Northern New Mexico IceBox Challenge 2025

What is the IceBox Challenge?

The IceBox Challenge is a global project and an innovative experiment that illustrates the effectiveness of environmentally friendly standards compared to traditional construction. Three tiny houses, equipped with approximately one ton of ice each, will be placed outdoors in the summer heat to test and demonstrate how environmentally friendly buildings can contribute to climate crisis solutions. After a set period of time with exposure to the summer sun, the houses will be opened to reveal the amount of ice that remains. The result? The project provides tangible proof of the importance of energy efficiency and sustainable insulation in buildings.

Winter 2024/2025
Planning and Building Science Workshops

Spring 2025
Construct four tiny homes with different building standards at local building sites

Summer 2025
Public demonstration of energy-efficient performances

- **Youth workers will receive hands-on experience with energy-efficient building practices by working alongside construction professionals.**
- **The community will benefit by learning about energy-efficient building practices and developing attainable housing solutions.**
- **After the challenge, the tiny homes will provide safe housing for Esperanza Shelter.**

Santa Fe Habitat for Humanity®

Contact us for volunteer and partnership opportunities:
505-982-1774 or INFO@BuildNewMexico.com

Santa Fe Area Home Builders Association
Northern New Mexico Builders Association

esperanza shelter

ECO Early College Opportunities High School

YW ¡YouthWorks!

SFCC SANTA FE COMMUNITY COLLEGE

B PREFAB PUBLIC

NAHB National Association of Home Builders

IceBox Challenge Firsts!

Santa Fe joins 10 other US cities and 8 other countries as participants in the IceBox Challenge!

Youthworks Youth-Build Participants and Students from Early College Opportunities High School will be the first high school-age students to participate in the challenge anywhere in the world!

IceBox Challenge History

The first IceBox Challenge was conducted in 2007 in Brussels, Belgium, to test passive house construction. For six weeks in the spring of 2007, two 1,300 kg blocks of ice (nearly 3 tons) were stored in constructed boxes.

The first box was designed with standard construction regulations of Belgium, and the second one with passive house standards. In the first box, the ice melted in 11 days but in the second box, which was checked after 44 days in the sun, there remained a 456 kg block of ice (1/2 a ton).

2025: Santa Fe, New Mexico, USA
2024: Oslo, Norway
2024: Delhi, India
2023: New York, Pratt Institute, USA
2023: Denver, USA
2023: Fort Collins, USA
2023: Louisville, USA
2021: Glasgow, UK
2021: Santiago, Chile
2019: Melbourne, Australia
2018: New York, USA
2018: Los Angeles, USA
2018: Philadelphia, USA
2018: Washington, USA
2018: Pittsburg, USA
2017: Vancouver, Canada
2017: Seattle, USA
2016: Darmstadt, Germany
2009: Brussels, Belgium
2007: Brussels, Belgium

A hands-on public installation event to open career pathways for our youth while demonstrating the power of energy-efficient home design & construction.

IceBox Challenge Features

3 Tiny Houses

High-Performance Passive House Enclosure
YouthWorks/Habitat for Humanity

New Mexico 1950s Era Construction Practices With Energy Performance Upgrades
Santa Fe Community College

New Mexico Residential Building Codes (NMBC) 2021
Early College Opportunities High School

“Passive House is a design and construction standard, focused first on the enclosure, that produces dramatic reductions in building energy use and carbon emissions. It’s the best tool to drive carbon emission reductions proportional to what the climate crisis demands.”

- Passive House

Team YouthWorks/Habitat

High-Performance Passive House Enclosure

Tiny Home ONE will use Passive House-style super-insulated prefabricated panels for the walls, ceiling, and floor. Passive House is an internationally recognized building standard for ultra low-energy buildings. Developed in the 1990s, it focuses on maximizing energy efficiency and indoor comfort while minimizing environmental impact.

Working with partners like Habitat for Humanity, YouthWorks Youth Build participants find direct pathways into employment through stipend-based construction training. Rigorously trained youth crews deliver residential energy retrofits for vulnerable households.

Other youth crews learn how to mitigate wildfire dangers, protect local watersheds, and increase climate resilience, and complete restoration and beautification projects along the Santa Fe River.

¡YouthWorks!

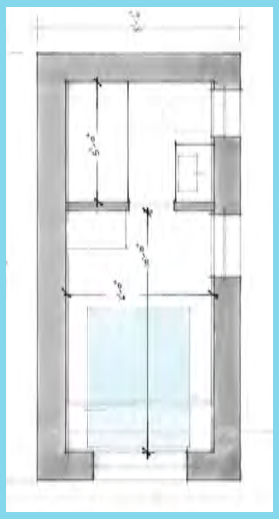
Santa Fe Habitat for Humanity®

Team ECO

Early College Opportunities High School

New Mexico Residential Building Codes (NMBC) 2021

Team ECO's Tiny Home will be constructed to New Mexico Residential Building Codes (NMBC) 2021. New Mexico adopts and amends building codes based on internationally recognized model codes developed by organizations such as the International Code Council. Current codes for NM homes are based on the 2021 International Building Code, 2021 International Energy Conservation Code, 2021 Uniform Mechanical Code, and others.



Located at 2301 W. Zia Road, Early College Opportunities High School offers a challenging curriculum designed to prepare students for higher education and careers in skilled trades and technology.

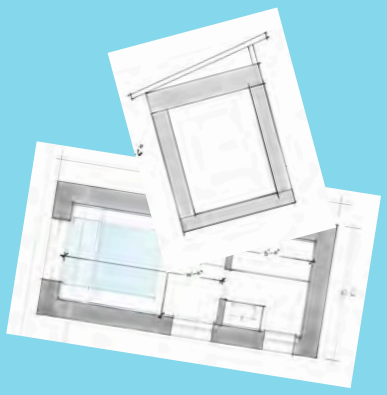
In Santa Fe, ECO partners with the Santa Fe Community College and the Institute of American Indian Arts. By enrolling in dual credit courses, high school students can earn college credits and high school credits at the same time, accelerating their educational journey.

ECO offers the following career technical pathways: Art & Design, Computer Science, Greenhouse, Construction, Welding, Auto & Motorcycle Tech, and Auto Collision & Refinishing

TEAM SFCC
Santa Fe Community College

New Mexico 1950s Era Construction Practices With Energy Performance Upgrades

The Santa Fe Community College Team's Tiny Home will be based on common practices used in postwar residential homes in Santa Fe. At the time, local developers built large numbers of quality homes, but due to low-cost energy of the era, they were not well-insulated. Energy-saving retrofits will be installed to "modernize" this tiny home to demonstrate how older homes with great bones can achieve greater energy-efficiency perfomance.



Through hands-on learning, SFCC students cover all aspects of construction, including project management, safety procedures, use of building materials, masonry, framing, weatherproofing, and welding.

In addition, students learn how to build and maintain sustainable (green) housing, buildings, and communities and become proficient in adobe construction, HVAC and plumbing.

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