

China's Vision of an Ecological Civilisation: A Struggle for Environmental Leadership in the Era of Climate Change

by Lorenzo Colantoni

Almost four decades of steadily growing industrial activity and lax or non-existent environmental regulations have made China the world's greatest polluter. Chinese CO₂ emissions surpassed those of the EU in 2001, the US in 2005 and are now greater than both of them combined.

Yet, China is not only a polluter. The growing need to tackle the health effects of pollution and a decisive move by Chinese authorities to boost renewable energy production have transformed China into a leading actor in the global energy transition. Beijing is not only promoting its renewables industry. It is also advancing its own vision of environmental sustainability: China's so-called "ecological civilisation".

Beijing's pre-eminence in the renewables sector is an established fact. China is not only the first global producer of wind turbines and

solar panels – having dominated the manufacturing sector for the latter since the early 2000s¹ – but it is also the country with the largest installed renewable energy capacity. Furthermore, China is simultaneously a leading global investor in renewables and the top recipient of investment flows, having attracted 126.6 billion dollars in 2017, equivalent to 45 per cent of the global total.²

Chinese investments do not only concern its domestic market. The

¹ Liam Denning, "China's Energy Weapon Comes in One Color: Green", in *Bloomberg*, 5 March 2018, <https://www.bloomberg.com/opinion/articles/2018-03-05/china-s-renewables-investments-a-not-so-secret-energy-weapon>.

² UN Environment Programme, Frankfurt School–UNEP Collaborating Centre and Bloomberg New Energy Finance, *Global Trends in Renewable Energy Investment Report 2018*, Frankfurt am Main, Frankfurt School–UNEP Centre, April 2018, p. 23, http://www.iberglobal.com/files/2018/renewable_trends.pdf.

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country has also spent 32 billion dollars in 2016 and 44 billion dollars in 2017 in the overseas renewable sector, particularly in Sub-Saharan Africa and South East Asia.³

Chinese ambitions have today expanded beyond industrial or economic planning towards the promotion of what the Chinese authorities call an "ecological civilisation".⁴ The term was first included in the Communist Party Constitution in 2012 and has since been widely endorsed by President Xi Jinping.

Understood as a wider, "sinicised" version of sustainable development, it entails a series of ideas and measures meant to guide China and the world towards a greener future, covering everything from renewable energy to afforestation. Developing such a vision does not only serve the purpose of providing a social and ideological framework for China's energy transition. It also serves to consolidate Chinese soft power in these sectors, building on the spread of renewables and China's role in climate diplomacy.

In this, China is positioning itself to fill the vacuum left by the US Trump administration in international climate change policies, particularly since

Washington's withdrawal from the Paris Agreement in June 2017.

China has been able to consolidate and expand on its success in the renewable sector largely thanks to a combination of domestic incentives to switch to clean energies, comprehensive policies and the impact of global trends. Several analysts have noted how solar and wind energy represented for China what the shale revolution has been for the US: the solution to a major domestic problem (energy dependence for the US, pollution in China) by exploiting already existing resources (the gas and oil transmission system in the US, the manufacturing capacity for China), offering, at the same time, a valid business and export opportunity.⁵

The pollution problem in China is indeed significant – an "airpocalypse", as some have called it.⁶ In 2012 alone, air pollution cost China around 6.5 per cent of its GDP – some 535 billion dollars – in lost productivity.⁷

Thus, as the debate on climate change was expanding globally since the late 2000s, China sensed an opportunity. Authorities quickly boosted the already significant renewables targets contained in Beijing's Twelfth Five Year Plan (2011-2015).

³ Tim Buckley, Simon Nicholas and Melissa Brown, *China 2017 Review. World's Second-Biggest Economy Continues to Drive Global Trends in Energy Investment*, Cleveland, Institute for Energy Economics and Financial Analysis (IEEFA), January 2018, p. 3, <http://ieefa.org/?p=21985>.

⁴ Jeremy Lent, "What Does China's 'Ecological Civilization' Mean for Humanity's Future?", in *EcoWatch*, 9 February 2018, <https://www.ecowatch.com/2532760301.html>.

⁵ Liam Denning, "China's Energy Weapon Comes in One Color: Green", cit.

⁶ Echo Huang, "This Is How Much of Your Life Air Pollution Is Stealing from You Based on Where You Live", in *Quartz*, 11 September 2017, <https://qz.com/1071421>.

⁷ Dominic Chiu, "The East Is Green: China's Global Leadership in Renewable Energy", in *New Perspectives in Foreign Policy*, No. 13 (Summer 2017), p. 4, <https://www.csis.org/node/43376>.

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The Chinese determination grew further once the results of previous investments became clear, both locally and internationally. Indeed, as the cost decreased by 80 per cent for solar photovoltaic (PV) panels and by 40 per cent for onshore wind turbines over five years (2011-2016), renewables became cost competitive also when compared to coal. Meanwhile, the historic success of the Paris Agreement in 2015 provided an international framework and support. China's bet on renewables was proven right.

Despite this positive outlook, important obstacles to China's energy transition and aspired global leadership remain.

