

## CARBON MANAGEMENT AT SHENHUA – R&D INITIATIVES AND CCUS DEMONSTRATIONS

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Shenhua Group, one of China's largest energy companies, is engaged in the production of coal, electricity, and coal-based chemicals. Under a business-as-usual trajectory, Shenhua operations would generate about 500 MM tons per year of CO<sub>2</sub> equivalent by 2020. Several initiatives are underway within the company to significantly reduce this carbon footprint. These include the closure of excess capacity, efficiency measures at multiple sites, the deployment of renewable energy generation, and a balanced R&D portfolio aimed accelerating the commercialization of advanced technologies for affordable carbon mitigation from fossil-based power generation.

R&D efforts are led by the National Institute of Clean and low-carbon Energy (NICE), Shenhua's corporate research lab. Work is focused on three themes – fleet-level efficiency; industrial-scale carbon capture, utilization, and storage (CCUS); and advanced power cycles for (near) zero-emission generation. This presentation will describe projects in each of these areas, with a particular emphasis on CCUS. Technical challenges, external partnerships, and opportunities for international engagement will be highlighted.