



**ELECTRIFICATION WORKFORCE NETWORK**

## **Spotlight Series Featuring:**

*Jordan Renken, Morgan Sarao, and Evelin Preciado from Energy Outreach Colorado*

*Cornelio Martinez, Maize Mechanical*

*Bill Lucas-Brown, GB3 Energy*



**PARTNERS IN ENERGY**  
An Xcel Energy Community Collaboration



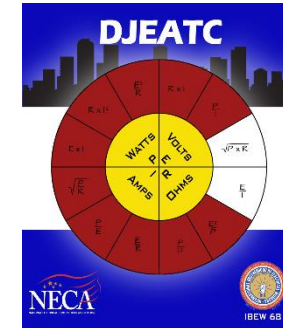
# What is the **Electrification Workforce Network (EWN)?**

Denver regional coalition with a mission and vision to foster collaboration between industry stakeholders to increase equitable access to quality jobs in beneficial electrification and energy efficiency.

# Why Does the EWN Exist?

- Rising demand for jobs related to electrification
  - Millions of dollars from federal, state, and local governments, as well as Colorado utilities to encourage electrification.
- Electrification industries are already facing shortages
  - Insulation installers
  - Electricians
  - HVAC technicians
  - Plumbers
  - Energy auditors and inspectors
  - Electric vehicle (EV) auto mechanics
- We don't need just jobs, we need **good jobs**

# EWN Members



Interested in becoming a member? Email [ljemison@brendlegroup.com](mailto:ljemison@brendlegroup.com)

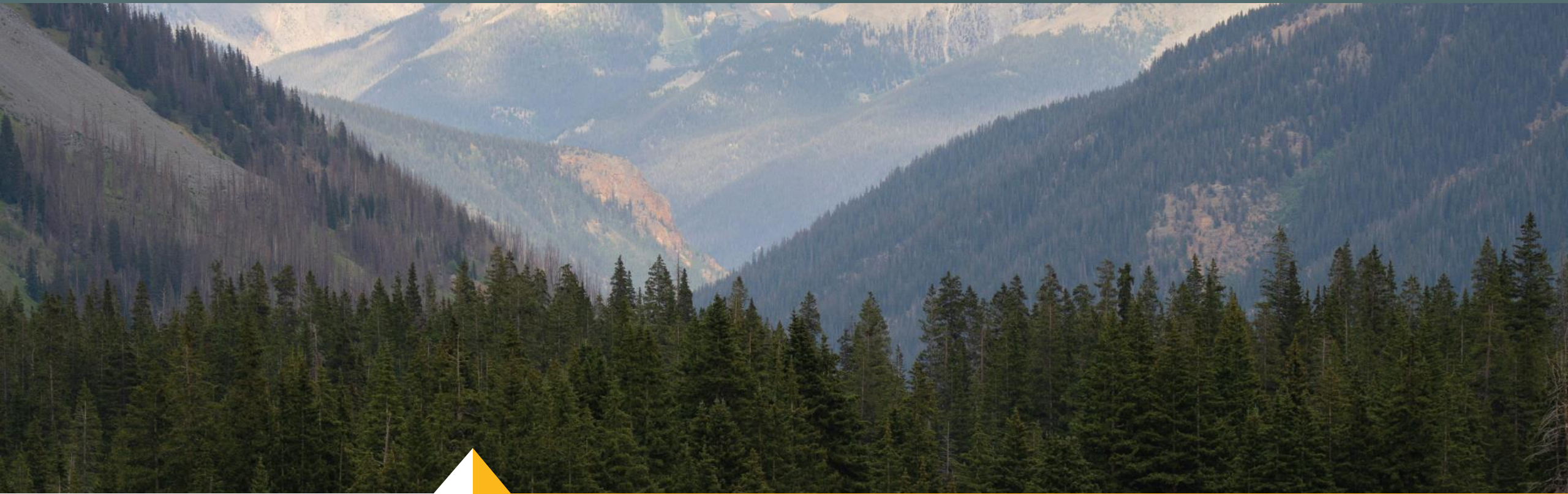
# Energy Outreach Colorado

Jordan Renken, Morgan Sarao, and Evelin Preciado





# A Quick Overview on Energy Outreach Colorado, Weatherization, Electrification, and Heat Pumps



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COLORADO**

**Jordan D. Renken**  
**Program Manager, Workforce  
Development**

# Who We Are

## Mission

EOC mobilizes a statewide partnership network to advocate for and deliver solutions that increase energy accessibility.

