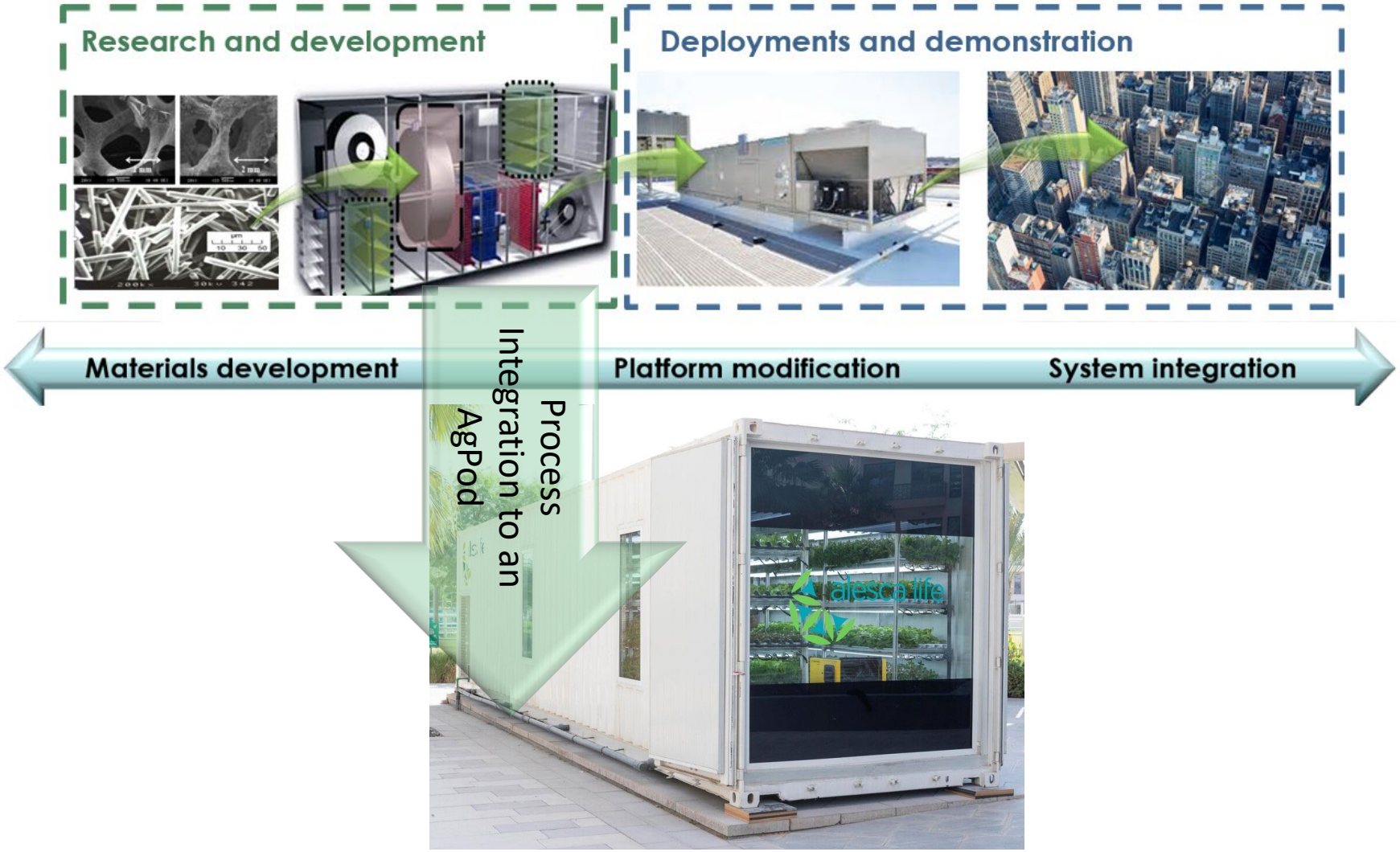
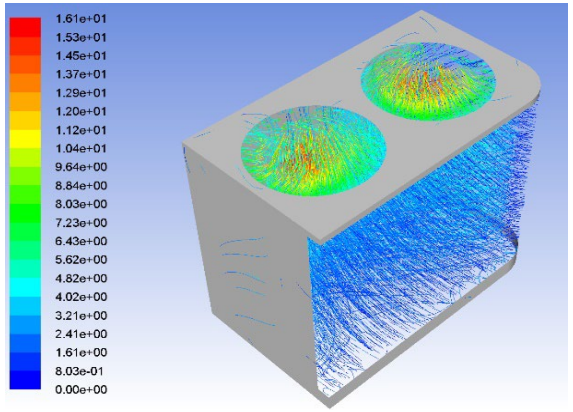
Direct Air Capture- DAC+HVAC





