

China won't save global climate protection policies

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Expert



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Technicians check panels at a solar power plant in Tianjin, in northern China. In 2016, the country's solar power capacity grew by 80 percent (source: dpa)

China has made huge efforts to reduce the role of fossil fuels in its energy supply and to invest in renewable energy sources. However, Beijing has not suddenly become altruistic or overcome with concern for the state of the global environment. Instead, it is following its national interests and advancing them with little or no heed for the long-term global good.

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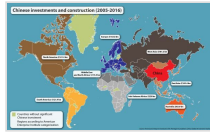


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much tougher decarbonization strategies necessary for it to hold up its

end of the 2015 Paris climate agreement and keep global temperatures from rising by more than 2 degrees Celsius.

At this year's World Economic Forum in Davos, Switzerland, President Xi Jinping arrived with the largest-ever Chinese delegation, including more than 100 officials and business executives. It was a clever move, designed to make it look as if China was filling the vacuum left by the United States and the incoming administration of Donald Trump, who sent just one top advisor. In contrast to the new president's protectionist rhetoric and promises to roll back his predecessor's environmental measures, President Xi Jinping presented China as the new guardian of the world's free trade and rescuer of the world's climate protection policies.

“The Trump administration's policies cannot be the only prism through which climate change is viewed

For China, it was a convenient opportunity to take an assertive leadership role on the world stage and present itself as a force for stability – a striking contrast to the dominant perception of the new U.S. administration. Given the Trump team's skepticism that climate change is caused by humans and its declarations that it will withdraw the U.S. from the Paris agreement, some now hope China can become the new global leader in climate protection.

Considering that worldwide clean energy investment plummeted from a record high of \$348 billion in 2015 to just \$287.5 billion in 2016 (the solar power sector saw a 64 percent decrease in investment), and that global surface temperatures reached another record last year (nearly 1 degree Celsius higher than in the mid-20th century), it is understandable that environmentalists are grasping at straws.

However, hopes that China can lead the charge against climate change also risk overlooking the many hurdles it will have in implementing its Paris summit obligations and developing more robust decarbonization strategies. The Trump administration's policies cannot be the only prism through which climate change is viewed – nor can they be made the sole scapegoat for any lack of progress.

Paris summit

The Paris global summit on climate change in December 2015 has been celebrated for strengthening international efforts to reduce carbon emissions and make a faster transition to a new global energy system not based on fossil fuels. The U.S. and Europe are significantly reducing coal consumption, while

global divestment from fossil fuels has picked up speed since 2014. In fact, research on 1,400 international funds between 2012 and 2014 concluded that green funds have outperformed so-called “black funds” by more than 14 percent. But any decarbonization scenario is complicated by ongoing state subsidies for fossil fuels – worth some \$550 billion in 2013. The Paris summit itself witnessed fundamental disagreements on how to share carbon emission cuts between rich nations and fossil fuel-reliant giants such as China and India.

More than a year later, 134 of 194 signatories had already ratified the Paris agreement, committing to implement their “nationally determined contributions.” The Paris accord includes not just mitigation targets, but also information about adaptation needed to limit global warming to between 1.5 and 2.0 degrees Celsius. In addition, it set out the goal of achieving net-zero carbon emissions in the second half of this century. Until 2050, the process will be based on new, transparent rules for reporting emissions reductions, as well as unified standards for exchanging information.

But the COP21 agreement has further widened the gap between environmental policies and global energy trends. Already before the Paris summit, those trends indicated that global temperatures would rise by 3.6 degrees Celsius by 2100. A February 2016 MIT study on the effects of the Paris agreement concluded with 95 percent certainty that warming would still likely range between 2.7 and 3.6 degrees Celsius – and it was based on the best-case scenario that all the agreement’s commitments would be fulfilled.

Long-term global emissions reduction also depends on technologies such as Carbon Capture and Storage (CCS) in energy intensive industries and coal-fired power plants. Such technologies are supposed to account for 17-20 percent of the 80 percent overall emissions reductions that are supposed to occur by 2050. However, some European countries (such as Germany) have abandoned CCS due to domestic protests. They have not offered any alternative to make up the difference.

Economic engine

Many oil and gas producing countries view their fossil fuel reserves as their only motor of economic and social development. These include states such as Iran and Iraq, which had been unable to raise oil and gas production due to international sanctions or internal violence and unrest.

While Saudi Arabia, the world’s lowest-cost oil producer, is resilient enough to survive oil prices even below \$30-40 per barrel, most others are not. These countries will lose economic and political influence as lower fossil-fuel consumption constrains their budgets and limits their domestic and foreign policies. Some oil producers, such as Venezuela, are even on the brink of economic collapse.