## Vision

A Colorado powered by collaborative solutions where affordable energy unlocks a sustainable future for all.

In short, Energy Outreach Colorado is focused on increasing **Energy Security** for Coloradan families.



# Some Important Definitions

## What is *Weatherization*?

**Weatherization** is the process of making a building more energy efficient. Common forms of weatherization include:

- Home Energy Assessments
- Air Sealing
- Insulation
- Moisture Control
- Ventilation
- Installation of Efficient Lighting/Low-Flow Water Spouts

The **Weatherization Assistance Program (WAP)** was created in 1976 as a response to the Oil Embargo Crisis caused by OPEC. The U.S. Department of Energy provides funding to the Colorado Energy Office which then disburses grants to several different Subgrantee Weatherization Agencies.

Energy Outreach Colorado is one of the subgrantees for Colorado WAP and performs all multi-family/commercial scale work for the program.

Colorado's Weatherization Assistance Program (WAP): <https://energyoffice.colorado.gov/weatherization-assistance-program>

***Weatherization is a precursor to electrification.*** Buildings need to be effectively weatherized to fully reap the benefits of electrification and contribute towards carbon reduction.



# Some Important Definitions

## What is *Electrification*?

**Electrification** is the process of replacing carbon emitting appliances and utilities with energy efficient electric alternatives. Common forms of electrification include:

- Replacing gas powered appliances such as furnaces with electric powered alternatives such as an Air Source Heat Pump.
- Solar Power
- Wind Power
- Battery Storage
- Electric Vehicle Supply Equipment (EVSE) Installation

Electrification as a term is often interchangeable with **Decarbonization**. Both these terms refer to the removal of carbon emissions as a means of slowing the rate of climate change.

## Why should we *Electrify*?

Buildings account for approximately 40% of all carbon emissions. If buildings can be made as energy efficient as possible and utilize high efficiency electric appliances, then we can make substantial progress in carbon reduction goals.

# Some Important Definitions

## What is a Heat Pump?

A **Heat Pump** is a type of Heating, Ventilation, and Air Conditioning (HVAC) system which is one of the central technologies driving the electrification movement.

There are two primary types of Heat Pump systems: The **Air Source Heat Pump** and the **Geothermal/Ground Source Heat Pump**. Both types of Heat Pumps are effective in Colorado, but you will see Air Source Heat Pumps more commonly installed as a building upgrade/retrofit thanks to their lower upfront costs and easier installation, while Geothermal/Ground Source Heat Pumps are often more cost effective as part of upgrades for larger properties or new construction.

Heat Pumps are a key component of electrification because:

- They can act as both a heating and air conditioning unit.
- They can operate on a fully electric power source.
- They are energy efficient\*\*\*
- They come in multiple forms to allow installation in a variety of building types:
  - Ducted Heat Pumps
  - Ductless/Mini-Split Heat Pumps
  - Window Units
  - Heat Pump Water Heaters

\*\*\* *It should be noted that "energy efficient" does not necessarily equate to cheaper utility bill.* It is true that Electric Heat Pumps are very energy efficient, but the cost of their fuel source (electricity) is sometimes higher than the cost of natural gas for efficient gas-powered furnaces.

# Our Programs

Energy Outreach Colorado delivers energy assistance through a holistic approach encompassing seven different programs:

## **Emergency Relief:**

- Crisis Intervention Program
  - Provides emergency heating system repair for families on LEAP.

