



The one chance we have

The pandemic gave the world a golden opportunity to fix the climate crisis. We're about to waste it.

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ovid-19 has devastated the global economy and forced governments around the world to pour trillions into the recovery effort.

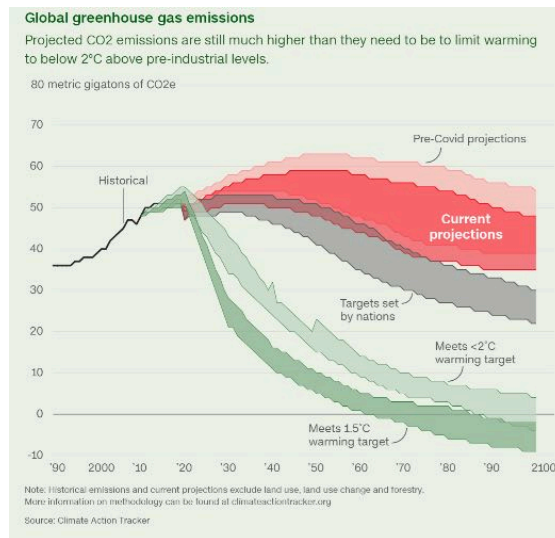
The pandemic could have been the decisive moment in the fight against climate change -- an opportunity for leaders to bail out the environment and pivot the planet toward a greener future.

Instead, CNN has found that some of the biggest fossil fuel-producing countries are injecting taxpayer money into propping up polluting industries. And exclusive new data shows these decisions are taking the world a step closer to a climate catastrophe.

"This is the one chance that we have," said professor Niklas Höhne, founding partner at the NewClimate Institute, a climate think tank, and co-author of an upcoming study from the Climate Action Tracker shared with CNN.

The research shows that the world is running well behind its already insufficient targets of limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit it to 1.5 degrees.

"We are in a situation where enormous sums of money are (being) spent," Höhne said. "A similar opportunity for spending so much money from government budgets will not come in the next 10 to 20 years."



Global greenhouse gas emissions have fallen due to coronavirus lockdowns. The current economic downturn means future emissions are projected to be slightly lower.

But the recent decline won't have any real impact on long-term climate change, according to exclusive data from the Climate Action Tracker.

Global emissions are still higher than nations promised under international agreements.

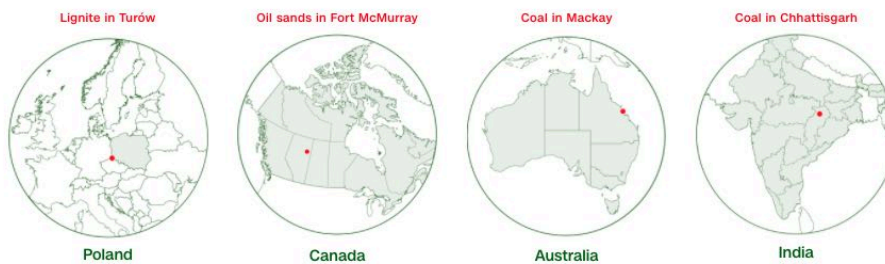
And much higher than they need to be to limit catastrophic climate change.

The United Nations says it is necessary to phase out fossil fuels to stop catastrophic man-made climate change. But getting rid of them is going to be hard. Around the world, communities rely on fossil fuels for their energy, their jobs, their livelihoods. And, in turn, governments rely on their votes and taxes.

Below, we look at four parts of the world once again turning to fossil fuels to help salvage their economies.

Poland is spending \$35 million to buy up unwanted coal to relieve an industry "shaken by the pandemic." In Canada, the province of Alberta is investing \$1.1 billion into a new oil pipeline, deemed "essential" for economic recovery. Australia's Queensland is fast-tracking a new coal mine to help the state "bounce back from the impacts of Covid-19." And India is opening up dozens of coal mines to the private sector to "turn the Covid-19 crisis into an opportunity."

These are the communities where the climate change battle is taking place -- and where people's livelihoods depend on industries that the rest of the world needs them to give up.





Credit: Sarah Tilotta/CNN Lignite mining in Turów

In this part of Poland, the local scouts campaign to keep their town's coal mine open

By Ivana Kottasová, Mick Krever and Phil Black Photographs by Sarah Tilotta

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ivil engineer Piotr Pupin has been working at the Turów lignite mine in southwestern Poland for the past 19 years. And just like his father did, he hopes to continue working there until it's time to retire in a couple decades' time.

He's got a problem. While the open pit mine holds enough coal to continue operations until 2044, its current permit is set to expire in just six years. And because of the climate crisis, there's plenty of opposition in the European Union to further extensions.

The 44-year old civil engineer grew up in the nearby town of Zgorzelec. While at university in Wrocław, he won a scholarship paid for by the company that operated Turów at the time. In exchange for the funding, he signed a three-year contract to work in the mine. He stayed ever since, rising through the ranks to his current role as an investment supervisor. His team oversees investment into all of the infrastructure within the mine, from roads to buildings and electrical equipment to the huge machinery roaming the site.

"I didn't plan to stay for this long, but it so happened. My career was progressing, it was going well," he said. "It's not the job of my dreams, but it gives me comfort and stability and security."

Piotr Pupin

Investment supervisor
Turów lignite mine



Credit: Sarah Tilotta/CNN

In this region, most people work either in the mine complex or across the border.



The potential shutdown of the mine and its affiliated power plant, run by the same company, would be disastrous for Pupin and thousands of others.

“I’d have to search for a new job. Most likely, that would mean going across the borders,” he said. His skills are not limited to mining, but he doubts there would be work for him in the region.

“All of the construction companies in this area, the companies which I could potentially work for with my qualifications, they all work for the mine. When the mining plant closes, these companies will not have a bright future.”

Pupin knows the mine will shut eventually. Demand for coal is decreasing in Poland, being replaced by gas and renewable energy sources. Turów is already feeling the impact. “Every year, the number of workers at the mine goes down. People retire and new people are not hired to replace them,” he said. He knows his two daughters will likely move away when they grow up. The region is so dependent on the mine, it’s hard to come by a good job that’s not related to the site in one way or another.

But he is hoping to stay until the end. “Two of my sisters left Poland for Ireland. That’s enough,” he said.



Huge excavator machines are used to expose the lignite deposits, digging less than a mile from both the Czech and German borders. Credit: Sarah Tilotta/CNN

The median monthly salary for mining in Poland is nearly twice the national average



Source: Statistics Poland 2020, data for 2019

Neighboring tensions

Turów's long-term future is more than uncertain. Located in a tiny, appendix-like tip of Poland, the mine complex is nestled between Germany and the Czech Republic, where it faces fierce opposition from environmental and climate activists as well as residents. Both countries have petitioned against the mine, even though they also rely on coal for power. According to the International Energy Agency, 80% of Poland's domestic energy comes from coal, compared to 54% in the Czech Republic and 43% in Germany.

Lignite, sometimes called brown coal due to its color, is the least efficient and most polluting type of coal. It has lower fuel value and higher emissions intensity compared to the geologically older hard coal that is mined underground. Lignite is difficult to transport, so it's usually burnt for energy at the same place where it's mined. In Turów, the freshly mined coal travels on conveyor belts to a power plant just some three kilometers away.

The Polish government says Turów plays a strategic role in the country's energy security. It supplies power to around 2.3 million Polish households, according to PGE, the state-controlled company that runs the mine. PGE is now planning to expand the digging closer towards the Czech border, a plan that has caused tension between the two long-time allies.

The Czechs have [launched a complaint](#) with the European Union, arguing that Poland breached EU rules when it unilaterally decided to extend the mining permit for further six years in March.

Local activists across the border are worried about the mine's impact on ground water levels, dust and noise. "The wells are drying out. As the mine becomes deeper and inches closer to the border, more ground water flows away. There are people who -- in the 21st century -- are now left without water," said Milan Starec, one of the residents on the Czech side of the border protesting the mine.

PGE and the Polish government say the planned mining area is within the boundaries stipulated in the original 1994 permit. PGE says its studies have shown a minimal impact on ground water levels. To prevent drainage, the company is also building an underground barrier on the site.

In terms of climate change, lignite is among the most problematic fossil fuels.

