

MN Dastur Arm, US Energy Dept Enters Carbon Capture Deal

Partnership plans to make India the hub of research for Asian and European countries

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Kolkata: Dastur Innovation Labs, an arm of engineering and design consultancy firm in metals, energy and mining, MN Dastur & Co., has tied up with the US Department of Energy's National Carbon Capture Center on development of carbon capture technologies for steel, power and other carbon intense industries specifically for the Indian market. The plan is also to make India the hub of research in the field for countries in Asia and Europe.

The move was prompted by the government's green move, as part of which it has decided to fully finance Carbon Capture and Utilisation Technologies, which includes other initiatives such as solar power penetration and adoption of electric vehicles. This technology, which controls the emission of CO₂ and makes it available for productive industrial uses, is in use in US and few other countries. Through its tie up with the US DoE, MN Dastur & Company has taken the first step to bring the technology to India.

"We are evaluating the economic route for implementing such technologies in the Indian context especially for steel, power, cement and chemical industries," Atanu Mukherjee, president, MN Dastur & Co said.

These initiatives – on pre- and post-combustion carbon capture, storage and use – is likely to have wide implications on how steel is made, raw material dynamics in steel-making and the structure of the steel industry.

"We think that a combination of pre-combustion and post-combustion carbon capture, policy mechanisms around carbon capture credits and commercial use of captured carbon dioxide for Enhanced Oil Recovery might prove to be a viable model for India," he added.

DIL is working innovation based models for improving the performance of Indian metal producing companies among other since globally, Process Modeling, Simulation, Machine Learning and Analytics now play a big role in new product development and improving quality, productivity and emission levels in steel making.

DIL creates real-life mathematical models of the steel and metals processes and uses them to understand their behaviour on a computer rather than the plant floor.

"We combine this with advanced machine-learning and Artificial Intelligence (AI) models to further predict the behaviour of plant operations with a view to significantly improve productivity and EBITDA/tonne, he said.

This is possible because we use accurate Digital and virtual models of the plants and the metallurgical processes, rather than the actual physical plant itself, Mukherjee pointed out.

Among the projects it is working on is an initiative on recovering materials from steel making waste for an integrated steel plant. "This has big implications on how waste is handled and how raw materials can be complemented with recoveries, Mukherjee said.

DIL is also working with a domestic aluminium player on "how to recycle and reuse spent pot linings in primary aluminium making while making sure that toxic emissions of fluorides and cyanides are taken care of," he said, adding, "there are quite a few more in different stages of development with different companies in India and North America."