## **Energy Efficiency Upgrades:**

- Colorado's Affordable Residential Energy (CARE) Program
- Multifamily Weatherization Assistance Program
- Utility Funded Multifamily Energy Efficiency Program
- Healthy Homes Electrification Program

## **Utility Bill Assistance:**

- Utility Bill Payment Assistance Program
- Community Solar Garden Household Subscriptions



# Market Forces and Funding Sources

Energy Outreach Colorado is only possible thanks to a confluence of various funding sources such as:

- Grants of all types (Government, Foundation, Corporate, etc).
- Public and private donations.
- Utility provided funding as part of their **Demand Side Management (DSM)** plans.
  - The key idea behind Demand Side Management is that it is cheaper for a utility provider to make buildings they serve more energy efficient than it is to build out new infrastructure to deal with increased energy demand.
- Utility provided funding as part of their **Clean Heat Plans (CHP)** and other similar decarbonization requirements.
  - Clean Heat Plans are a relatively new legislatively enacted law that requires utility providers to dedicate funding towards providing heat generated from clean sources to decrease carbon emissions.
- Leveraging different rebates such as those available for high efficiency heat pumps and other utility upgrades.

# GB3 Energy Smart Homes

Bill Lucas-Brown





# What...





# Who...



*Bill Lucas-Brown*  
*Golden, CO*





# *How...*



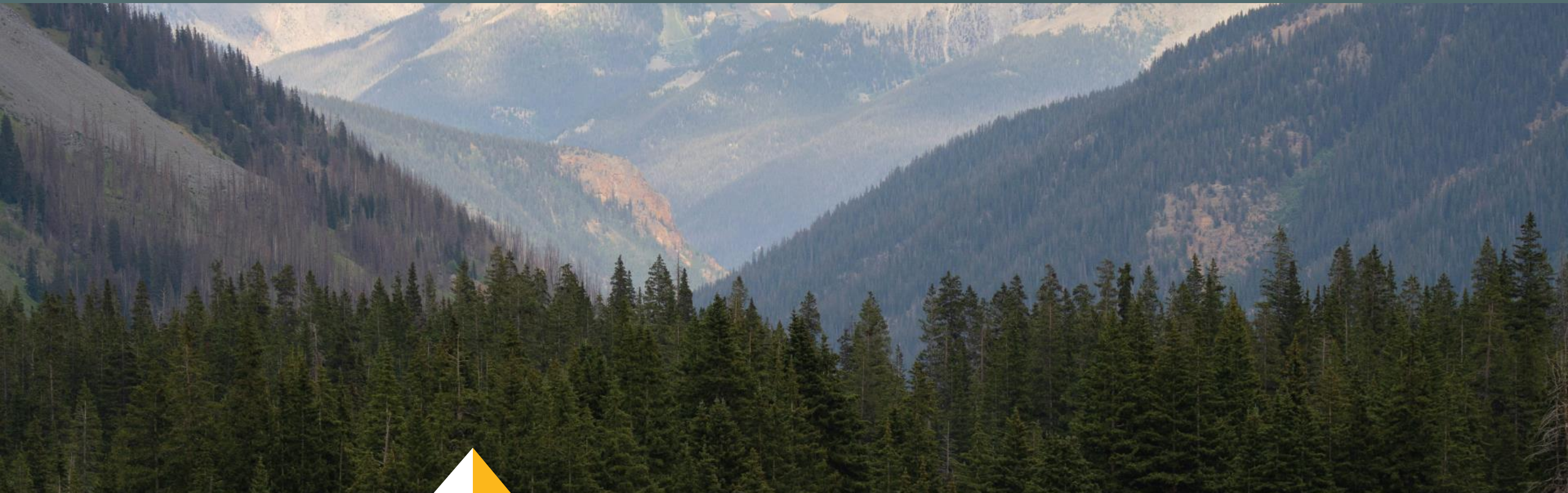


# Why...





# Healthy Homes Electrification Program



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**Evelin Preciado, Healthy Homes  
Program Manager**