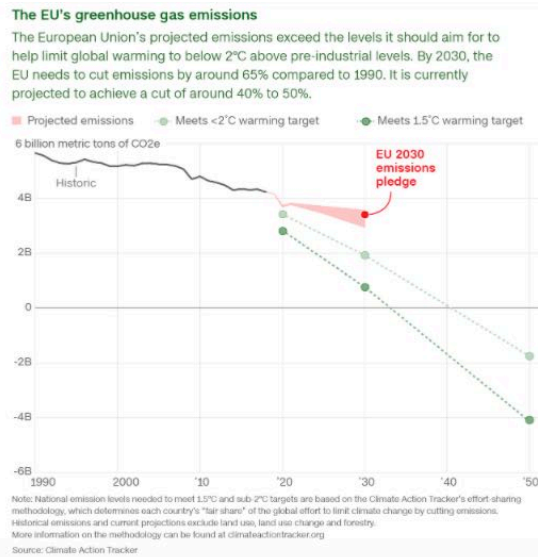
Burning it emits almost twice as much carbon dioxide as burning natural gas to produce the same amount of energy, according to the US Energy Information Administration.

When Poland signed the 2015 Paris Agreement, it pledged to keep global temperature rises to well below 2 degrees Celsius above pre-industrial levels. To limit more warming, the world needs to quickly transition away from fossil fuels.

The EU, including Poland, will need to slash its coal-related emissions close to zero by 2030, if it wants to be compatible with the Paris Agreement, [according to a 2017 study by the research institute Climate Analytics](#).

The study estimates the Turów power plant needs to shut down sometime between 2024 and 2028. Going beyond that date will make future warming more difficult to control.

But PGE is set on keeping the operations going until 2044. It's currently building a new unit at the power plant, a 3.5 billion Zloty (\$930 million) investment project that will only become economical if it's allowed to run its planned course. The new unit is scheduled to start operating in April next year.



Poland is an outlier in the EU

Poland is fiercely resisting the calls for a rapid phaseout of coal. The country is the only EU member state refusing to pledge carbon neutrality by 2050.

The Polish government is propping up the increasingly uneconomical coal industry by buying up unwanted coal and banning imports of cheaper coal. The country has also been investing into renewables, especially offshore wind farms and solar.

Deputy Prime Minister Jacek Sasin told the Polish TV channel Polsat this month that while phasing out coal will be necessary in the future, he doesn't expect coal mining to stop until "between 2050 and 2060."

Poland is on a collision course with the EU, which is itself running behind on some of its own climate goals. According to a soon-to-be-published policy analysis by [the Climate Action Tracker](https://climateactiontracker.org), shared exclusively with CNN, Europe's current policies are still not compatible with the Paris Agreement.



Cooling tanks and older structures are seen at the Turów plant. PGE is currently building a new unit at the plant. It will only become economical if it's allowed to operate until 2044. Credit: Sarah Tilotta/CNN

The EU must set more ambitious near-term goals if it wants to comply with the accord, according to the new study. The current 2030 target is to cut emissions by at least 40% from 1990 levels, which the Climate Action Tracker says is "severely inadequate."

Under the Paris Agreement, countries should aim for the "highest possible ambition" when it comes to emissions reductions, but there are currently no guidelines on what each nation's share of the global burden should be.

The Climate Action Tracker has calculated country-by-country figures, based on each nation's economic and historical circumstances and backed by published scientific literature. In order to contribute its fair share to global efforts, the EU should be aiming to cut its emissions by around 65% compared to 1990 levels by 2030, according

to the [Climate Action Tracker](#).

“It’s insufficient because it was based on the situation 10 years ago,” said professor Niklas Höhne of the NewClimate Institute, one of the lead authors of the Climate Action Tracker study. “The emissions in the last 10 years have gone up much more than we had thought at that point in time. And we have the new Paris Agreement goal.”



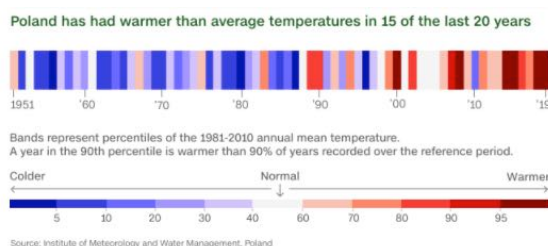
A worker at the lignite power plant points to a display showing emission levels. Credit: Sarah Tilotta/CNN

The EU is trying to negotiate a more ambitious 2030 target, but reaching an agreement will be tough.

When the bloc agreed a [\\$2 trillion coronavirus relief fund](#) in the summer, its original aim was to tie the disbursement of the cash to the climate neutrality pledge. Poland successfully campaigned against that requirement and will be able to access the funds without agreeing to cut emissions to net zero by 2050.

The EU has still earmarked 30% of the funds for climate, but it has watered down safeguards designed to prevent any of the rest of the money from going into polluting sectors. Poland has not yet revealed how it plans to spend its share. The Polish government has not responded to CNN’s requests for comment, but its long-term energy plan published earlier this month reveals it is planning an increased investment into renewables and nuclear power.

Despite its opposition to quick transition, Poland is already experiencing the effects of climate change. Temperatures have increased and [heat waves and droughts](#) have become more common.



Few in Turów see a connection between climate change and the power plant. The complex has adopted more stringent environmental standards in the past two decades and its visible impact on the environment is less severe than it used to be. Gone are most of the poisonous emissions that caused environmental disasters in the nearby Jizera Mountains in the 70s and 80s. The snow no longer turns black because of the fine dust escaping from the mine.

Most people in the area feel like they can’t afford to worry about the climate crisis when it’s their livelihoods that are at stake.

“I don’t link my job with there being less snow in the winter. These things change every year. These things change naturally. We are, the mine is, producing fewer and fewer emissions each year. We are mining less coal,” mine worker Pupin said.

Oktawian Leśniewski

Acting director
Turów power plant



Credit: Sarah Tilotta/CNN

I don't really understand the problem. This region has been a coal region for many centuries.

I started working here almost 20 years ago. I was employed here right after school. My brother works in the mine. He has been working there for 25 years. My father worked in the mine. It happens very often in our region that whole families work in the complex.

I don't really understand the problem. This region has been a coal region for many centuries. Many mines and power plants in Germany and the Czech Republic are bigger than ours and they operate without such problems.

I feel proud and I feel responsible. The plant is located in a unique location, our activity does impact our neighbors. And we are investing a lot into the efforts to be good neighbors. We are meeting the most stringent requirements, even if they are not mandated by the law.

For sure, changes are necessary. We must progress with the energy transition. But this need to be sustainable, they must take place over a long period of time. We need a chance to adapt.



Credit: Sarah Tilotta/CNN

Marcin Łozowski

Physiotherapist

It's a really big deal. A lot of people work at the mine and the power plant. It pays very well. It's important it keeps going, for the economy. I think more than 50% of people [in the region] work there. There's a lot of connection to it.

I am a physiotherapist and osteopath. Many of my clients work there. A lot of people go to Germany for work, but

there's not a lot of work. It's work for young people. The mine is for older people. Some have been working there 20, 30, 40 years.

For me, waste is a bigger problem [than climate change]. We need to rethink how we deal with waste.

If the mine stays open for six years, it changes nothing. In 25 years? I don't know what will happen. No way. We have a pandemic now. Anything can happen.

Beata Zygmuntowicz

Employee of the Municipal Cultural Center in Zgorzelec



Credit: Sarah Tilotta/CNN

When I was a child, we never, never had white snow here. It was black. The snow was black because of the dust.

I would close all of the coal power plants now, because of climate change. Absolutely. We don't have to ruin the Earth anymore, there is technology now that makes it possible to switch to greener energy.

I was born here and I remember, when I was a child, we never, never had white snow here. It was black. The snow was black because of the dust. Now, the mine doesn't have these problems.

I know many people who work in the mine. I know I am in the minority here. But even the people who work there, they know this is just a matter of time.

I work in the municipal cultural center. The lockdown has impacted us a lot. And the economy too. This is a municipal facility, so if the tax revenues go down, they can't fund us. Usually, when the economy is down, the culture is the first to see cuts. If the mine closes, the economy of the town will suffer. We would definitely feel the impact of it. But I hope that the government will find a solution. We pay taxes for that.