A packaged rooftop unit removed over 8 tons of CO_2

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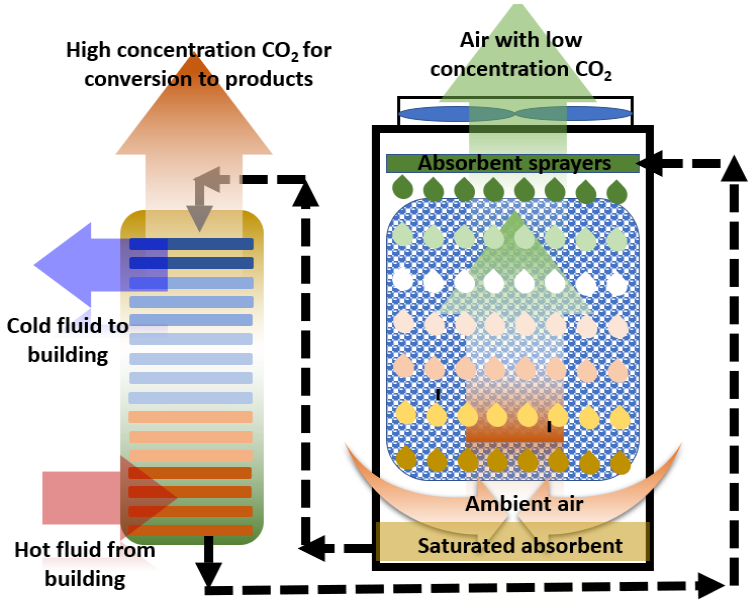
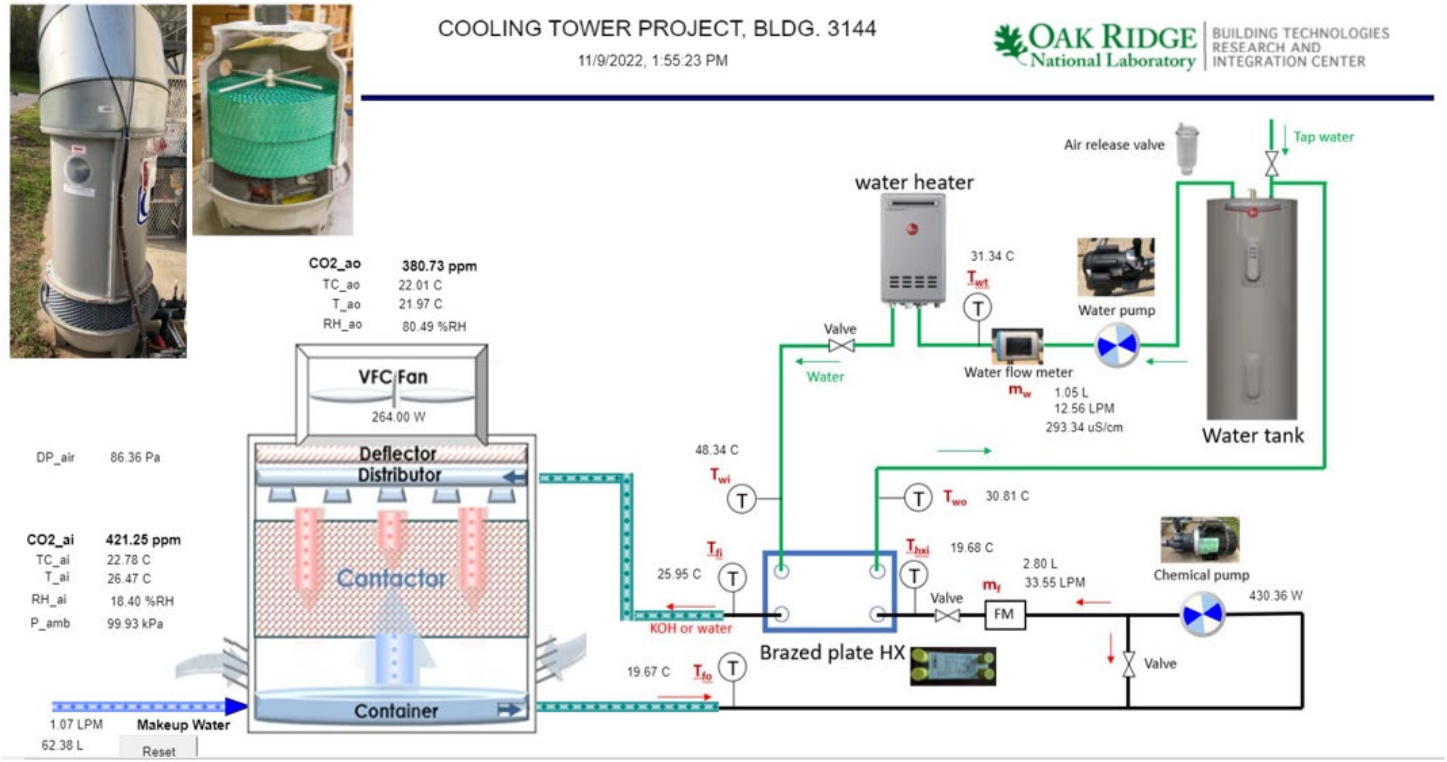
Direct Air Capture- DAC + Cooling Tower





