinking their choices.

May 26, 2023.

The hard-right turn of the United Conservative Party has put a province that was once a sure win for Canada's conservatives up for grabs in Monday's elections.

Led by someone who compared people vaccinated against Covid-19 to Nazi supporters, Alberta's conservative party has moved so far right since the pandemic that it has created an opening for the left-leaning New Democratic Party to win control of the province. Two conservative women interviewed for this article said they would probably deface their ballots to void them. Anger over pandemic rules, especially vaccine mandates for cross border travel, gave birth to trucker convoys in Alberta that spread east, eventually paralyzing Canada's capital for nearly a month, and closing border crossings. The protest paralyzed the Ottawa for nearly a month in 2022. The fury of the trucker protest paved the way for a small, socially conservative faction of the United Conservative Party to install the current Alberta premier and party leader, Danielle Smith, 52, a far-right former newspaper columnist and radio talk show host. After becoming premier last October, she declared that the unvaccinated were the "most discriminated group" she'd seen in her

lifetime and, in May, a video surfaced of her likening people who chose to be vaccinated to followers of Hitler. More on Canada. Wildfires: Blazes sweeping across western Canada that have driven thousands of people from their homes are also striking the heart of Canadian oil and gas country, forcing companies to curb production. In a province with a large and longstanding Ukrainian community, Alberta Premier Danielle Smith suggested that some parts of Ukraine may "feel more affinity to Russia" and should separate. One of her first legislative acts was to sign a law she claimed would allow Alberta to ignore federal laws. And Ms. Smith broke ethics laws to intervene on behalf of a prominent protester who was facing prosecution. Canada's conservatives will challenge Prime Minister Justin Trudeau and his Liberal Party in elections that must be held by October 2025. The federal Conservative Party also replaced its leader during the pandemic with a combative right-wing politician, Pierre Poilievre, who welcomed truck convoy protesters to Ottawa, and shares Ms. Smith's provocative rhetoric. On Monday, Alberta's voters have a stark choice between the United Conservatives and the New Democrats, or N.D.P., which held power in Alberta from 2015 to 2019. While Calgary is contested, Alberta's rural areas are more likely to vote for the United Conservative Party. The N.D.P. gained power then from conservatives, who had run Alberta from 1935 to 2015, by taking advantage of divisions among conservatives to narrowly win a stunning victory. They installed Rachel Notley, a lawyer for labor groups, but her approval ratings sank as oil prices plunged. The party lost power in 2019. Ms. Notley, 59, is representing the N.D.P. again in this election. During campaign stops, she portrays Ms. Smith as unpredictable and promoting ideas most voters would reject, like selling public hospitals to a for-profit business or making patients pay fees for public hospitals. Ms. Notley said she plans to expand transit lines and build new schools and hospitals. Ms. Smith warns voters that Ms. Notley's party would embarking on spending that would lead to higher taxes. Ms. Smith calls Gov. Ron DeSantis of Florida, who just announced his entry into the Republican presidential primary, "my hero." In debate, Ms. Smith sought to focus on Ms. Notley's performance as premier. Calgary is among the urban areas of Alberta where support for the New Democratic Party is heavily concentrated possibly offsetting conservative votes in rural regions. To become the premier again, Ms. Notley would need to see her party win the most seats on Monday. Calgary has historically been a fickle base of support for the left. The New Democrats are already solidly ahead in Edmonton, the provincial capital. One deciding factor may be the large and rapidly growing ethnic communities in Calgary. At a Calgary neighborhood home to many South Asian immigrants, the host of a local Punjabi language morning radio show, said the United Conservatives had alienated many South Asian voters before Ms. Smith became leader. Danielle Smith's predecessor, Jason Kenney, appeared on his program and suggested that the high rates of Covid infections in South Asian communities was the result of their failure to abide by public health restrictions, even though community leaders pointed out that they worked jobs that exposed them to the virus. "We are the people sitting at the cash counters of the grocery stores,'' he said. "We are the people driving taxis. We are the people driving buses. Don't you think this is the reason of the spread?" He said many South Asians voters trust Ms. Notley to provide more funding for schools and health care even if her party is further to the left than many of them are. Voters may not embrace her party, "but people like Rachel Notley," he said. "People do not like Danielle Smith." Ms. Smith still has support in rural regions of Alberta. At a rodeo event in High River, Alberta, Ms. Smith's hometown, a retired auctioneer said he had little use for public health measures and was only vaccinated so he could vacation in the United States. "The whole Covid thing with these people walking around these masks on, how dumb was that?" he said. He's less than enthusiastic about Ms. Smith. "She's OK," he said.