Credit: Sarah Tilotta/CNN

Marta and Tomasz Kukuć

Mine workers

We began our professional career at the Turów mine 21 years ago. My family has been connected with the mine since after World War II. My grandfather settled here in the west after this part of the land was annexed to Poland.

He worked for a company searching for the coal deposits and after some time he was employed by the mine as a conveyor operator. My mother took up a job in the mine as a 20-year-old girl. She met my father in 1967 or 1968 and they both began working at the mine.

I am proud to be a miner. I am proud of my heritage. I associate myself with this place.

We already experienced [the mining decline] in Wałbrzych, when mines there were closed down in a rush, and what kind of consequences it caused. We saw people in poverty, community degradation, and actually it took 20 years, and maybe 30 years, until this city rose again.

These interviews have been edited for clarity and length.

Collecting signatures

The international pressure for the mine to shut down is scaring the local residents. According to PGE, the complex employs around 5,000 people. The jobs of a further 10,000 in the region depend on it. As of 2018, the Zgorzelec region had a total labor force of 20,500 people and a population of 90,000.

The region's mayor Artur Bieliński said that if the mine and the plant shut down suddenly, it would be a disaster.

"There would be big social problems if this many people got unemployed suddenly," he said. "It has happened in the 1990s in Wałbrzych when four mines closed ... people develop bad habits, addiction, alcoholism and there's crime."

Poland has almost as many coal and lignite mining jobs as the rest of the EU and UK combined



Source: European Commission, 2020

Bieliński knows the mine will eventually close. But he wants it to happen slowly and with financial help from the Polish government and the EU that he hopes could make the region attractive to investment. It's the mantra that is repeated throughout the region: "Evolution, not revolution."

The EU has set aside €17.5 billion (\$20.7 million) for its Just Transition Fund which is meant to help regions that stand to lose from the coal phase-out. The European Commission has already drafted a shortlist of areas that should be prioritized under the scheme, including nine regions in Poland. Zgorzelec is not one of them. According to the Commission, that's because only regions with a clear commitment to a transition in the near future are eligible for the funds, and Turów's expansion plans rule that out.

When 13,000 Czechs signed a petition against further mining and sent it to the EU, people from the towns surrounding the mine on the Polish side mobilized in defense of the power plant. They collected 30,000 signatures calling for the operations to continue until 2044.

Kids from the local scouts group, the 69th yachting scouts group "Przystan" in Zgorzelec, took part in the effort.

Sandra Beczek, 15, is one of the scouts involved in collecting the signatures. "My parents run a shop. And many people are working in the mine. If they lose their jobs, they won't come to the shop. So the mine drives the whole economy in this region," she said.



From left: Sandra Beczek, Weronika Stambuli, and Amelia Tokarska are three of the local scouts involved in the petition.



The lake where the “Przystan” scouts group sails is man-made, designed to hold water for the Turów power plant. Credit: Sarah Tilotta/CNN

Just like scout groups around the world, “Przystan” takes part in activities designed to help the environment, including local rubbish cleanups. But their activism doesn’t extend to the kind of school strikes started by the Swedish climate activist Greta Thunberg.

“I think that because we support the mine doesn’t mean that we don’t support the environment. It doesn’t exclude one another,” said Amelia Tokarska, 15. And as for Thunberg and her call for countries like Poland to shut down coal power plants immediately?

“She should rethink what the consequences for the community would be if she closed down the mines right away,” Tokarska said. “That she is not alone in this and should think about other people’s lives, how they are affected.”



Credit: Ben Nelms/Bloomberg/Getty Images

Oil sands in Fort McMurray

An oil-addicted world is what this part of Canada is banking on

By Ivana Kottasová Photographs by Codie McLachlan



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hawn “Big John” McDonald was born and raised on the Kikino Metis settlement in Alberta, a piece of land set aside for the local aboriginal population.

He got into the oil and gas industry straight after school, “like my father did and so many people within the family and the community and other communities in Alberta,” the 49-year-old business owner said.

For McDonald, developing the area’s oil sands is a logical continuation of his ancestors’ traditions.

“The harvesting rights used to be exercised by hunting, you know, moose, deer and trapping and selling the furs and picking berries and fishing and all that stuff,” he said. “But over time, the oil and gas industry came into the area and we started getting into working for oil and gas ... we are still harvesting our rights, but in a different way.”

Shawn “Big John” McDonald

Business owner
Lac la Biche, Alberta



Credit: Codie McLachlan for CNN

I am big on supporting local. When companies like mine flourish, the whole local area feels that.

He feels strongly about the community’s connection to its natural resources. His company, Black Scorpion Contracting, provides services to many local oil and gas operations. Based in Lac la Biche, a two-and-a-half-hour drive south of the region’s oil capital, Fort McMurray, McDonald himself employs many locals.

In 2009, McDonald and other indigenous representatives in the area founded the Region One Aboriginal Business Association (ROABA), to promote the community’s interests. There’s no doubt in his mind that oil sands production is benefiting them. “Aboriginal people are flourishing in this way, because we are bush people. Not many of us come from the city, we come from settlements and reserves, so oil and gas is a good fit,” he said.



McDonald has been campaigning in support of Alberta's oil sands operations.



Last year, McDonald organized a truck rally across northern Alberta in support of the oil and gas industry.

Credit: Codie McLachlan for CNN

One of ROABA's key activities is voicing the community's strong support for the oil sands business, in stark contrast to protests against the oil industry by other indigenous groups and their supporters -- like the Indigenous Climate Action group which has been campaigning against Alberta's plans for more oil sands projects and a new pipeline, which it calls "antiquated energy and economic projects."

Last year, ROABA staged a truck rally in support of a new oil pipeline. "We stand against the policies of the federal government in Canada, put in place back in 2014, that really hurt our industry ... and in turn, really hurt aboriginal people as well."

A gradual decline

The local government in Alberta agrees with McDonald. It is now pumping money into the oil and gas sector, hoping to speed up the recovery from the coronavirus crisis.

It has invested 1.5 billion Canadian dollars (\$1.1 billion) in the Keystone XL pipeline -- an investment it says will support the economy and create 7,000 jobs. The province has also promised a 6 billion Canadian dollar (\$4.5 billion) loan guarantee to the pipeline's builder.

As part of the recovery package, the province is also investing into emission reduction technology -- although the amount earmarked for the program is far lower at 476 million Canadian dollars (\$361 million).

The median annual income in Fort McMurray is nearly double the average in Alberta province Canadian dollars



Source: Statistics Canada, data from Census 2006

A number of indigenous groups have opposed the pipeline. The Indigenous Climate Action group said the decision to pour taxpayers' money into the project "demonstrates the continued disregard of long-standing environmental, human and Indigenous rights abuses in the province."

Critics of the choice also point out that the industry has struggled in recent years. To break even, oil sands operators need US oil prices to be between \$50 and \$60 per barrel -- far higher than the current \$40.

"[The Premier of Alberta] Jason Kenny has repeatedly indicated that he does not value the health of our communities and continues to ignore signs from the global economy that fossil fuel projects do not align with future plans for prosperity," Mike Mercredi, a member of the Athabasca Chipewyan First Nation, said in a statement.

The Alberta government rejects that criticism. In a statement to CNN, it said the world will have a demand for oil for the foreseeable future, a point industry analysts agree with. The latest forecast by BP says demand will decline gradually over the next 30 years.

"We believe it's much better that that oil come from a liberal democracy such as Canada, as opposed to dictatorships like Russia and Saudi Arabia," it said, adding: "Pipelines are both more efficient and safer for transporting that oil, as opposed to methods such as rail."



Canada's Prime Minister Justin Trudeau announces his government's decision to approve two new pipelines from Alberta at a news conference in Ottawa in November 2016. A third proposed pipeline was rejected by the government on the same day. Credit: Sean Kilpatrick/The Canadian Press/AP

Alberta's unequivocal support for the oil and gas industry also appears to go against Prime Minister Justin Trudeau's promises to turn Canada into a climate champion.

"You have the national government, which has very good intentions, and then you will have certain regions and provinces that are really dependent on fossil fuels, and so you have conflicting interests here," said professor Niklas Höhne of the NewClimate Institute.

