



**INSTITUTE OF  
STRATEGIC STUDIES**

**web:** [www.issi.org.pk](http://www.issi.org.pk)  
**phone:** +92-920-4423, 24  
**fax:** +92-920-4658

## Issue Brief

# China: Moving away from coal towards greener energy mix

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*Written by: Junaid Ashraf, Young ISSI Professional \**

*Edited by: Najam Rafique*

\* Mr. Junaid Ashraf has done M.Phil. in Government and Public Policy from National Defence University, Islamabad, in year 2014. He is currently working under Young ISSI Professional Corner at the ISSI. His area of interests include China, CPEC, and Governance.

The winter of 2013 was an “airpocalypse,” as dangerous smog shrouded China’s biggest cities, contributing to at least 90,000 deaths and left many affected by the adverse impact of the smog.<sup>1</sup>



This prompted the

government to take strong measures to control air pollution and led to deepening efforts to move towards the use of other energy sources that are environment friendly. China has been a major coal user and it is a known fact that the use of coal comes with repercussions.

After the deadly winter of 2013, it became imperative for China to reduce the usage of coal. Since then, consumption of coal has been reduced significantly. Many factors led to the drop in the use of coal in China, a country that is heavily reliant on the fossil fuel to produce energy. But most importantly, growing public concern over the air pollution encouraged the government to move towards greener energy mix.

Burning of coal leads to emission of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfur dioxide (SO<sub>2</sub>), these gases are detrimental for the environment and contribute to acid rain, smog, and affect the greenhouse gases. All these factors have played a major role in global warming and climate change.<sup>2</sup> China is the world’s largest energy consumer, oil importer, and CO<sub>2</sub> emitter. China had relied heavily on building coal-fired power stations; however, this is no longer a reflection of the country’s energy situation.<sup>3</sup> China's domestic coal production fell 3.5% in 2015, while imports dropped by almost 30%, according to Chinese government data.<sup>4</sup>

<sup>1</sup> <http://www.sciencemag.org/news/2017/03/why-china-s-smog-so-bad-researchers-point-far-away-melting-arctic>

<sup>2</sup> [https://www.eia.gov/energyexplained/index.cfm/%20data/index.cfm?page=coal\\_environment](https://www.eia.gov/energyexplained/index.cfm/%20data/index.cfm?page=coal_environment)

<sup>3</sup> <http://www.independent.co.uk/news/science/how-china-is-planning-ahead-for-life-after-coal-a7725621.html>

<sup>4</sup> <http://www.dw.com/en/a-look-at-chinas-efforts-to-reduce-coal-use/a-19002640>

If looked upon holistically, China's coal share in 2016 fell to 62% from 64% in 2015. Furthermore, if measured in tons, coal consumption has come down to 4.7% from about 3.97 billion tons to 3.78 billion tons, a drop of about 190 million tons and by measuring in terms of energy content which is what contributes towards CO<sub>2</sub> emissions, China's coal consumption fell by 1.3%.<sup>5</sup> Moreover, China has stopped construction of 30 large coal-fired power plants having total capacity of 17GW, more than the UK's entire coal plant.<sup>6</sup> Another important decision came in January 2017, in which China suspended 85 intended coal power plants in an endeavor to meet a government coal capacity goal laid out in its latest sketch for social and economic development.<sup>7</sup> It is essential to note that China cannot move away from coal abruptly as the dependence on coal is great, and also, Chinese government has to look after a huge population but the advances made are highly admirable.

China is also making great progress in moving toward renewable energy sources. This can be seen from the statement of National Energy Administration (NEA) that China would invest 2.5 trillion Yuan (\$361 billion) into renewable power generation by 2020, as the world's largest energy market continues to shift away from coal power towards cleaner fuels.<sup>8</sup> Furthermore, China's 13<sup>th</sup> five year plan (2016-2020), focused on moving towards renewable energy sources. The plan also shed light on the point that the installation of solar and wind energy is soaring by record levels, rising 74 and 34% respectively in 2016.<sup>9</sup> In moving towards renewable energy source with full speed, Beijing along with this, is also spending in the most efficient, least polluting coal plant the world has ever seen<sup>10</sup> as it is obvious that China cannot move away from the use of coal overnight.

The new coal plants that china is building are ultra super critical, these coal plants produce heat up to 1,400 degrees and 5,000 pounds of pressure per square inch, operating at increasingly higher temperatures and pressures, results in attaining higher efficiencies than conventional sub-critical units with significant CO<sub>2</sub> reductions. The normal coal plants are called sub critical which produces only 705 degrees and 3208 pounds per square inch.<sup>11</sup>

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<sup>5</sup> <https://www.nrdc.org/experts/alvin-lin/understanding-chinas-new-mandatory-58-coal-cap-target>

<sup>6</sup> <http://energydesk.greenpeace.org/2016/10/21/china-coal-crackdown-cancel-new-power-plants/>

<sup>7</sup> <http://www.independent.co.uk/news/world/asia/china-scraps-construction-85-coal-power-plants-renewable-energy-national-energy-administration-paris-a7530571.html>

<sup>8</sup> Ibid

<sup>9</sup> <https://www.newscientist.com/article/2079907-china-unveils-vision-of-greener-future-in-its-five-year-plan/>

<sup>10</sup> <https://www.americanprogress.org/issues/green/reports/2017/05/15/432141/everything-think-know-coal-china-wrong/>

<sup>11</sup> <https://www.vox.com/energy-and-environment/2017/5/15/15634538/china-coal-cleaner>

In order to achieve sustainable development, China has come to form an energy mix that relies more on renewable sources rather than coal. China is rightly moving towards greener and environment friendly energy mix for sustainable development. The purpose of sustainable development goals is not only to fulfill the needs of the present, but also securing the needs of the future generations. Countries have been dependent on coal for a long period of time because energy is crucial for development in this current era. Coal being the cheapest source is used widely. However, its use has had negative impact on the environment and also contributed to climate change and global warming thus instigating countries like China to move towards sustainable source of energy to meet its demands. China has a lot of ground to cover as it still relies heavily on coal. However, it is indeed a very positive development that China is moving towards greener energy mix, and, which also needs to be adopted by other developing countries as well.