A scenario in which the oil price remains low for the long-term could also lead to “stranded” reserves and assets even without further measures aimed at limiting climate change. This would hurt high-cost producers and countries whose budgets are reliant on oil export revenues. However, aside from Saudi Arabia and some smaller Gulf States, most major oil and gas producers lack a vision for their economic future, as well as the funds and political will to diversify their economies and decarbonize their energy supply.

“The COP21 agreement has further widened the gap between environmental policies and global trends

For example, Russia, the world’s largest energy producer, did not diversify its economy over the past decade, when oil and gas prices were high. It has hardly begun to address the manifold challenges it will face as exports of fossil fuels – the foundation of its economy and political stability – decline. In 2015, more than 11 percent of Russia’s gross domestic product (GDP) and 52 percent of its federal budget revenues came from the oil and gas sector.

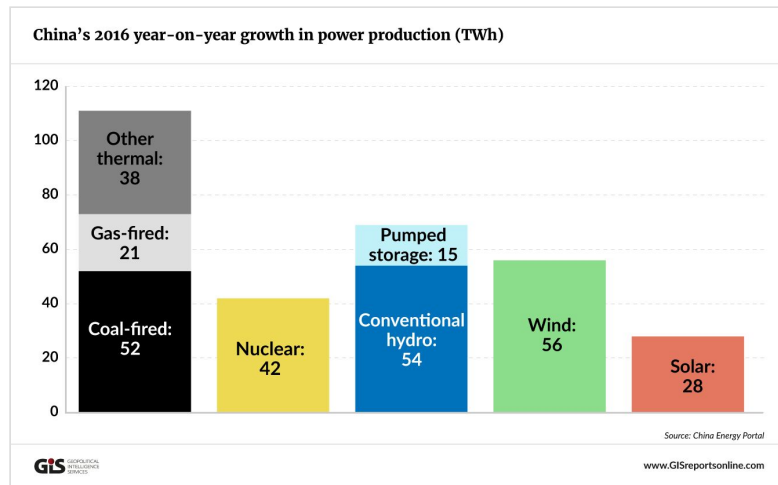
However, President Vladimir Putin and his government are still basing Russia’s future on best-case longer-term scenarios of rising oil and gas exports. At the World Energy Congress in Istanbul last October, President Putin denied assertions that the hydrocarbon era is beginning to wane and that the focus will switch to alternative energy sources. Accordingly, the latest draft Russian energy strategy replaces the previous “optimistic” target of deriving 4.5 percent of the country’s energy from renewables by 2020, with a “more realistic” target of 2.2 percent.

The stability of Russia’s regime depends on oil and gas exports, which it sees as necessary to restore its great power status. In contrast to Europe, the U.S. and many other countries, Russia’s elite often perceive climate change not so much as an environmental disaster and economic threat, but rather as a chance to open new opportunities for economic development. Russia thus sees itself as a winner of climate change. The melting of Arctic ice opens new areas for offshore oil and gas production (according to U.S. estimates, up to 25 percent of the world’s remaining conventional oil and gas reserves are in the Arctic) and new sea lanes for shipping. Furthermore, any big shift in Russia’s energy policies away from fossil fuels is dependent on fundamental political reforms.

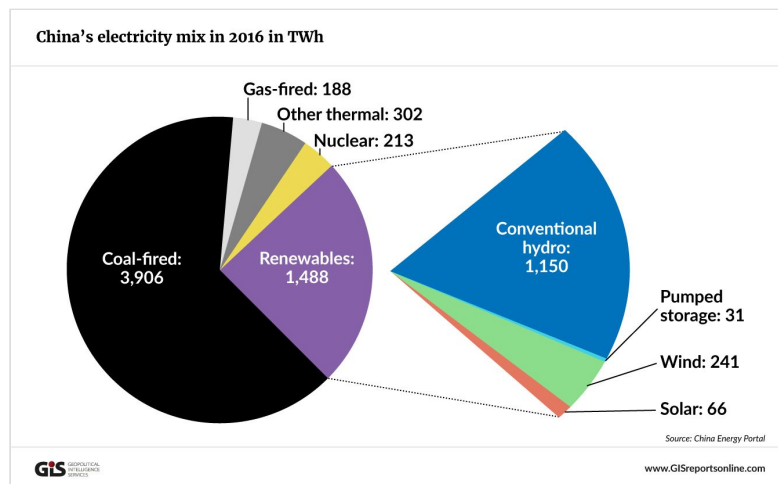
Ambivalent policies

In contrast to Russia, China has dramatically expanded its investments in renewables for economic, environmental and energy security reasons. It has become the world leader in production of solar panels and batteries, for example. In 2016, its combined new electricity generation from hydro, wind and solar power came to 153 TWh, surpassing the growth in fossil

fuel generation (111 TWh) and nearly equaling Germany's total generation from renewables (186 TWh). By investing \$103 billion in 2015 (compared with just \$44 billion in the U.S.), its electricity generation from renewables rose to 25 percent of its consumption. In 2016, solar power capacity grew by 80 percent.