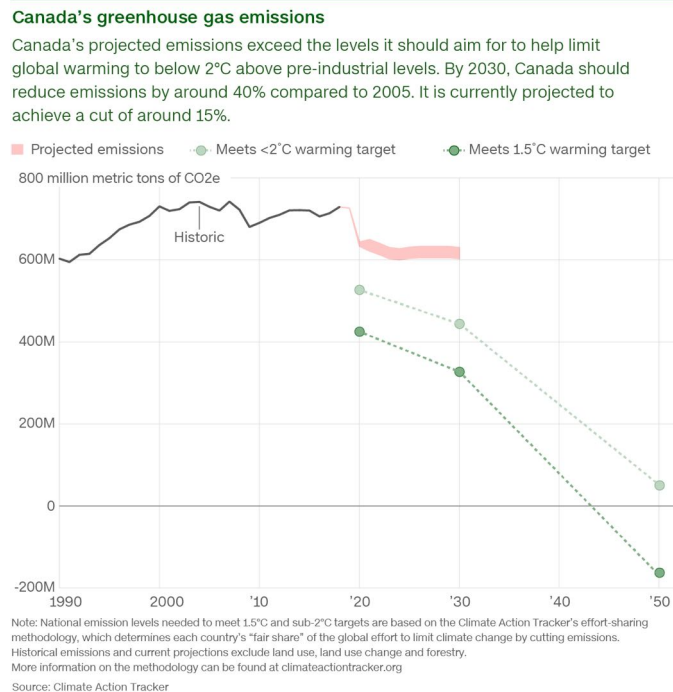
Trudeau has been vocal on climate change on the international stage, announcing last year that Canada would slash its carbon emissions to net zero by 2050 and set legally binding five-year emission reduction targets. However, he is also a strong supporter of the oil industry, and has been campaigning for the Keystone XL pipeline project to go ahead. Canada is the world's fourth biggest oil producer and its economy relies heavily on royalties and other oil taxes.

"The federal government is not always consistent in what they're doing. And especially building infrastructure -- pipelines, energy ports, new power plants -- that is exactly the thing that one should not do, if one takes climate seriously," Höhne said.

And although Canada signed up to the 2015 Paris Agreement, which seeks to limit global temperatures to well below 2 degrees Celsius above pre-industrial levels, an upcoming study by [the Climate Action Tracker](#) shared exclusively with CNN shows that Canada is running behind its plans.

Under the Paris Agreement, countries should aim for the “highest possible ambition” when it comes to emissions reductions, but there are currently no guidelines on what each nation’s share of the global burden should be. The Climate Action Tracker has calculated country-by-country figures, based on each nation’s economic and historical circumstances and backed by published scientific literature.

In order to contribute its fair share to global efforts, Canada should be aiming to cut its emissions by 40% compared to 2005 levels by 2030, according to the Climate Action Tracker.



Höhne, one of the authors of the study, said Canada was not the only country pledging net-zero emissions at home, while at the same time selling fossil fuels to other countries. Under current agreements, countries are responsible for emissions from their territory. “Canada wants to go net zero, but at the same time is building infrastructure that is really in the way of net zero,” he said.

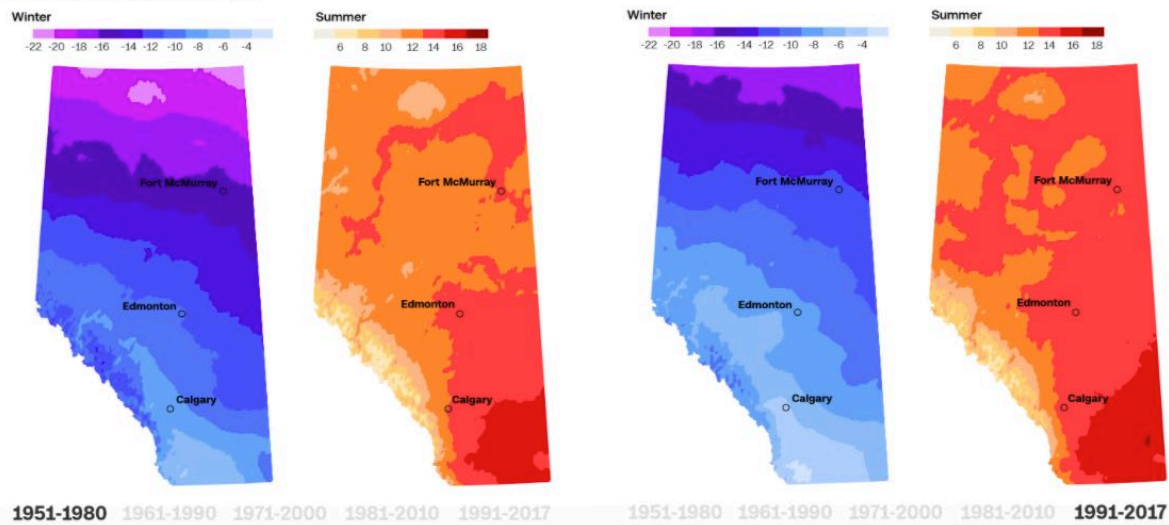
Alberta is warming faster than the rest of the world

Alberta, like several other colder regions including [Siberia](#) and [Greenland](#), is experiencing some of the largest temperature increases in the world.

Annual average temperatures in the south of the province have gone up by between 1 degree Celsius and 2.5 degrees Celsius since the 1950s, according to [analysis by Stefan Kienzie of Alberta's University of Lethbridge](#). In the north, temperatures rose by between 2 degrees Celsius and more than 3 degrees Celsius. Winter temperatures have increased by 4 degrees Celsius to 5 degrees Celsius in the south and 6 degrees Celsius to 7 degrees Celsius in the north. According to Kienzie's data, the number of extremely cold days, when the minimum temperature falls below minus 20 degrees Celsius, has roughly halved across Alberta since the 1950s, with a few exceptions.

Since the 1950s, average temperatures in northern Alberta have increased by as much as 6-7°C in the winter and 0.5-1.5°C in the summer

Mean temperature, 30-year average, °C



The rapidly rising temperatures have a direct impact on life in Alberta. The growing season is now between two and five weeks longer, according to Kienzle. The amount of energy required for heating has gone down by 10% to 15% since the 1950s, although the demand for energy used for cooling is increasing in southeast Alberta.

Although the number of extremely cold days has dropped significantly, extreme weather events are becoming more common, and the number of heatwaves and cold snaps has increased.

And while Alberta has always been prone to wildfires, blazes are becoming more common as the climate becomes warmer and drier.



Credit: Mark Blinch/Reuters



Credit: Jason Franson/The Canadian Press/AP

In 2016, Fort McMurray was hit by a fire so big that the entire city -- 88,000 people -- was ordered to evacuate. Around 2,400 houses and

buildings were destroyed.

Climate scientists say it's impossible to say for sure that one specific event -- the Fort McMurray fire, for example -- was caused by climate change.

But they say these incidents are becoming more frequent and more severe because of climate change.

According to research by Megan C. Kirchmeier-Young at the University of Victoria in British Columbia, the fire was between 1.5 to 6 times more likely because of climate change.

Estella Petersen, a heavy equipment operator in Fort McMurray, lost her home in the fire. "It took three years before [it] was rebuilt and I could move back in," she said. "And then this year, we had floods, which damaged a lot of property and I was also affected by that ... and now we have the pandemic ... so I think the people that are here, I think the ones that remain are pretty resilient," she said.

Petersen is an Ojibwe woman from Cowessess First Nation. Growing up in a small town in Manitoba, her family, like many in the area, was dependent on government handouts. "Being poor and collecting government assistance, you can become really accustomed to it," she said. "I've always known that I didn't want to be dependent on the government for checks."

Estella Petersen

Heavy equipment operator
Fort McMurray



Credit: Codie McLachlan for CNN

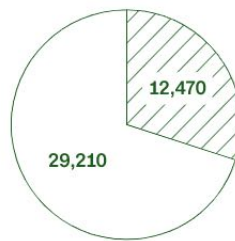
I think that the industry up here does help a lot of indigenous people. I know it does because there are so many indigenous businesses.

Petersen graduated from high school, moved to Calgary, married, put herself through college, got divorced and raised two kids. Then, when her children left home nine years ago, she decided it was time for a change. So, she moved to Fort McMurray, hoping to find a lucrative job in the oil sands industry. She applied for around 25 positions before being hired by a company happy to train her up.

Now in her mid-50s, Petersen says she loves her work and the independence it gives her. She enjoys the fact that her job keeps her in shape. The schedule -- six days on, six days off -- suits her. And she says the pay is way better than any job she had in the past.

