



ORNL Collaborations and Support for SEED Knoxville

Who is SEED?

Socially Equal Energy Efficient Development, or SEED, Knoxville is a registered 501(c)3 seeking to provide young adults pathways out of poverty through career readiness training, environmental education and community engagement.



Contributing to energy efficient homes

As part of their Green Construction Program, SEED has built green solar homes that are sold below market value to low-income families, creating equity and giving them the opportunity to build generational wealth. As of today, two homes have been built with a third in development – they seek to build about ten more over the next three years.

ORNL’s Buildings and Transportation Science Division offered SEED technical guidance towards developing standards best practices for green building practices design based on experience with the energy impact of building materials and equipment used in constructing the home – with the goal of reaching net-zero energy consumption.

SEED Programs

- [Career Readiness](#)
- [Community Engagement](#)
- [Edible Forest](#)
- [Green Construction](#)
- [Energy Savings Workshops](#)



Recognizing their efforts in creating housing equity while encouraging the distribution of clean energy benefits to the community, UT-Battelle presented SEED with a check for \$186,000 at the groundbreaking ceremony for the third green solar home.

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Understanding urban microclimate change

ORNL scientists developed a research project to better understand how temperature and relative humidity in urban environments are affected by soil moisture and evapotranspiration – the process of water transferring to the atmosphere via evaporation from soil and transpiration from plants.

To gather and measure data, ORNL and University of Tennessee, Knoxville, scientists installed small weather stations and sensors around Knoxville city parks – one of the instrumentation sites being located at SEED headquarters.



In Fall 2023, ORNL’s Melanie Mayes, Jeffery Warren, Yaoping Wang and Chris DeRolph presented their urban microclimate research to one of SEED’s career readiness classes. The class learned about environmental injustice due to inequity in impervious surface and forest distribution, reviewed some of the current data and toured the monitoring equipment site on SEED’s campus.

Edible Forest volunteering

SEED’s Edible Forest Program supplies fruit trees, vegetables and herbs to the community at the epicenter of a 2-mile radius food desert. The EFP hosts community events and a bootcamp for young adults, providing them with skills in sustainable agriculture.



Staying true to ORNL’s core value of service, employees dedicated time to volunteer in April 2022 and January 2023, helping prepare the Edible Forest for planting season.