A small-scale cooling tower removed 3.8 kg of CO_2 per day

US patent 63/272,345, "Intensified Carbon Capture Using Buildings Infrastructure."

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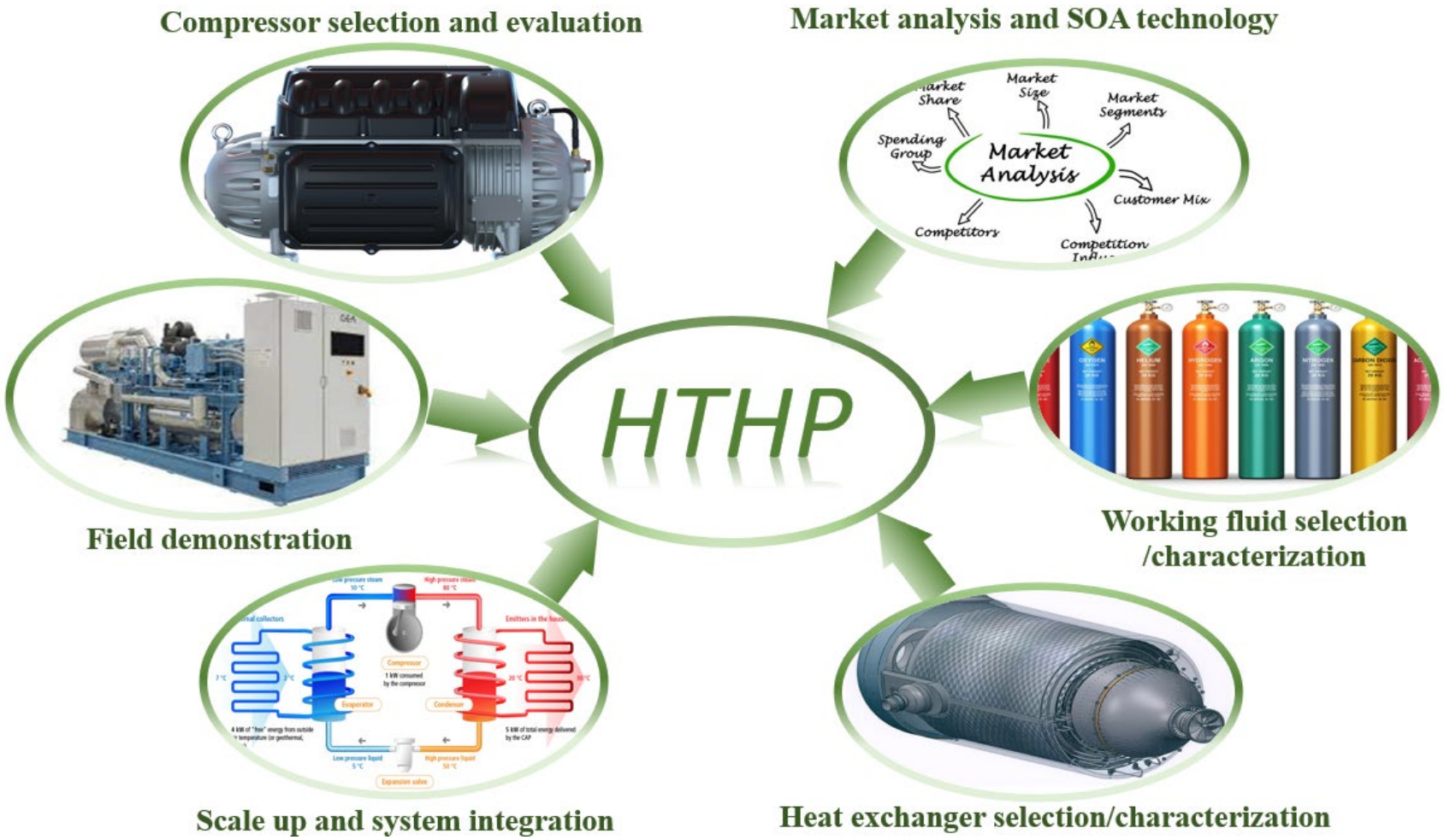
High Temperature Heat Pump