"I feel like I work really hard in my life and I feel like everything I did, it was always a struggle, and ... this job makes it worth it all ... even though I have long hours and ... in the wintertime it can get to minus 45 degrees Celsius," she said.

Almost a third of workers in Fort McMurray are employed in mining, quarrying and oil and gas



Note: Total labor force as of 2016
Source: Census 2016, the latest available

Like many in Fort McMurray, Petersen is worried about the future. The international pressure on Canada over its controversial oil sands operations is growing, with high-profile activists like actor Jane Fonda getting involved.

“Most people here are associated somehow with oil and gas and I think if oil and gas ever had to leave, Fort McMurray would be almost a ghost town,” she said. “There is a lot of pressure from activists and I hate to think of what’s going to happen. Right now, the mental health in Fort McMurray, people are stressed out ... and even though we’re resilient, I don’t know how far can we be pushed.”

Petersen believes activists are failing to see the other side of the story: “Oil and gas is the backbone of Canada ... and I think, if it wasn’t here, there would be another country supplying oil and gas to Canada, and I’d rather see Canadian oil, just because we are environmentally responsible.”

Roughly three-quarters of Alberta’s oil is in fact exported abroad, mostly to the United States. The rest is used within Canada to produce gasoline, diesel and jet fuel and other petrochemical products.

‘I am proud of what I do’

Oil sands are a mixture of sand, water, clay and a thick type of oil called bitumen. Most of Canada’s proven oil reserves are in oil sands and most are in Alberta.

Recovering crude oil from oil sands is the most polluting and expensive way to extract oil. It requires a lot of energy and large amounts of water. The technology involved has improved in recent years, but the process still produces large quantities of greenhouse gases.

Oil sands are usually found deep underground, but in Fort McMurray, some deposits are shallow and can be extracted from open pit mines. Once recovered, the substance is crushed and moved into separation vessels where it is mixed with hot water, allowing the bitumen to be separated off.



This tailings pond at the Suncor oil sands operations, pictured here in September 2014, is just one of many such structures near Fort McMurray, Alberta. Credit: Todd Korol/Reuters

The resulting waste is dumped into tailings ponds -- large muddy dams full of dark toxic sludge that are the industry’s biggest problem. Environmental watchdogs and activists including the Commission for Environmental Cooperation, the environmental arm of NAFTA, have warned about the danger of the substances leaking into groundwater and

their impact on wildlife.

Under Alberta's law, oil sands operators must have plans to turn tailings ponds into reclaimable land. Many of those who work within the industry highlight this process as something environmental activists rarely focus on.

"There's been so much media hype about how ugly it is up here, but it's actually really, really beautiful," Petersen said. "I am proud of what I do ... I love seeing something so ugly turn into ... a reclaimed piece of land that looks beautiful."

While reclamation work can be successful, it is a slow and complex process. According to the Canadian Association of Petroleum Producers, an oil and gas industry association, tailings ponds can remain part of an active mine operation for 30 to 40 years. It can take decades more for vegetation to return.

A future without fossil fuels

As the pressure to slash greenhouse gas emissions grows, many in Alberta are beginning to think about the future without fossil fuels.

For Kevin Weidlich, president and CEO of the Wood Buffalo Economic Development Corporation, based in Fort McMurray, this doesn't necessarily mean a future without oil. "That oil could be diverted for other uses, other than fossil fuels," he said. "It's entirely conceivable that it could be used to supply petrochemicals, plastics, pharmaceuticals, but also new types of fuels, for example hydrogen fuel cells."

Alberta's government is sponsoring several tech programs trying to find other uses for the bitumen. Among other initiatives, it is running a 15 million Canadian dollar (\$11.4 million) international competition to fund technology that would convert it into carbon fiber, to replace steel.



Fort McMurray is economically dependent on the oil sands industry. A third of its workers are employed in the mining sector. Credit: Codie McLachlan for CNN

"It's a different way of thinking. People are saying that the oil and gas industry is dying. But I believe that you still need it to go green -- our cellphones, laptops, batteries ... everything. So you can't just say stop oil because it'll stop the Canadian economy," Petersen said.

Still, people in Alberta are hopeful that the world's growing demand for energy will keep oil operations there going for a long time. "The demand and the population growth ... until we have the [green] energy to replace it, it's not going to happen," McDonald said.

"Start with yourself and turn down your heat, put on an extra sweater, walk or take a bike instead of dropping in your car and cut your own usage of oil and gas. If everybody did that, we would drop the need for [energy] dramatically. So to me, people got to start with themselves before they start trying to take down the whole industry," he said.



Credit: Matthew Abbott/The New York Times/Redux

Coal mining in Mackay

Mining is a tough job to quit in this part of Australia

By Ivana Kottasová



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ony Caruso doesn't have to struggle to recruit people to work for him. "If I put out a job tomorrow for 50 new people to come into the industry, it wouldn't be unusual to get 500 or 600 people apply for those 50 roles," said the managing director and CEO at Mastermyne, a coal mining contractor based at Mackay, in the Australian state of Queensland.

Mining is an attractive profession in Australia, boasting the highest salaries in all sectors of the country's economy. Average weekly pay in the industry was almost 2,700 Australian dollars (\$1,970) in May this year, according to the Australian Bureau of Statistics, compared to 1,680 Australian dollars (\$1,220) in construction and 2,020 Australian dollars (\$1,471) in finance.

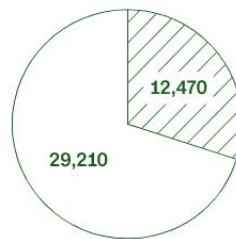
And while the work can be hard and the hours are long, many companies offer ample benefits and shift patterns that allow people to work five, six or seven days followed by an equal number of days off -- an appealing option for many, especially younger people.

Riley Farrow, a 23-year-old apprentice at Mastermyne, is making the most of that schedule; last year he took a three-week vacation in Japan, and only had to take five days off work.

Farrow works at the Moranbah North Coal Mine, about a two-and-a-half-hour drive inland from Mackay. When he's working, he stays at a mining camp near the work site. When he's off-duty, he lives with his partner and dog, back in the city.

It's the stability of the job, as well as the pay, that Farrow finds attractive. After leaving school six years ago, he says he struggled to find a permanent role, working odd jobs as a laborer.

Almost a third of workers in Fort McMurray are employed in mining, quarrying and oil and gas



Note: Total labor force as of 2016
Source: Census 2016, the latest available

He jumped at the chance to interview for a mining job three years ago and was recruited as a “cleanskin” miner -- a nickname for those with no experience. After training, he moved onto Mastermyne’s mechanical workshop, where he spends most of his time servicing the company’s diesel machinery.

He’s planning on buying a house soon, something he said would have taken him a lot longer if he didn’t work in mining. “The pay is a lot, lot better than what you’d get in town. But I am away from home for a large amount of time. You’ve got to weigh it up ... do you want to be home with friends and family or are you willing to be away and miss some important events and whatnot?” he said.

Farrow concedes that the lifestyle isn’t for everyone. People with small children often find it difficult to be away for extended periods of time, he said. “I don’t know if I’ll stay out on site for the rest of my life. If I do, one day, end up having children, I can apply for a job in Mackay.”



Mackay is the gateway to Queensland’s coal mining area. Credit: Arterra/Universal Images Group/Getty Images

But leaving isn’t easy once workers get used to the perks. “If you talk to any young fellow, they’ll tell you that they’re only going to do it for a couple of years and then ... once they settle down and have kids, go and get another job,” Caruso said. He knows what he’s talking about. Now aged 51, he began his career as one of those youngsters who only intended to stay a couple of years, “just to make some money and to get ahead in life.”

“I did enjoy the pay, but I enjoyed the work as well and I think that’s what ends up happening for a lot of people ... they get accustomed to that lifestyle, and they get accustomed to the money, and they are still there when they’re 55 years old, 30 years past when they said they weren’t going to be there.”

In Queensland, coal means jobs

There’s a saying about Australians and coal: To find out what people think, you need to draw a horizontal line across the country, somewhere just north of Sydney. For those who live above the line, coal equals the economy and jobs. For those below it, it’s all about climate change.

