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Building Decarbonization Task Force Update

Nine Working Groups Established

ATLANTA—The ASHRAE Task Force for Building Decarbonization is poised to help the built environment lower its carbon use. Since being formed this spring, the task force has grown from 15 people to more than 120 volunteers in nine working groups, including a group focused on creating an ASHRAE position document on decarbonization.

One of the task force's goals is to provide recommendations and strategies to industry professionals and stakeholders about how to achieve decarbonization goals.

"We need to develop and provide tools for people to determine how much carbon they need to save, how they can become energy efficient and how they can reduce carbon," said one of the task force's co-chairs, Thomas Phoenix, P.E., Presidential/Fellow/Life Member ASHRAE.

That is where the working groups come into play.

Phoenix and his fellow co-chair Donald Colliver, Ph.D., P.E.,

Presidential/Fellow/Life Member ASHRAE, updated the industry on the task force's progress during the 2021 ASHRAE Virtual Annual Conference in late June. Their update included introducing the task force's working groups:

- Position Document Working Group;
- Operational Carbon Working Group;
- Embodied Carbon/Life-Cycle Assessment Working Group;
- Research/Knowledge Hub Working Group;
- Building Performance Standards Working Group;
- Appliance and Equipment Standards Working Group;
- Grid-Building Intersection Working Group;
- Building Standards and Codes Working Group; and
- Training and Education Working Group.

The working groups have been meeting regularly since April,



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Thomas Phoenix, P.E.,
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but people are continuing to join the groups, said Colliver. The task force is also reaching out to ASHRAE's technical committees to help.

"Each one of them has something that they can add to our studies as we begin to develop ways to get to zero carbon," Phoenix said.

Read more about the working group and their directives: <https://tinyurl.com/d8trhuka>

Explore the task force's resources: [ashrae.org/decarb](https://www.ashrae.org/decarb) ■

Research Roundup

Building a Better Thermostat With Machine Learning

OAK RIDGE, TENN.—ORNL researchers designed and field-tested an algorithm that learns over time to keep a home at the occupants' desired temperature settings while minimizing energy costs and adjusting to environmental conditions—all with no existing knowledge of the building. The team's goal is to make the model universal so it can adapt to any system with the least amount of data necessary. *Source: ORNL*

Regulating Indoor Temperatures With 3D Printable Composites

COLLEGE STATION, TEXAS—Texas A&M University researchers have created novel 3D printable phase-change material composites that

can help regulate ambient temperatures inside buildings using a simple and cost-effective manufacturing process. The composites can be added to building materials, like paint, or can be 3D-printed as decorative home accents to seamlessly integrate into different indoor environments *Source: Texas A&M*

3D-Printed Air Diffusion System Could Reduce Energy Loss

SYDNEY, AUSTRALIA—A robotically 3D-printed air diffusion system—called "Systems Reef 2" (SR2)—is designed to fit into existing air-conditioning units, replacing traditional steel ductwork. The system's organic curves are based on detailed computer modeling that demonstrates the curved design could significantly reduce energy loss and encourage airflow. *Source: UTS* ■