RAWSEP View: The May 29, 2023 for Alberta Premier may be more influenced by Premier Danielle Smith's support for the Oil and Gas industries in Alberta than concern about controlling Alberta's wildfires.

https://thetyee.ca/Analysis/2023/05/24/Only-Path-To-Change-In-Alberta/?fbclid
Here's the Only Path to Real Change in Alberta
Until the province steps out from the petrostate curse, elections scarcely matter.
The Tyee
As industry chews through Alberta's oilsands, the government's delusional fealty erodes democracy.
May 24, 2023.
Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.
Amid the smoke of raging wildfires another Alberta election seems to be rumbling down a familiar road of bitumen-paved illusions. Alberta has an addiction to bust-and-boom oil revenues with no institutional checks or balances on their corrosive power. That explains Alberta's aversion to a sales tax; its slavish deference to oil interests; its failure to deal with more than $260 billion worth of abandoned wells, pipelines, and other oil liabilities; its growing political extremism

and its increasingly aggressive posture to the rest of Canada. History shows that petrostates are twice as likely to engage in conflict with their neighbours than non-petrostates. They invariably turn into intolerant bullies because they have the money to do so. Current Alberta Premier Danielle Smith has escalated by playing the sovereignty card along with more federal bashing. (Prime Current Minister Justin Trudeau doesn't decide the global price of oil, let alone dictate how much Alberta should spend or save.) A petrostate is any country or jurisdiction (from Wyoming to Nigeria) where revenue from oil, gas or coal exports exceeds 10 per cent of GDP. Because of growing bitumen exports to the United States, Alberta's dependence often exceeds 26 per cent. Meanwhile oil and gas account for half of Russia's exports and about 15 per cent of its GDP. In Texas, oil and gas activity speaks for 22 per cent of GDP. In places like Iraq and Qatar, the figure can be up to 50 per cent. And so on. Since 2008-09, Alberta has lived the paradox of repeated and massive deficits despite record high oil production. A previous Conservative Premier hacked away at essential services, cut Alberta Wildfire by $30 million and axed a rapid response team to save a paltry $1.4 million. The Russian aggression against Ukraine raised global oil prices and nearly erased Alberta's 2021 $17-billion deficit in 2022 with record income.

This wave of unearned cash accounts for Premier Danielle Smith's Tucker Carlson-like politics and reluctance to support Ukraine. Four companies now account for 80 per cent of oilsands production and 25 per cent of the province's GDP

This rampant conflict of interest also explains why a toxic wastewater spill can occur at Imperial Oil's oilsands mine and not be reported to water drinkers downstream for 10 months. Imperial is one of the four oilsands companies that generate nearly 20 per cent of the government's royalty revenues. Petrostates have a strong bias against agriculture.

Peter Lougheed, who governed Alberta as Premier for 14 years from 1971 to 1985, understood how oil money could undermine the dynamics of good governance. Lougheed tried to address many of these dysfunctions. Over time he developed a series of principles that aimed to give Alberta a Norwegian-like experience with oil, ensuring benefits were lasting. Now Danielle Smith, a former industry lobbyist, has proposed a royalty giveaway program: she wants to provide companies with $20 billion in royalty credits if they clean up their abandoned wells — something they are obliged by law to do anyway. Clean up the messes. Lougheed acknowledged that the oil and gas industry polluted, and that the polluter must pay to clean up its messes. Given the poverty of discussion about these issues during this election here's what citizens must consider if they are to elect representatives capable of restoring Alberta's democracy.