China has dramatically increased electricity production from renewable sources. In 2016 its new power generation from renewables surpassed that of fossil fuels (source: macpixxel for GIS)



Renewables now account for nearly a quarter of China's electricity consumption. However, coal remains the dominant fuel (source: macpixxel for GIS)

China may also overtake the U.S. in nuclear power – seen as another “clean” energy resource – by adding another 24 reactors in the next 10 years to the 30 already operating in the country. In 2014, it declared a “war against air pollution” and has introduced drastic reforms to improve air quality. In January, Beijing halted more than 100 coal-fired projects (even some that were already under construction) with a combined installed capacity of more than 100 GW. However, that decision was made primarily to curb overcapacity, not to decrease air pollution or shrink emissions. Its coal-fired power plants had an average load factor of just 46 percent, risking that many new ones could end up lying dormant.

China has bolstered its dominant position in the global renewables industry by increasing its foreign investments in

clean energy – to more than \$32 billion in 2015. But its climate and energy policies are more ambivalent than they are often portrayed. These overseas investments are designed to create new export markets for Chinese renewables technology. Last January, Beijing announced that it would spend more than \$360 billion on its renewable energy sector, which it expects will create more than 13 million jobs.

Moreover, coal will still account for more than half of the country's electricity generation through 2030. Given its nationalist and protectionist policies for domestic heavy industry, it is unlikely that China will become a champion of worldwide climate protection policy soon.

Unsustainable rise

Moreover, the impressive growth rates of China's wind and solar power industries over the past years may not be sustainable, since much of the equipment was meant for export to other countries. When the U.S. and Europe cut their renewable energy investment programs, China was left with excess product and industrial overcapacity. It has already lowered its solar and wind power targets for 2020 due to that overcapacity and the inability of its national grid to absorb the newly generated electricity. This also provides further explanation as to why China has become increasingly interested in open foreign markets rather than free trade – renewables are yet another industry where China feels it must boost exports while protecting domestic producers.

Though China agreed with the U.S. on a joint plan to reduce their emissions (together the countries account for about 40 percent of global CO2 emissions), Beijing's commitments are essentially dependent on its future socioeconomic development. In recent years, China's state-owned enterprises in energy-intensive industries have increased their investments in neighboring countries through the gigantic "One Belt, One Road" (OBOR) infrastructure program. While these investments move emissions out of China (a phenomenon known as "carbon leakage"), helping the country meet its targets, they might add more emissions globally, because environmental standards in neighboring countries are even lower.

“Beijing's overseas coal investments serve its domestic energy policies and plan for economic growth

Despite China's efforts to reduce the share of coal in its electricity mix from more than 70 percent in 2011 to 65 percent in 2016, it has relaxed production controls for coal mining, allowing mines to operate up to 330 days per year instead of 276 days. (The latter target was introduced in April 2016 in response to rising prices and supply bottlenecks.) China's coal imports are once more increasing, and the country has resumed its place as the world's largest coal importer. According to its most recent five-year plan, China's

consumption of the fuel is planned to increase by as much as 20 percent by 2020.

China is already the world's largest investor in coal mining and coal power projects. Currently, it is financing and building around 85 coal-powered plants worldwide. It is even doing so in Europe (in Serbia and Bosnia and Herzegovina), raising concerns in the European Union that these countries are not doing enough to comply with the Industrial Emissions Directive (IED). Beijing's proposal to build an Asian "supergrid" would also allow it to export coal-fired power to nearby countries as part of OBOR.

China's overseas coal investments serve its domestic energy policies and plan for economic growth, as well as its strategic and foreign policy objectives. Industrial overcapacity and economic transformation, and the reduction of coal consumption domestically, have increased the pressure on China's coal industry to further expand overseas investments in power plants and mining projects. It therefore seems unlikely that the Chinese authorities will sacrifice economic growth or political stability to meet their international climate obligations. In contrast to efforts to fight air pollution, China's global obligations for reducing CO2 are not a topic of intense public interest at home.

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