

Know why China is stepping up against climate change

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Beijing: By backing off the US commitment to address climate change, President Donald Trump leaves an opening for a chief economic rival, China, to expand its increasing dominance in the renewable energy industry. In reacting to Trump's announcement that he was withdrawing the U.S. from the Paris climate accord, China reaffirmed its commitment to the landmark agreement and is poised to spend heavily in coming years on renewables.

Yet the world's most populous country remains heavily reliant on coal to generate electricity and power its steel mills – a habit that could be hard to break without stifling its economic aspirations. Here's a look at some of the trends and challenges that could shape China's and the world's energy future.

BEIJING'S COMMITMENT TO CURBING POLLUTION

China's rush to renewables has been driven largely by local pollution from power plants and factories that frequently blankets Beijing and other major cities, endangering public health and driving some residents overseas. Economic opportunity has also played a role, with massive investments in solar and wind helping dramatically drive down the cost for renewables worldwide.

China already accounts for more than one-third of global wind energy capacity. It recently surpassed Germany to become number one in solar capacity.

Renewables employ more than 3.6 million people in China – more than a third of the industry's global total. It plans to add another 13 million jobs in the sector by 2020 with investments of \$144 billion in new solar projects, \$100 billion in wind and \$70 billion in hydropower. That also should help China to reach its commitment under the Paris accord to cap greenhouse gas emissions by 2030.

“China has expressed very clear signals that it wants to take more leadership in terms of promoting trade and global cooperation against climate change,” said Frank Yu, a China-based renewables consultant for the firm Wood Mackenzie. “The retreat of the U.S. actually gives China more opportunity to lead these global efforts.”

ENERGY STILL DOMINATED BY COAL

Notwithstanding China's embrace of renewables, coal still dominates the nation's fuel mix, accounting for 62 percent of total energy consumption in 2016. Coal production fell over the past several years, with a slowing economy as one factor.

In January, China announced the suspension or cancellation of plans to build an additional 100 coal-fueled power plants. Yet dozens more are still expected to be built and China's also bankrolling plants in other countries. It's by far the largest consumer of coal worldwide, producing 3.41 billion tons of the fuel last year – more than four times the volume in the U.S., the second largest coal consumer. Largely as a result, China is also the top emitter of greenhouse gasses blamed for worsening climate change.

Coal production is rebounding this year, up 2.5 percent during the first four months compared to the same period in

2016, according to China's National Bureau of Statistics.

Trump cited China's continued emissions as one justification for withdrawing from the climate accord, which the Republican said unfairly burdened U.S. industries. A Chinese foreign ministry spokeswoman said Friday in response to Trump's remarks that as a "co-responsible major power" China would continue to promote the Paris agreement and fulfill its obligation "100 percent."

CONVERTING COAL TO GAS

Coal has suffered a steep and sustained decline in the U.S. since cheap, abundant supplies of cleaner-burning natural gas supplanted it as the main fuel for power generation. China's gas supplies are far more limited, hurting its prospects as a replacement fuel.

One option that's being pursued in the country's western provinces is to convert coal into synthetic natural gas. That could help curb air pollution blamed for urban smog and, researchers say, potentially stave off tens of thousands of premature deaths annually.

But converting coal to gas would also produce more of the carbon dioxide that's the main driver behind climate change, first in manufacturing the gas and again in burning it. Meanwhile, the renewables boom has proven too much for China's electricity grid to fully absorb, causing some energy to go to waste.

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