Australia is the world’s second biggest coal exporter after Indonesia, according to the International Energy Agency, and Queensland in particular relies heavily on the resources sector. Mining accounts for almost 12% of Queensland’s economy and half of its export revenues, making it the state’s biggest industry, according to government data.

It's also a major employer. One in seven jobs in the wider Mackay Isaac Whitsunday region is in mining.



When the economy suffered a major hit because of the pandemic this spring, the Queensland government quickly stepped in to provide relief for the all-important sector. The package included rent waivers, new exploration incentives and the capping and waiving of charges and fees.

Then, in June, the state government decided to fast-track a new Glencore coal mine in the Bowen Basin, a 1.5 billion Australian dollar (\$1.1 billion) project.

Plans for the new mine have been met with criticism by climate groups. Dan Gocher, climate and environment director at the Australasian Centre for Corporate Responsibility, said Glencore was “making an absolute mockery” of its previous pledge to limit coal mining because of climate change.

Queensland's government says the Glencore project will create 1,400 construction jobs while it is being built, and 950 mining jobs once it is operational. “This new mine has the potential to create hundreds of new jobs as Queensland recovers from the extraordinary shock of the global coronavirus pandemic,” said Queensland's Treasurer, Cameron Dick, adding: “Coal mining has a long history in Queensland and will continue to be a major industry for many years to come.”

That optimism is shared by many in the industry. David Hartigan, chair of Mackay's Resource Industry Network, a lobby group, points to the fact that much of the coal mined in Australia is high-grade bituminous coal.

“As far as we're concerned, when humanity does step away from coal, the very last ton of coal that's burned, it should probably be Australian coal because it's a little bit cleaner and it produces well more energy than the alternatives ... however, we do know that it won't last forever.”

Australia's black coal has a higher heating value, which means fewer emissions are produced to create the same amount of heat compared to brown coal. However, it still produces much higher emissions than other fossil fuels including oil and gas.

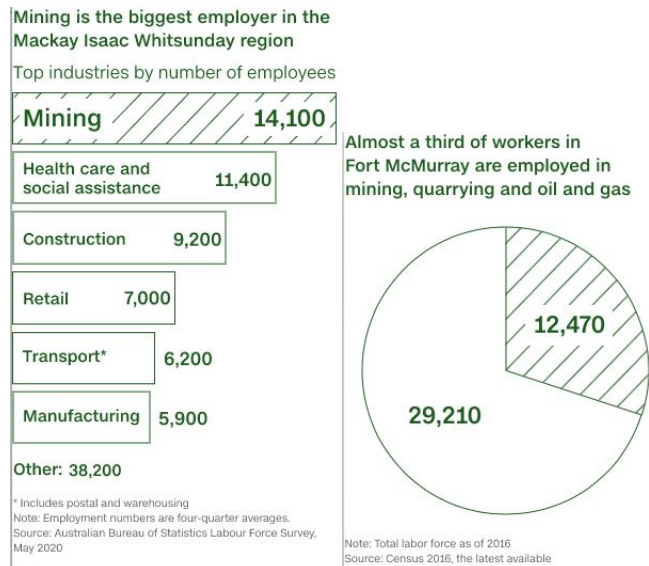


The Collinsville mine, pictured here in July 2017, is Queensland's oldest. The mine, on the edge of the Bowen Basin, has been in operation for over 100 years. Credit: David Maurice Smith/Oculi/Redux

Coal mining has a long history in Queensland and will continue to be a major industry for many years to come.

Cameron Dick, Queensland Treasurer

Australia produces two types of coal: Thermal coal, which is used to generate power and is seen as replaceable with renewables, and higher-grade metallurgical coal, which is used in steelmaking.



"It's well understood that thermal coal will eventually transition out," Caruso said. "There wouldn't be a resource owner or a supplier into the coal space who doesn't understand that, and isn't starting to think about how they position their business going forward because, you know, otherwise they're going to be like the dinosaurs and when that stops, they're going to become extinct."

But he argues that metallurgical -- or coking -- coal is a different story, since there isn't yet a technology that could replace the current steelmaking process at a global scale.

Physicist and climate scientist Bill Hare disagrees; he says there is a line of sight to carbon-free steel making technology, "particularly using green hydrogen."

"It would be a very foolish country and a very foolish company that bets its future on coking coal," said Hare, founder and CEO of Climate Analytics. "The trend in the cost of hydrogen is so rapidly downwards that it won't be more than 10 years before green hydrogen becomes the energy of choice to make steel."

Australia 'is going backwards on climate change'

Climate scientists say it will be necessary to phase out coal power in developed countries by 2030, and in the rest of the world by 2040, if the world wants to avoid catastrophic climate change.

But Australia is going in the opposite direction.

According to an upcoming analysis from [the Climate Action Tracker](#), Australia's coal production is set to increase by 4% from 2020 to 2030.

The new Glencore mine alone is set to produce up to 17 million metric tons of metallurgical and thermal coal every year for 35 years, according to the company.

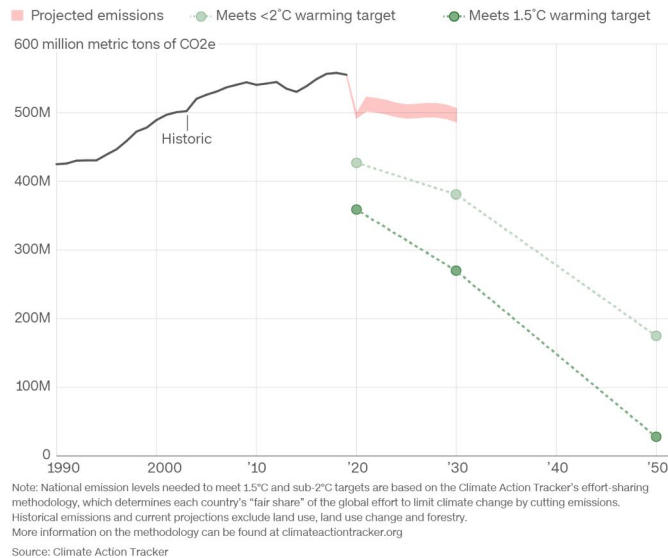
And on top of that, the federal government has invested 4 million Australian dollars (\$2.9 million) in a feasibility study for a new coal-fired power plant in Queensland.

The Australian government says coal is still essential for its energy security. Well over half of the country's power came from coal last year, government data shows, with just over a fifth generated from renewable resources.

But the Climate Action Tracker analysis shows a worrying trend: Investment in renewables is declining because of uncertainty over the government's climate policy.

Australia's greenhouse gas emissions

Australia's projected emissions exceed the levels it should aim for to help limit global warming to below 2°C above pre-industrial levels. By 2030, Australia should cut emissions by around 30% compared to 2005. It is currently projected to achieve almost no reduction.



Australia's determination to keep its coal business going is just one part of its failure to act on climate change. Data from [the Climate Action Tracker](https://climateactiontracker.org) shows Australia is running well behind its already insufficient climate change promises.

"The federal government is going backwards on climate change," said Professor Niklas Höhne, a founding partner of the climate think tank NewClimate Institute, and one of the lead authors of the study.

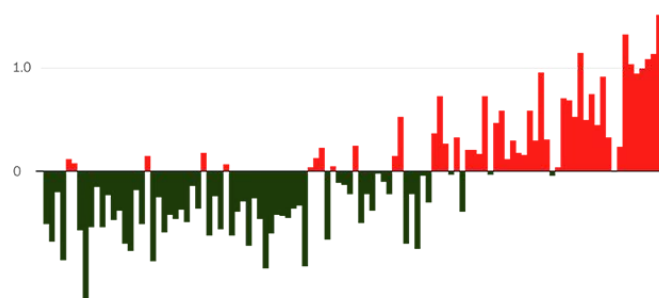
According to the group's analysis, Australia does not have an effective climate policy. It says the government has shown no intention of adopting new Paris Agreement targets and has so far refused to make a net zero emissions pledge. The Australian government did not respond to CNN's request for comment.

Under the Paris Agreement, countries should aim for the "highest possible ambition" when it comes to emissions reductions, but there are currently no guidelines on what each nation's share of the global burden should be. The Climate Action Tracker has calculated country-by-country figures, based on each nation's economic and historical circumstances and backed by published scientific literature.

In order to contribute its fair share to global efforts, Australia should be aiming to cut its emissions by 30% compared to 2005 levels by 2030, according to the Climate Action Tracker.

