mCDR Supports an All of the Above Energy Strategy

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Rainey Center





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Marine carbon dioxide removal (mCDR) could be a new source of well-paying jobs around the U.S., and an essential component to an all-of-the-above energy strategy — if it receives more public sector support to advance foundational research. Demand for energy production is expected to grow in the coming decades, and the Trump administration has prioritized boosting domestic energy production. Developing mCDR could offset emissions while diversifying the economy, supporting environmental stewardship for clean air and water, and preserving existing energy infrastructure.

mCDR Supports Energy Dominance

The Trump administration's push for American energy dominance depends on increasing all types of energy production. While the private sector is on board, major companies will need support to meet those goals alongside existing decarbonization efforts.

As major companies scale up energy production, they will need to invest in carbon offsets to help them diversify and hedge their portfolios. Carbon dioxide removal — and mCDR in particular — is a market-led solution that can fill this gap and support a resilient U.S. energy economy.

Multiple mCDR Pathways

There are multiple types of mCDR solutions, including ocean fertilization (OF) and blue carbon management (i.e., preserving and supporting coastal ecosystems such as mangroves), in addition to ocean alkalinity enhancement (OAE).

Each of these methods require different amounts of time, money, and resources, and might have varying degrees of success in reducing the acidity of ocean water at scale. It's worth exploring these methods to determine which, if any, could help mitigate climate change without adverse effects.

OAE is a High Potential mCDR Pathway

For millions of years, minerals from weathered rock have washed into the ocean, boosting its alkalinity and allowing it to safely lock away CO_2, thereby balancing the climate.

OAE builds on this natural process, enhancing the ocean's CO_2 absorption while also counteracting local ocean acidification. OAE helps the ocean continue its absolutely crucial role in stabilizing the Earth's climate.

The world's leading scientific bodies — like the Intergovernmental Panel on Climate Change (IPCC) and the National Academies of Science, Engineering and Medicine (NASEM) — have specifically identified mCDR as a high-potential climate solution.





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