



**Power Sector Roundtable, 9<sup>th</sup> Workshop**  
**Stranded Cost of Coal-Fired Power Plants in China: Investment Risks and Implications**  
**April 2017**

On February 28<sup>th</sup>, 2017, the Natural Resources Defense Council held the 9<sup>th</sup> workshop of the Power Sector Roundtable in collaboration with Smith School of Enterprise and the Environment of Oxford University, Prosperity Fund, and North China Electric Power University (NCEPU). This closed-door workshop focused on issues surrounding stranded coal asset in China, and implications for investors, policymakers, and regulators. Oxford University and NCEPU released their research on stranded coal power generation assets in China. Speakers were invited from People's Bank of China, Heng Feng Bank, China Electricity Council, Energy Administration of Jilin Province, the Regulatory Assistance Project. Over 70 representatives from government agencies, electric power sector, research institutions and environmental organizations attended the workshop.

### **Background**

As the Chinese economy shifts gears into moderate growth, or the “New Normal”, electricity demand growth in China is slowing, with the average annual utilization hours of coal-fired generators fallen to 4165 from the 2015 level of 4329 hours. Downward trend is projected for future years. The risk of asset stranding are becoming more prominent, spelled out in different ways for investors, policymakers and regulators.

### **Summary and outlook**

- Scenario analysis from Oxford University and NCEPU indicates that the total cost of stranded assets will be anywhere between 3.08-7.20 trillion RMB, equal to 4.1%-9.5% of China's GDP in 2015. The stranded assets must be discovered timely, lest expected coal-fired generation asset returns and power plant solvency will be affected.
- The financial health of the top 50 coal-fired generators are worsening. Profit margins are thinning, and debt coverage are being eroded.
- Stranded assets include not only physical assets including generators, and coal mines, but also financial assets, including stocks, debts, and derivatives.
- Results from the research by Oxford University and NCEPU shows that the provinces with the largest potential scale of stranded assets are: Inner Mongolia, Shanxi, Xinjiang, Guizhou and Jiangsu. Compared to the overall risk of coal-fired generation asset stranding in China, the scale of stranding in the three Northeastern provinces are moderate.
- It is expected that in 2020, the scale of excess coal-fired generation capacity in Jilin province will reach 9,000 MW-16,700 MW, with a cost between 46.2-99.2 billion RMB. China Guodian Corporation will face the largest scale of stranded assets amongst companies with deployment in Jilin.

Ways to deal with stranded coal-fired assets and to mitigate stranding risks are put forward, including retrofitting existing coal generating capacity, limiting coal generating capacity addition, carbon emissions trading, changes to corporate ownership, etc.

It is worthy of note that coal power plants exiting the market are usually granted a grace period for

necessary adjustments. The international practice is that the government usually would not subsidize investments for plant retrofit for energy and environmental compliance, nor compensate for plant closure, although exceptions exist.

As a next step, the Power Sector Roundtable project will continue to host seminars discussing power sector reform and sustainable energy development, and inform the low-carbon transition of the Chinese power sector.