



UNIVERSITY OF CALIFORNIA  
**MERCED**

# The Roadmap to Achieving Carbon Neutrality

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## UC Merced Achieves Carbon Neutrality in 2020

The University of California, Merced is proud to announce it has achieved carbon neutrality in 2020, five years ahead of the pledge set by the University of California's Office of the President (UCOP) to achieve carbon neutrality by the year 2025. Let's see the paths UC Merced has taken to be the first UC Campus and higher educational institution in the San Joaquin Valley to reach this important goal.

### What is carbon neutrality?

Carbon neutrality pertains to achieving net zero carbon emissions. This can be achieved using a combination of energy efficient design, carbon sequestration, renewable energy generation and offsets.

## Sustainably Engineered Environments

### Energy Efficiency

Our campus, a young but rapidly growing university had a unique opportunity to ensure all buildings are designed and constructed to achieve environmentally sustainable standards. A commitment was made that every building constructed would meet a **Leadership in Energy and Environmental Design (LEED)** silver certification. Then a further LEED gold certification in 2009 for new buildings thereafter.



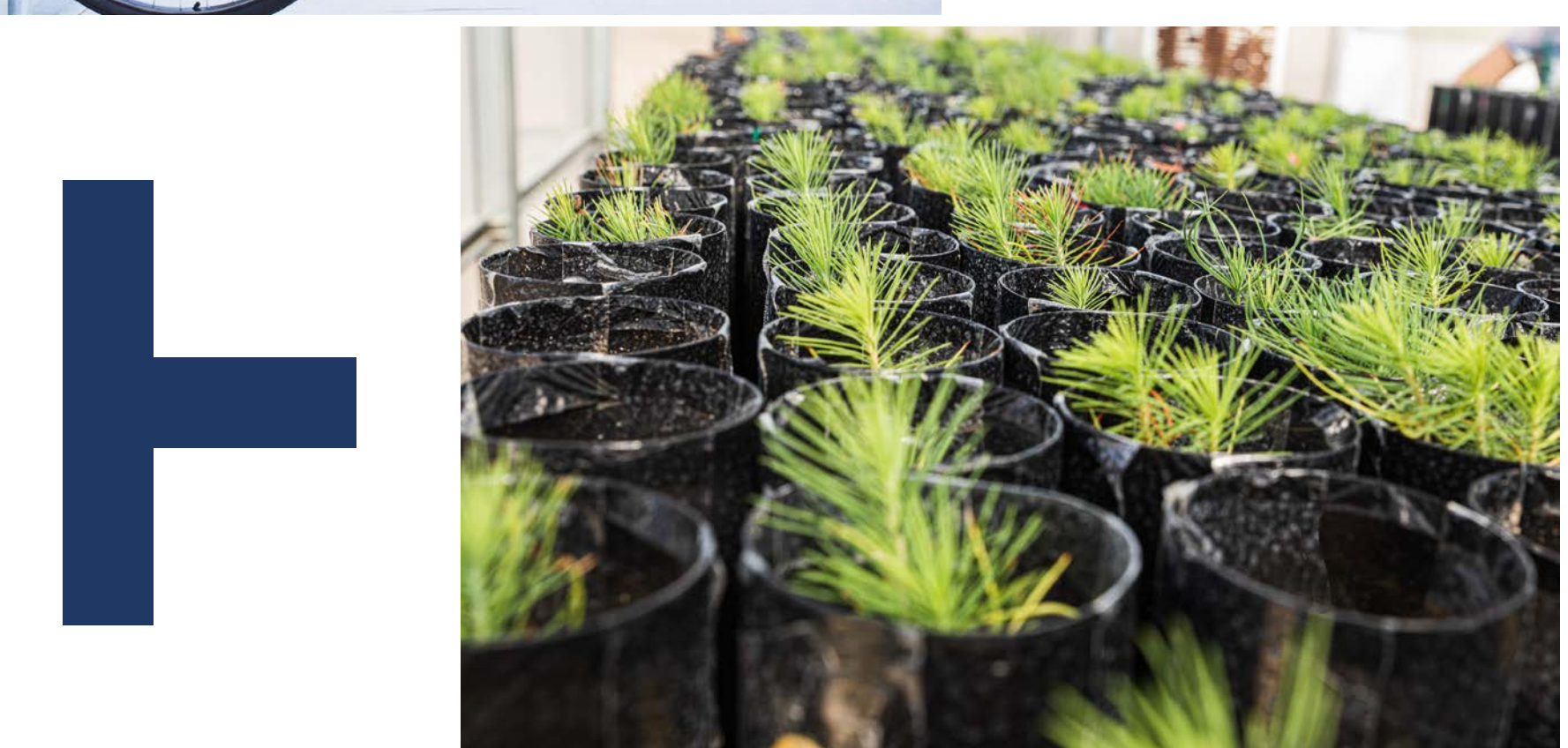
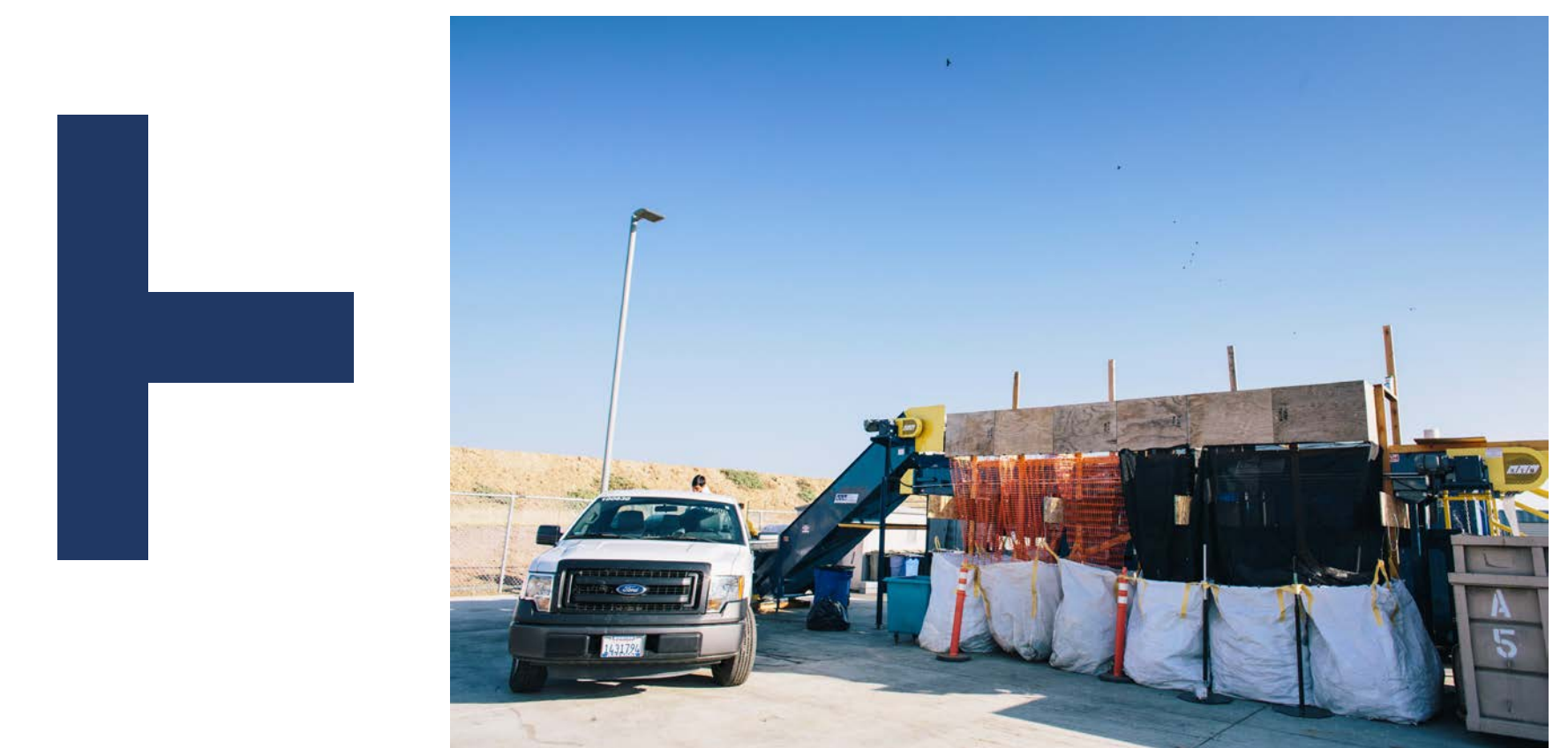
### Energy Generation

A key strategies for carbon neutrality was the generation of renewable energy on campus. Since renewable energy generation from sources such as solar do not emit any carbon emissions they are ideal for helping reaching carbon neutrality. UC Merced has two solar power systems (1 MW & 5MW + Storage) and a hydroelectric system powering our buildings and providing significant energy cost savings.