Temperatures in Australia have warmed over the past century to more than one degree above the long-term average in recent years

Annual mean temperature anomaly compared to the 1961-1990 average, °C



Source: Australian Bureau of Meteorology

Australia is lagging on climate change -- even though it is [among the nations most affected by it](#).

The country regularly struggles with extreme heat waves and changing rainfall patterns which have made its bushfire

seasons longer and more intense.

Last year was the hottest and driest year ever recorded in Australia, according to the Australian Bureau of Meteorology.



Credit: Matthew Abbott/The New York Times/Redux



Credit: Darren Pateman/EPA-EFE/Shutterstock

Australia experienced record-breaking bushfires in the 2019-2020 season.

The fires burned for several months, killed 33 people, destroyed thousands of homes and affected an estimated 1 billion animals across the country.

The chances of the kind of extreme weather that triggered the blazes have increased by more than 30% since 1900, according to scientists from the international group World Weather Attribution.

Fire conditions like this are at least four times more likely than they were at the start of the 20th century, according to the group.

Of all Australian states, Queensland has the most to lose from climate change, according to an Ernst and Young report prepared for Queensland's Department of Environment and Science.

Apart from increased fire danger, the state is facing more frequent and more severe cyclones and intense rainfall events.

Its top tourist attraction -- the Great Barrier Reef -- is also suffering because of climate change. Earlier this year, the reef experienced its most widespread bleaching event on record. It was the third mass bleaching event on the reef in just the last five years.



Corals turn white as a stress response to warm water temperatures by expelling the algae that grows inside them. This October 2016 photograph shows the damage on the Great Barrier Reef in Australia. Credit: Kyodo News/Getty Images

Hare, a co-author of the Climate Action Tracker study, said that even if the global community manages to limit temperature increases to 1.5 degrees Celsius, some 70% to 90% of the world's coral reefs will likely be destroyed because of climate change.

Farrow says that -- just like many young people in Australia -- he worries about climate change. "My generation, despite being around here, we've always had that importance of looking after the planet ingrained into us, so it sorts of is always in the back of my mind at least," he said.

Farrow says his skills are not limited to coal mining and he would be open to working in a different field -- but he doesn't expect that to be necessary any time soon.

"I don't think there is the infrastructure right now to totally cease the use of coal-fired power," he said. "So I think the calls for it come from people who don't see the economic impact it has on the regions that actually rely on it."



Credit: Brian Cassey

Coal mining in Chhattisgarh

India's plans for a coal-fuelled recovery are threatening this ancient forest

By Swati Gupta and Helen ReganPhotographs by Brian Cassey

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he dense jungles of Hasdeo Arand, in India's central Chhattisgarh state, are home to endangered species including leopards and sloth bears, medicinal plants and herbs.

Wild elephants lumber through the 170,000 hectares (420,080 acres) of contiguous forest on their migration routes.

Hasdeo Arand is also home to the Gondi, one of India's original indigenous tribes, known as Adivasis. Like most of these vulnerable communities, the Gondi rely on agriculture and produce from the jungle for their livelihoods.

Jainandan Porte, a member of the Gondi group, has spent the past six years fighting the coal mining operations he says are destroying the pristine forest he grew up in.

"Generations of our ancestors have lived in this forest and generations to come will live here too," Porte, 40, told CNN.

The lives, history and culture of those living in the Hasdeo Arand are deeply intertwined with the forest.



A woman leads her cattle through the Hasdeo Arand forest in Chhattisgarh, in October 2019. The area is home to endangered species including leopards and sloth bears, medicinal plants and herbs. Credit: Brian Cassey

"We have always been self-dependent," Porte said. "The jungle gives us -- without any monetary transaction -- firewood, food, herbs, and that is the natural state of our village."

"Our festivals are tied to the plants and trees in this forest," he said. "We pray to some of them, and if they are destroyed, our culture will be incomplete."

The mining industry is keen to tap into the estimated 5 billion metric tons of coal that sit below Hasdeo Arand. The indigenous population is battling to save the forest, and its way of life, from destruction.

'Tremors in our village'

India's government divides land that sits atop valuable deposits of coal into so-called "coal blocks," which it then auctions off for development.

In 2014 Porte says he helped bring together 40 villages in the region to set up the Save Hasdeo Arand Struggle Committee, in protest at the nearby Parsa East and Kente Basan (PEKB) coal mine, one of two operational mines in the forest.

The Indian government gave the go-ahead for the development of the Parsa East and Kente Basan coal block in 2011 -- despite a report by the government's Forest Advisory Committee which voiced its opposition to the proposal.



Gondi people gather to protest further mining of the Hasdeo Arand forest in the threatened village of Fathepur in October 2019. Credit: Brian Cassey

When the Parsa Kente mine became operational in 2013, an entire village was lost to make way for it, said activist Alok Shukla, convener of the Save Chhattisgarh campaign. He said hundreds of people were displaced, not just from their land but from the only livelihoods they had ever known.

Ramlal Kariyam, from the village of Salhi, near the PEKB mine, has seen the displacement over the past few years. "People here now believe that the government will come and take away their land and livelihood and they are now ready to fight. We will not give up our land," he told CNN.

Sunil Kumar Mishra, a senior official at the Chhattisgarh forest department, didn't deny that locals had been kicked out. "If villages have been displaced, the people there are compensated. There is a rehabilitation plan in place," he told CNN.

The district official who deals with compensation for displaced people did not respond to CNN's repeated requests for comment. India's national environment ministry didn't respond to a request for comment.

There are 18 coal blocks in the Hasdeo Arand region; only two are under active development. The rest are tied up in legal disputes over land acquisition or environmental clearances.

Kariyam said he and the other villagers in Salhi live under the constant threat of the environmental destruction that another coal mine would bring.

"We are scared that once these coal mines start, our forest will be destroyed and the land will become fallow," he said. "We will not be able to do anything on that land."

Porte and Kariyam have seen first-hand the environmental degradation that coal mining brings.

Thousands of trees were chopped down to make way for a 48-mile railway track to service the mine, and the river has been polluted with black sludge from the processed coal, Kariyam said.

"Before, the air was pristine, now because of the coal mine, the dust from that is coming. When they blast through the mine, there are tremors in our village," he said. "The water they use for the coal -- that black water -- they release it into the river. We cannot use that water."



Pipes carry byproduct from the washing of mined coal -- coal 'fly' or coal dust -- to holding 'ponds' in the countryside. Credit: Brian Cassey

Shukla had a similar story. "During monsoon [season], because of the mining, polluted water still flows into the river. But before 2019, they were releasing polluted water directly into the river," he told CNN.

The PEKB mine is owned by Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL), a state-run power generation utility company in Rajasthan. P.S. Arya, a project director working at the utility, said air pollution from the mine was not an issue but acknowledged that runoff from the mine has entered the water.

"It is like this -- where there is coal and where there is coal mining, during rainy season water will collect and because this is an open cast mine, that water will be going somewhere," Arya told CNN.

Adani, a private firm that operates the PEKB mine on behalf of RRVUNL, did not respond to multiple requests for comment. On its website, the company says its project is "touching millions of lives" and that it has "been working closely to improve education and healthcare facilities in India's hinterlands."

A 'self-reliant' India

The Gondis' fight to save the forest is set to take another turn, however.

With the aim of making India "self-reliant," boosting the economy wrecked by the coronavirus pandemic and getting thousands of people back to work, Indian Prime Minister Narendra Modi announced in June that 41 new coal blocks across five states would be opened up to commercial mining.

We are not only launching the auction of commercial coal mining today but also freeing the coal sector from decades of lockdown.

Indian Prime Minister Narendra Modi

"India will overcome the Covid-19 pandemic and the nation will turn this crisis into an opportunity," Modi said on June 18. "We are not only launching the auction of commercial coal mining today but also freeing the coal sector from decades of lockdown."

The Indian government plans to invest \$16.6 billion into 500 projects across the country linked to coal mining, infrastructure, exploration and "clean coal technologies," which can lead to some reductions in harmful emissions, to enable the production of one billion metric tons of coal by 2023-24.

The coronavirus pandemic has hit India hard — its economy contracted by more than 23% in the last quarter, and more than 85 million people lost their jobs between March and June 2020, according to a survey by the Centre for Monitoring Indian Economy.