ORNL team is developing a comprehensive Research, Development and Demonstration framework for commercial/industrial HTHP.

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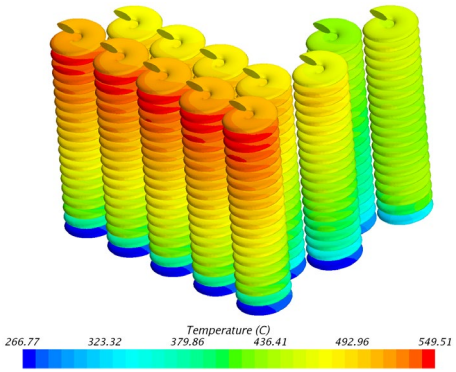
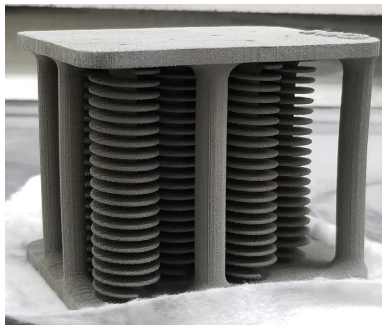
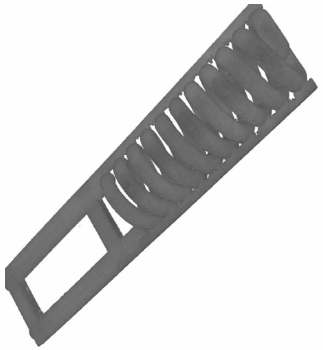
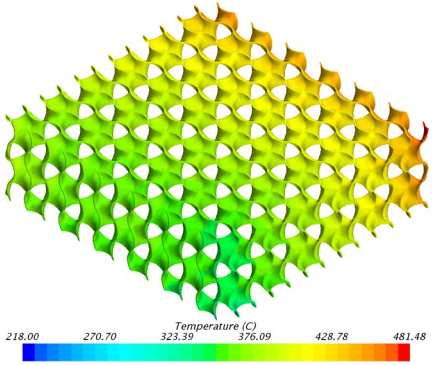
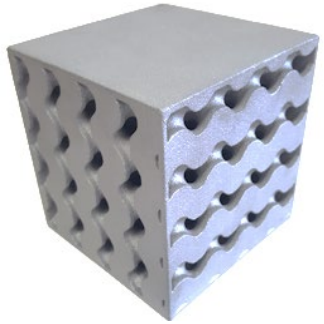
Advanced Heat Exchangers

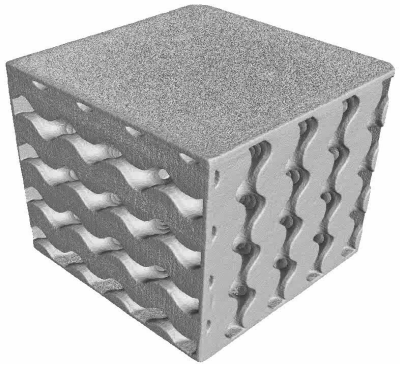


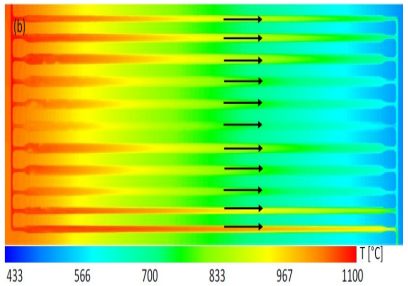


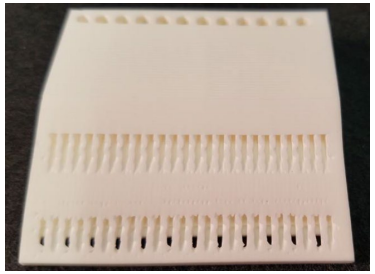


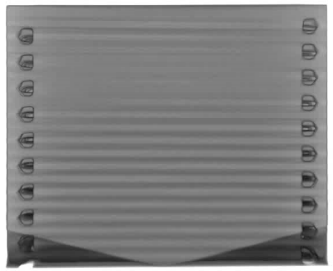












Ultra-high temperature heat exchanger- Additive manufacturing of ceramics (SiC and Al_2O_3)