## University Community Engagement

The university community, our staff, faculty, students and community members, holds an important role in achieving carbon neutrality that can often be difficult to measure. We created programs and educational strategies that educate and integrate sustainability practices in our workspace (**Green Offices**), laboratory (**Green Laboratory**) and student accommodations (**EcoReps**).

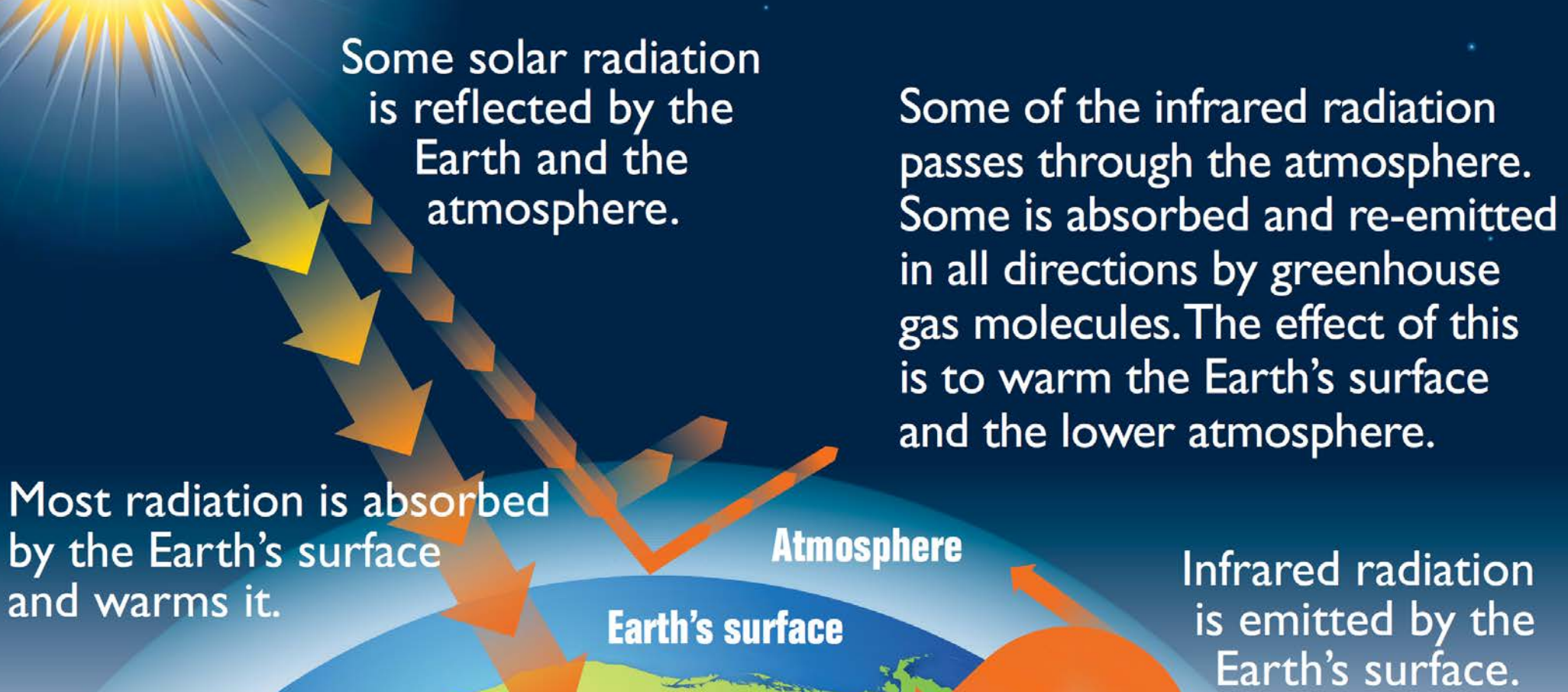


### Project Role

Each of these and many other parts plays a key role in this story. Some are more difficult to quantitatively measure, but the goal of this project is to catalog and analyze the roles across student, staff, and faculty groups and craft a story on how everything comes together to show a roadmap to how we achieved carbon neutrality. To best do this we are developing a carbon neutrality page that can show our key steps on this journey.

**Upcoming Carbon Neutrality Page @**  
<https://sustainability.ucmerced.edu/>

### The Greenhouse Effect



US EPA (Dec. 2012)

### How does carbon contribute to climate change?

Very briefly, greenhouse gases such as carbon dioxide (CO<sub>2</sub>) traps heat in the atmosphere. With ever increasing concentrations of CO<sub>2</sub> more heat is absorbed by the greenhouse gases instead of radiating away from the Earth.