# What is the Healthy Homes Program?



Weatherization



Electrification



Healthy  
Homes



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# Healthy Homes Program Goals



1. **Reduce greenhouse gas emissions**
2. **Improve indoor air quality** and potentially reduce exposure to pollutants for those living with chronic respiratory conditions
3. **Reduce vulnerability** to extreme heat events in Denver's most climate-vulnerable communities



# PROGRAM INNOVATIONS

- Healthcare Partner Referral & screening self-referrals
- IAQ Data Collection
  - Dust Sampling
  - PM 2.5
  - Etc.
- Three-part Assessment
  - Energy
  - Electrification
  - Health
- Community Solar Garden Subscription
- Workforce Development
- Education
- External Partners



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# PROGRAM IMPACT

- Overall decrease in fine particulate exposure
- Improved perceptions of health
- Work has created a more stable air quality within home

*"My daughter was going to the hospital on a regular basis for asthma treatments before work started on her home. Now that work is complete, these trips to the hospital have stopped."*

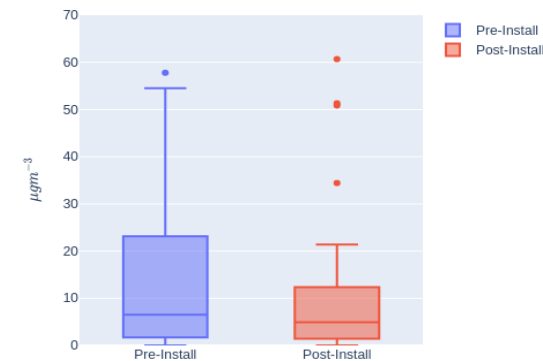
- Healthy Homes Program Participant, 2023

*"It's too soon to tell if my wife's breathing issues have improved, but when looking at the air quality monitor within my home, the reading used to be mostly in the yellow and red range, and now they are mostly in the green range."*

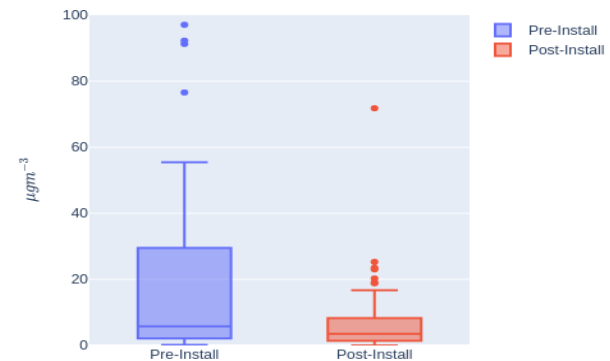
- Healthy Homes Participant, 2024

## Pre and Post PM2.5

Living Room PM2.5



Bedroom PM2.5



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# WHO WE WORK WITH

## CONTRACTORS

### Who Makes It Happen?

- HVAC technicians
- Electricians
- Energy auditors
- Weatherization specialists (insulation, air sealing)
- Health & safety (mold/asbestos remediation and re-construction)

### Strategies

- Community hiring (Contractor interest form)
- Partnership with local engineering partner for Quality Install verifications and contractor trainings
- Minority/Women Business Enterprise (M/WBE) certification
- Recommend connecting with our Workforce Program Manager-Jordan Renken if interested in learning how you can get involved with electrification projects in Denver and in Colorado





# Community Solar Program



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**Morgan Sarao, Solar Program  
Coordinator**



# Community Solar or Community Solar Garden (CSG)

**A community solar garden is a large collection of solar panels that can benefit multiple households, businesses, etc.**

You can get the benefits of solar energy (bill savings), without having to install any equipment where you live or rent.

Anyone can subscribe to community solar if it is offered by your electricity provider.