1. Introduce a sales tax and a direct tax regime.
2. Take all oil and gas revenue off the table and save the money for future generations.
3. Behave like an owner and raise royalties. Don't be a public servant that can't even sustainably fund a competent wildfire program in the age of climate chaos.
4. Clean up the mess and address the industry's $260-billion liabilities.
5. End the war profiteering.
Nothing will change in Alberta's petrostate until its citizens embrace representative taxation (and pay their own way), shut down the oil revenue roller coaster and save for a rainy day. Or save for months of wildfires.
Africa
South Africa
Environmental organisation from eMbalenhle monitors air quality - Ridge Times
Ridge Times
According to Mahlangu, monitoring devices will be able to catch PM 10 (particles with a diameter of 10 micrometres or less), PM 2.5 (fine ...
May 25, 2023.
Environmental organisation from eMbalenhle monitors air quality.
Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.
Locals receive air quality monitoring devices from France.
Fana Sibanyoni and Khehla Mahlangu from the Environment Monitors Organisation receive air quality monitoring devices from France.
The Environmental Monitors Organisation from eMbalenhle received air quality monitoring devices to monitor environmental pollution in local towns.
According to Khehla Mahlangu, the organization's project manager, France donated the devices.
He said the organisation wants to address unreliable government ambient air quality monitoring stations.

"The government monitoring stations are sometimes faulty or even non-functional for the whole year, which is the reason we needed to come up with an alternative plan.

"We approached other environmental organisations that helped us with these gadgets for accurate readings."

Mahlangu said most of the time industries pass the audit because they are the ones feeding the system with information.

"How can they become referees and the players?

"We saw the need for an independent body that will hold them accountable with the facts, not just speculation," said Mahlangu.

According to Mahlangu, monitoring devices will be able to catch PM 10 (particles with a diameter of 10 micrometres or less), PM 2.5 (fine particles) and C02 (carbon dioxide) in the air.

Mahlangu said some of the devices will be installed in different towns within the Govan Mbeki Municipality and will be monitored through an application (app).

Asia

Bangladesh

Building a climate-resilient Bangladesh - The Financial Express

Finance News: Latest Financial News, Finance News today in Bangladesh

(?g/m³) exceed WHO PM 2.5 guidelines by over ten times. The capital, Dhaka, specifically has high levels of particulate matter. The transboundary ...

RAWSEP View: The negative thing about Pakistan's home heating and cooking is that it is often done with polluting wood stoves. Crop stubble burning is also a solid fuel burning that contributes to particulate pollution in Pakistan.

Pakistan

The Carbon Brief Profile: Pakistan

Carbon Brief

Credit: Alamy Stock Photo. Sections: Politics; Paris pledge; Oil, gas & coal; Nuclear; Renewables including hydropower; Deforestation, wood burning ...

Carbon Brief Profile: Pakistan

As part of a series on how key emitters are responding to climate change, Carbon Brief explains the causes of Pakistan's deep-rooted energy crisis and how catastrophic floods fueled its call for loss-and-damage finance at UN climate talks.

25 May 2023.

Pakistan is one of the most vulnerable countries to climate change in the world. It is currently in the midst of a crippling energy and economic crisis that has brought it to the brink of bankruptcy. The country, which is the fifth most populous in the world and home to more than 230 million people, was the 18th largest emitter of greenhouse gases in 2018.

Its current crisis is closely tied to its dependency on fossil-fuel imports, particularly in light of global price hikes driven by Russia's invasion of Ukraine. Imported fuels currently make up 40% of the country's primary energy supply.

One in four people in Pakistan lack access to electricity. In January 2023, the country faced a complete power breakdown, which lasted for 24 hours in some areas. Pakistan in 2020 committed to a moratorium on building coal-fired power plants. However, the government in 2023 promised to quadruple power plants fuelled with domestic coal to meet energy needs without relying on imports. Coal mining in the country has been linked to fatal disasters, slavery and child abuse.

Carbon Brief Country Profiles, Select a country from the series.

More than 1,700 people died in Pakistan's 2022 floods, which were fueled by rains made 75% more intense by climate change. Many displaced by the floods remain homeless in 2023.

Pakistan has set itself a "cumulative conditional target" of limiting emissions to 50% of what it expects its business-as-usual levels to be in 2030. It says that 15% will be met by its own resources and 35% is subject to international financial

support. Politics. Pakistan was established in 1947 following the end of 200 years of British colonial rule over the Indian subcontinent. At this time, the UK divided the subcontinent into Hindu-majority India and Muslim-majority Pakistan.

It is now the world's fifth-most populous country and the second-largest Muslim population after Indonesia. It is also the second-largest country in South Asia by area. Pakistan is ethnically and linguistically diverse. The national language of Pakistan is Urdu, which is also the official language along with English. Other languages spoken in Pakistan include Punjabi, Saraiki, Pashto, Sindhi, Balochi, Brahvi, Hindko, Kashmiri, Shina, Balti and further local languages.