A coal worker rides to work at the Hasdeo Thermal Power Plant in October 2019. Credit: Brian Cassey

Since the start of the outbreak, Modi has doubled down on the need for India to become self-dependent, so that any future crises will not cripple the country's economy.

Until now, India's coal industry has been largely state-owned. But the auction process for the new coal blocks has been opened to private operators and, for the first time ever, to foreign direct investment, allowing non-Indian firms to invest in coal mining.

Less than three months after Modi's announcement, his order was amended to remove five environmentally sensitive mining locations in the Hasdeo Arand from the list, following public opposition. The neighboring state of Jharkhand has filed a lawsuit against the Indian government, challenging the auction of nine blocks in its territory.

That doesn't mean the threat to the forest has subsided. Looming over the locals is the fact that the Parsa East and Kente Basan coal block is expected to move into Phase 2 later this decade, which would expand the mining area further.

And despite the Gondi taking their protests to the streets, earlier this month the Indian government added three new coal blocks in Chhattisgarh to its list, meaning that seven such blocks in the state are up for auction.



Indigenous rights advocate Bipasha Paul uses a map to point out the parts of the Hasdeo Arand forest that would be impacted by the expansion of coal mine operations in October 2019. Credit: Brian Cassey

The Minister of Coal and Mines, Pralhad Joshi, says commercial mining in Chhattisgarh will create 60,000 new jobs, bringing in an annual revenue of \$600 million.

Save Chhattisgarh's Alok Shukla disputes that claim.

"You can look at any coal mining project in Chhattisgarh, and none of them followed up on the promise of job creation," he said. "So many jobs do not exist. The coal mining process is highly mechanized. The chances of job

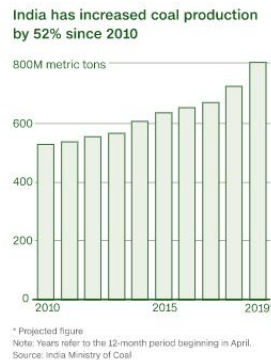
creation are minimal.”

Modi’s government insists the new projects will enable millions of people, including informal laborers, to find work in construction and infrastructure. But at what cost?

“The destruction is more than the development,” Shukla said. “We are losing forests, people are losing livelihoods, they are being displaced, pollution is increasing, the water bodies in the area are vanishing. This issue of climate change is being justified by [the government] for money, revenue and employment.”

Shukla fears that more mining could lead to large-scale displacement of the Gondi communities. Most residents haven’t experienced life outside of the forest and would struggle in the cities, he said.

India’s coal mines and energy



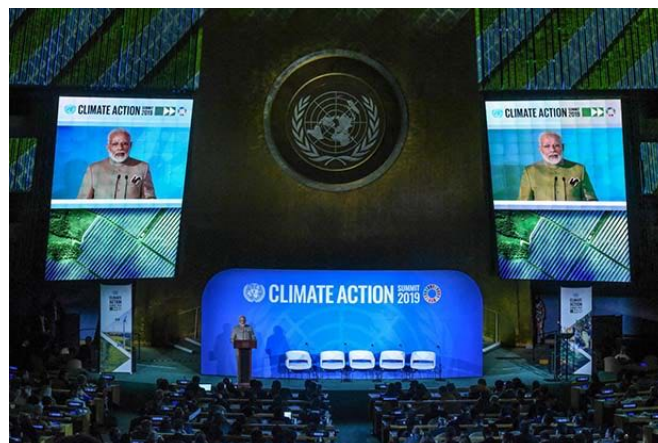
India is the world’s third largest emitter of carbon dioxide, after China and the United States.

The country’s coal production has steadily increased from 532 metric tons in 2010-2011 to a projected 810 metric tons for the year 2019-2020, and the government has a five-year plan to grow the coal sector 8% by 2024.

India also imports a lot of its coal. One major reason for the recent push into domestic production is to wean itself off imports, while still satisfying the growing energy needs of its 1.3 billion population.

But the Modi government’s push into coal as a way to help the economy recover from the ravages of the coronavirus is at odds with his global image as a leader on climate.

In 2016, India ratified the Paris Agreement, pledging to cut its carbon emissions by more than a third -- up to 35% below 2005 levels -- by 2030.



Indian Prime Minister Narendra Modi speaks at the Climate Action Summit at the United Nations in New York City in September 2019. Credit: Stephanie Keith/Getty Images

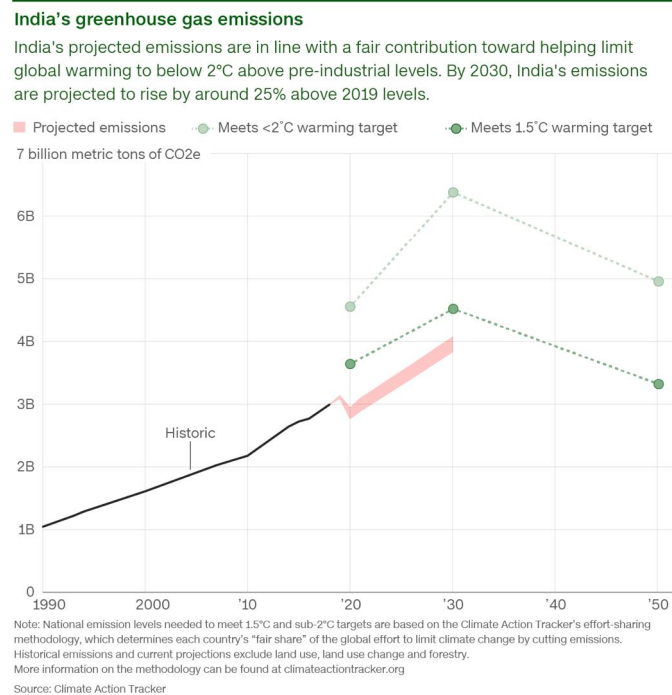
According to an upcoming study by [the Climate Action Tracker](#), shared exclusively with CNN, India is still broadly on track to meet its commitment to the Paris Agreement, with a target of 40 percent renewable energy by 2040.

“India does it quite well,” said Professor Niklas Höhne of the NewClimate Institute, one of the lead authors of the

Climate Action Tracker study. “There's a lot of expansion of renewables. There's a push for electric vehicles. And there's a push for forest management,” he added.

But a report by India's Central Electricity Authority released last year found that coal power could still account for half of India's power generation in 2030. And the call for more coal mining is making climate scientists nervous.

“During this crisis, there are some steps backwards,” Höhne said. “If we take the Paris Agreement seriously, we need much less coal and no additional coal-fired power plants.”



Meanwhile, India is being heavily impacted by the climate crisis.

The past decade was India's hottest on record, according to the Indian Meteorological Department, with temperatures up to 0.36 degrees Celsius above average.

Under a “business as usual” scenario where global average temperatures rise by 4.5 degrees Celsius by 2100, large parts of India could experience temperatures beyond the limits of human survivability, according to a 2017 study by the Massachusetts Institute of Technology (MIT). Under a more optimistic scenario -- where warming is held to 2.25 degrees Celsius -- researchers found that no parts of South Asia would exceed the limits of survivability by the year 2100.

India is also staring down the barrel of an extreme weather crisis, with droughts, floods and drinking water shortages devastating thousands of lives each year -- and impacting the country's already battered economy.



Credit: Arun Sankar/AFP/Getty Images

Deadly heatwaves with temperatures above 50 degrees Celsius (122 Fahrenheit) are now the norm in India during summer. Last year, the country recorded heat wave conditions on 157 days across separate states, and 373 people died as a result. Several cities -- including Chennai, India's sixth-largest -- almost ran out of water. Erratic monsoon rains have made it difficult for farmers to predict when to plant and harvest crops, and flash floods bring major cities to a standstill every year, claiming the lives of hundreds of people.

Porte said he has experienced the climate crisis first-hand.

"Our wells are running dry and we are forced to use borewells during the summer," he said. "Earlier, we knew how much rain we would get every month and how hot it will be in the summers. In the past two to three years ... we get rain all through the year and our crops get destroyed."

The only solution for Porte and his community, he says, is for the government to halt the coal mining plans, and to protect the Hasdeo Arand region.

"If we lose our forest, our culture and traditions will cease to be a reality and instead become a story for the coming generations," he said.

Credits

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