First, even if the central Chinese government has been particularly active in trying to halt the expansion of coal capacity, eyeing a not-too-distant peak followed by a gradual phase-out of the resource, progress is far from being successful. More than 60 per cent of primary energy consumption in China still comes from coal, and the 2016 decision to halt 151 planned or under construction coal plants has been strongly opposed by provincial authorities. In several cases, such as the Huadian Nanxiong station, construction continued anyway.⁸

Coal use in China is also diffused well beyond energy production, in heating and industrial processes in particular. Despite new emission standards for steel, petrochemicals, non-ferrous metals and cement producers approved

⁸ Adam Vaughan, "Satellite Images Show 'Runaway' Expansion of Coal Power in China", in *The Guardian*, 26 September 2018, <https://gu.com/p/9fbxa>.

in October 2018, the enforcement of such rules will not be easy. While the Chinese commitment to decrease domestic coal use remains strong, Chinese companies are responsible for the expansion of the resource at a global level: China remains the largest investor in overseas coal plants, and 11 out of the 20 major coal developers in the world are Chinese.⁹

Despite promoting a wider ecological vision, Chinese environmental perceptions are still missing several elements, such as the overall impact of human activity on ecosystems and the environment – not to mention workers' conditions that are generally well below European standards.

In this respect, China's climate strategy still includes a relevant focus on large hydropower projects that have significant side effects on the population and river ecosystems. The Three Gorges Dam, producing 3 per cent of Chinese electricity, has a 600km wide reservoir that is eroding nearby areas, the creation of which also led to the evacuation of some 1.4 million people.¹⁰

Moreover, even the results achieved so far could have been overestimated, due to the low reliability of Chinese

⁹ Huileng Tan, "China Is Massively Betting on Coal Outside Its Borders – Even As Investment Falls Globally", in *CNBC*, 6 April 2018, <http://fw.to/U07SBwf>; Hiroko Tabuchi, "As Beijing Joins Climate Fight, Chinese Companies Build Coal Plants", in *The New York Times*, 1 July 2017, <https://nyti.ms/2uwt06m>.

¹⁰ "China's Three Gorges Dam May Displace Another 100,000", in *BBC News*, 18 April 2012, <https://www.bbc.com/news/world-asia-china-17754256>.

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data. In 2015, the Chinese government itself had to revise its data for coal consumption in 2013 and 2014, which was underestimated by 17 per cent.¹¹ This revealed that China had emitted almost one billion CO₂ tonnes more than previously declared.

Nonetheless, the direction taken by the Chinese energy transition is clear. The new, more ambitious targets for non-hydro renewables will include a system of standards and penalties to reduce the burden of subsidies on government budgets and increase compliance by provincial governments and private operators. Meanwhile, the energy transition has started extending to other sectors of the economy, beginning with transport. Chinese efforts to build a strong battery industry has boosted the spread of electric vehicles (EVs) for instance.

Aside from the energy transition, China will have to face many other challenges in the years to come, including widespread rural poverty and changing consumption and production patterns. In the energy domain, cooperation between China and other countries will be of fundamental importance, particularly with Europe, thanks to the strong environmental record of the latter and the work done by the EU on the energy transition itself.

¹¹ Chris Buckley, "China Burns Much More Coal Than Reported, Complicating Climate Talks", in *The New York Times*, 3 November 2015, <https://nyti.ms/1XNoGIV>; Ayaka Jones, "Recent Statistical Revisions Suggest Higher Historical Coal Consumption in China", in *Today in Energy*, 16 September 2015, <https://www.eia.gov/todayinenergy/detail.php?id=22952>.

As an example, the digital revolution – already spreading throughout China and a major component of the EU's energy system – could be of fundamental importance for the smart management of energy consumption, as well as for Chinese generation and distribution – also increasing the reliability and transparency of data.¹² In turn, Chinese investments and its growing installed renewable capacity have already contributed to a decrease in solar photovoltaic and wind turbine costs, diminishing the perceived novelty of renewables – and thus the risk premium – while facilitating integration of the resource and markedly reducing management issues.

Generally speaking, while China could positively scale up the energy transition process, collaboration with the EU can assure coherence between China's industrial drive and vision of an "ecological civilisation" on the one hand and global environmental targets on the other.

In this sense, cooperation has already proved fruitful; China's first carbon market was launched in late 2017 after extensive cooperation with the European Commission, and further coordination is expected with the European Emission Trading System in the years to come. Declining global costs for solar PV manufacturing and

¹² Shuwei Zhang, Yongqiang Zhao and Markus Steigenberger, *A Star for China's Energy Transition. Five Golden Rules for an Efficient Transformation of China's Energy System*, Berlin, Agora Energiewende, October 2018, p. 33, <https://www.agora-energiewende.de/en/publications/a-star-for-chinas-energy-transition>.

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extensive coordination between the EU and China also led to the end of a long-standing trade dispute on tariffs on Chinese solar panels in 2018.¹³

For years viewed as a major polluter and a potential commercial threat by many Western countries, China's present determination to lead the global energy transition and promote a new ecological vision are transforming Beijing into a key partner for international action on environmental challenges.

Yet, such an ambition will likely be fulfilled only through coordinated action with third countries, particularly in the West. These will have to accept the new, prominent, role of China in the global environmental order, while China will necessarily need to welcome the guidance of others, the EU in particular, in the definition and delineation of its emerging ecological vision.

25 January 2019

¹³ Philip Blenkinsop, "EU Ends Trade Controls on Chinese Solar Panels", in *Reuters*, 31 August 2018, <https://reut.rs/2C1uaiw>.

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