Pakistan is currently facing a severe economic crisis. An editorial focused on the crisis in the Financial Times said that the country's foreign exchange reserves dropped to just $3.7bn in late January 2023, Source: IMF As of 2018, 40% of Pakistan's population lived in poverty. The current figure is likely to be higher following the onset of the Covid pandemic and a cost-of-living crisis fueled by sky-high energy prices and inflation. Energy is right at the heart of Pakistan's ongoing economic crisis. The country is heavily reliant on importing fossil fuels, which currently make up 40% of Pakistan's primary energy supply. Pakistan also suffers from chronic energy access issues, with one in four people lacking access to electricity in 2020. In January 2023, the country faced a complete power breakdown due to a technical fault while undertaking energy-saving measures, which lasted for 24 hours in some areas. In February, energy minister Khurram Dastgir Khan said lack of access to LNG was forcing the country to return to coal and promised to "quadruple" domestically fueled coal power capacity in response to the crisis. Deforestation, wood burning and agriculture.

A quarter of people in Pakistan lack access to electricity. Instead, many rely on the burning of wood in order to generate energy in the home. This is particularly true for food preparation, a task mostly undertaken by women. Only half of Pakistan's population have access to "clean cooking" and the rest rely on polluting and inefficient cookstoves. A woman cooks on a fire inside her house in Gilgit-Baltistan, Pakistan. According to the South Asian news agency ANI, 68% of people in Pakistan rely on firewood. This is one of the major drivers of deforestation in the country, alongside urbanization and food and commodity production. (Illegal logging by the Taliban has also contributed.) In 2021, Pakistan lost 0.63 square km of tree cover, causing the equivalent of 23,500 tons of CO2e to be released into the atmosphere, according to the Global Forest Watch. Pakistan says it will tackle agricultural emissions through a "complete ban" on the open burning of rice stubble. Many farmers in Pakistan burn the remnants of rice crops between October and January to clear the land for sowing wheat. Burning rice stubble is considered the cheapest and quickest way, but drives CO2 emissions and deadly air pollution. An FAO study found 20% of Pakistan's thick air pollution comes from crop burning.

In its 2021 international climate pledge, Pakistan says that meeting its emissions targets will require $101bn in climate finance by 2030 and an additional $65bn by 2040. This includes:
$20bn for replacing under-construction coal projects with hydropower.
$50bn for achieving its target of producing 60% of its electricity from renewables including hydropower by 2030.
$20bn to upgrade the electricity transmission network by 2040.
$18bn for buying out and closing "relatively new coal projects".
$13bn for replacing coal projects with solar.

Facing a wide range of climate disasters and with a large vulnerable population, Pakistan is often described as one of the countries most affected by climate change globally. In 2022, Pakistan experienced an unusually early heatwave, recording temperatures of 49C in April. This heat, which killed 90 people across Pakistan and India, was made 30 times more likely by human-caused climate change, according to a rapid analysis. Just 13% of people in Pakistan's cities have access to air conditioning, according to Asia News Network. The figure is just 2% in rural areas. Global temperature Jure rise of 2C will cause heatwaves similar to what occurred in Pakistan in 2022 to become a further 2-20 times more likely.

Pakistan has the third-highest levels of air pollution in the world after China and India. Each year, 128,000 people die prematurely due to toxic smog, mainly driven by fossil fuel use for power, industry and transport.

RAWSEP View: The negative message about renewable power in the United States is that it includes biomass (wood) burning for energy.
United States Carbon Brief
https://www.carbonbrief.org/the-carbon-brief-profile-united-states/
Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.
After victory in last year's presidential election the Democrat Joe Biden has proposed an ambitious framework to tackle climate change, develop green infrastructure and promote environmental justice, while rebuilding the economy following the Covid-19 pandemic. Polling by the Pew Research Centre has found that while there is broad support for

climate measures, such as tree planting and renewable power, people's views on the cause of climate change are deeply divided along party lines. While 72% of Democrats in 2020 said they think human activity contributes a great deal to climate change, only 22% of Republicans agreed. Climate skepticism is prevalent in the US, fueled in part by highly polarized media coverage. A Business Insider story in 2019 concluded 130 members of Congress at that time had "doubted or denied climate change" and all but one of them was Republican. This partisan divide has not always existed, but has been growing since the late 1990s. Carbon Brief's timeline of the annual presidential state-of-the-union addresses shows how the issue has shifted in significance since 1989. In 1970, the Republican administration of Richard Nixon oversaw the creation of various agencies and policies that today form the bedrock of US climate action, including the Environmental Protection Agency (EPA) and the Clean Air Act. Fossil fuel companies are known to lobby US politicians extensively and have been accused of exerting considerable influence over the nation's climate policy.