# How Does Community Solar Work?

1 Your household is assigned a portion of a solar garden based on your yearly electricity usage.

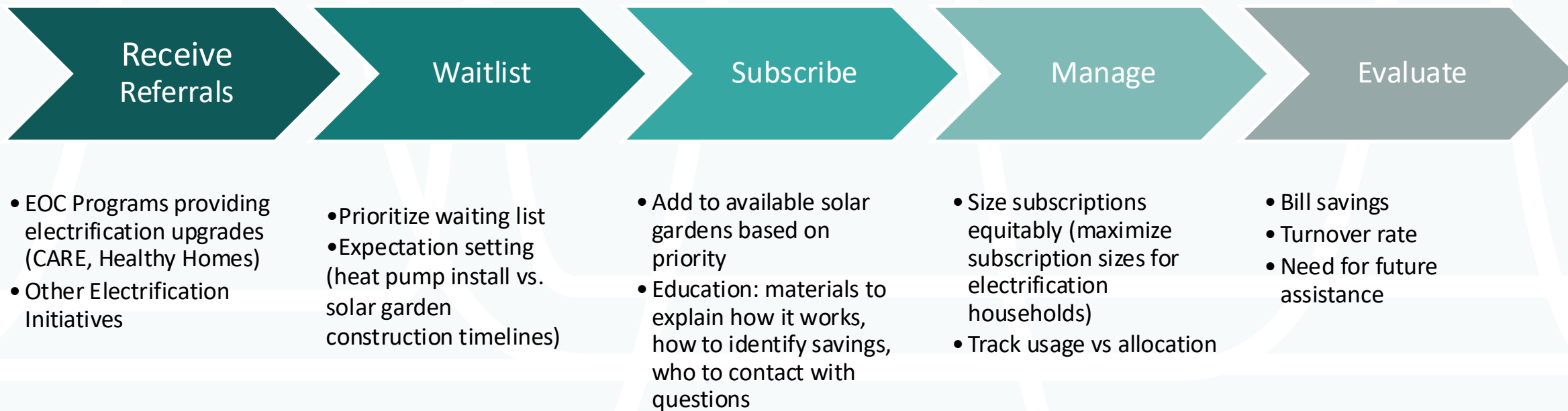
2 Your electric utility tracks the solar production each month. They calculate your monthly bill savings based on the solar production of your portion.

3 The savings are applied as a credit to your bill each month!





# Electrification and Community Solar: EOC's Approach



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# Challenges and Benefits

## Benefits

- Participating households currently receive **donated subscriptions**
  - 100% of the CSG benefit goes to the household – approx. 50% yearly electricity bill savings
  - No second bill to manage
- Subscriptions can move with the household
- Ability to re-evaluate electricity usage and adjust subscription sizes accordingly
- We can connect households that are struggling to additional energy assistance resources
- Households can participate for the entire lifetime of the solar garden (approx. 20 years) as long as they remain eligible

## Challenges

- Evolving legislative landscape: future subscriptions available through our program may not be fully donated
- Waiting time for subscription savings to begin: **1 year or longer**
  - Solar construction vs. heat pump install timeline
- Credits fluctuate seasonally
  - Savings are typically highest during summer months, and lowest during winter months
  - Households with heat pumps may see their highest electricity bills during the winter
- Cannot guarantee savings each month
  - Instances of solar gardens going down for months at a time due to fire, equipment failure, hail damage

# Maize Mechanical

Cornelio Martinez



# Questions?





# What's Next?

- Upcoming EWN Events
  - Sept 4: IECRM Hiring Fair
  - Oct
    - EWN & Zero Home's Mile High Climate Club Networking Event
    - EWN Webinar
  - Dec
    - EWN & Women Who Charge Cookie Exchange
- Interested in becoming an EWN member?  
Email [ljemison@brendlegroup.com](mailto:ljemison@brendlegroup.com)
- Sign up to present at the webinar Spotlight Series. Scan QR code →

Webinar Spotlight Interest Form

