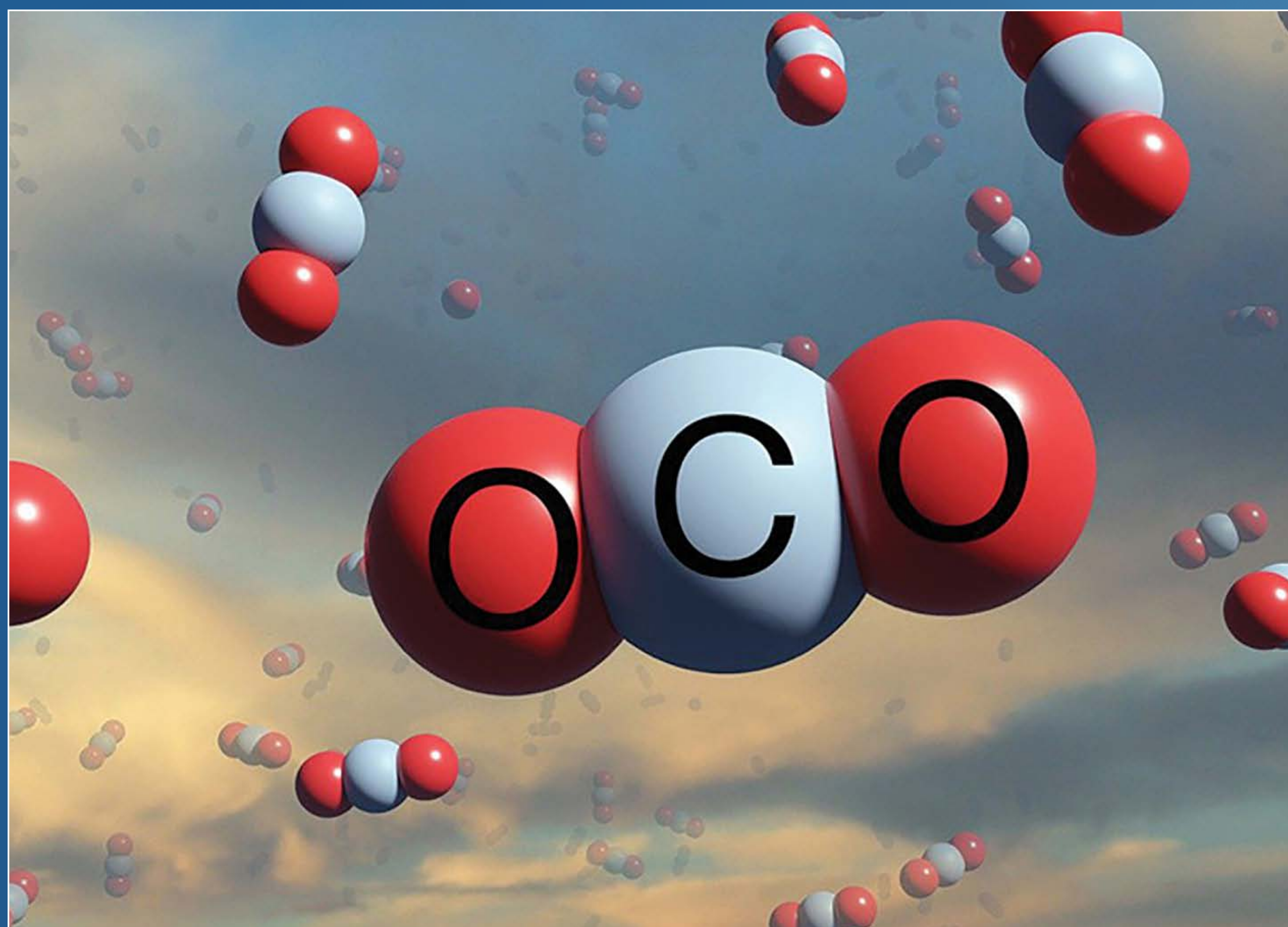


NETL TEAM USES MICROWAVES TO REDUCE ENERGY FOR DIRECT AIR CAPTURE OF CARBON DIOXIDE

Innovative process could substantially reduce expensive water and energy requirements of some promising direct air capture technologies.



Sorbents are materials used to absorb or adsorb liquids or gases such as carbon dioxide (CO₂). Sorbents must be regenerated after use to remain effective and so that additional CO₂ can be collected for storage or utilization.

- Traditional thermal desorption regeneration processes require costly amounts of water and energy.
- However, the NETL technology regenerates sorbents in a microwave-accelerated process.
- Microwave-assisted CO₂ desorption from solid sorbents can replace thermal desorption approaches, translating to lower energy consumption.
- The NETL process also does not require steam regeneration and a heat exchanger — reducing water requirements.

RESEARCH PRIORITY



**CARBON DIOXIDE
REMOVAL**

PERFORMER



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