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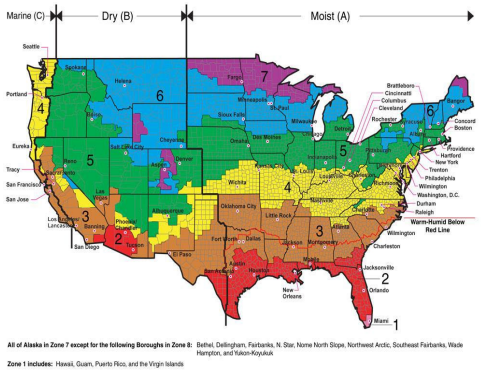
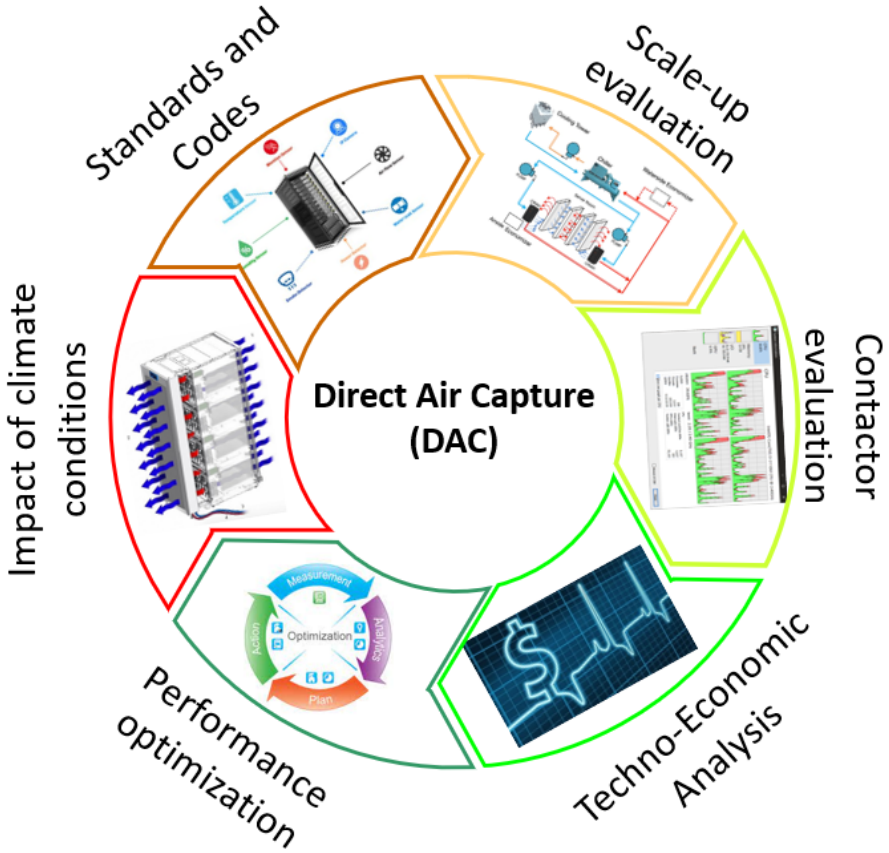
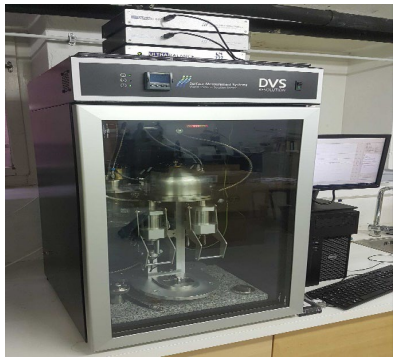
Development of Capabilities and Facilities

DAC in various climate zones



National climate data





Materials characterization

Contactor performance evaluation

Initial developments have resulted in one-of-their-kind facilities. ORNL can test any DAC technology at-scale under any climate condition

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Thank You!

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