Finally, the concept of a "green new deal" – a reference to president Franklin D Roosevelt's "new deal" in the 1930s – has risen to prominence in recent years. Although an attempt spearheaded by Democrats Alexandria Ocasio-Cortez and Ed Markey to pass such legislation in 2019 failed in the Senate, both supporters and opponents of the deal think it has been highly influential in shaping the Biden administration's climate policy. Biden had reversed it with another executive order. In 2009, for the first time, comprehensive climate legislation passed the US House of Representatives. However, the American Clean Energy and Security Act, known as "Waxman-Markey", faced strong Republican opposition in the Senate and lobbying by fossil fuel interests and was, ultimately, scrapped. Similarly, oil-industry lobbyists have been implicated in holding back state initiatives to try and introduce carbon pricing. This $2.3tn spending package, with $900bn of Covid-19 stimulus, was not expressly a climate bill, but nevertheless included tax breaks for renewables, and carbon capture and storage (CCS) initiatives). It was described by some campaigners as the "most significant" federal climate legislation ever passed in the US. Since then, the Biden administration has proposed further stimulus packages, most significantly the $2tn "American Jobs Plan" which focuses on infrastructure and includes a national clean electricity standard as well as billions in subsidies for low-carbon energy and electric vehicles. Renewables. Renewable energy from wood and some hydroelectric dams powered the US during its early industrialization before being superseded by fossil fuels at the end of the 19th century. The US ranks second in the world for renewable power, with 311 gigawatts (GW) of capacity as of 2020, according to the International Renewable Energy Agency (IRENA). This is about twice as much as Brazil, in third place, but only around a third of China's capacity. Wind and solar generation have been growing rapidly, doubling in just five years to produce 12% of US electricity in 2020, according to analysis by climate thinktank Ember. Together with other renewables, they overtook coal power last year for the first time, with 21% of the electricity mix. These technologies have been largely sheltered from the economic impact of Covid-19, particularly as wind developers have rushed to meet federal tax incentive deadlines. Solar and wind power are expected to make up 70% of the new capacity coming online in 2021, according to the Energy Information Administration (EIA). Wind is now the nation's largest source of renewable power, surpassing hydro in 2019. The US remains the world's third largest hydropower producer by capacity, after China and Brazil, according to the International Hydropower Association.

A Carbon Brief map from 2017 illustrates how the US renewable energy rollout has been impacted not only by federal and state governments but also geography. Wind installations, for example, are concentrated down the middle of the nation where wind speeds are highest. Biden has pledged to achieve "100% carbon-free electricity by 2035". Recent analysis suggests emissions from the US power system are already 52% lower than the EIA predicted they would be back in 2005. Separately, seven states plus Washington DC and Puerto Rico have legislatively committed to 100% clean electricity by 2050 or earlier, while another eight states have a non-binding 100% goal. Net-zero targets for 2050 have also been set by some of the nation's biggest utilities. (As one paper notes, the US will need to do more than decarbonize electricity to achieve its climate targets. The nation's building stock, for example, is considerably less energy efficient than other wealthy nations.) There has been some federal support for renewables (See: Climate policies and laws), notably tax incentives, such as the renewable electricity production tax credit (PTC) and the investment tax credit (ITC), which have played a significant role in expanding wind and solar. However, state-level policies have also been important. Renewable portfolio standards that require electricity suppliers to provide a certain amount of renewable power have been important in the proliferation of these technologies. So far, 29 states and Washington DC have one in place, including Republican-dominated states such as Texas. (In fact, Texas has more wind, solar and energy storage capacity than any other state and was one of the first to adopt a renewable portfolio standard.) Energy efficiency resource standards (EERS) or energy efficiency targets encourage more efficient generation, As of 2019, 27 states had EERS in place.