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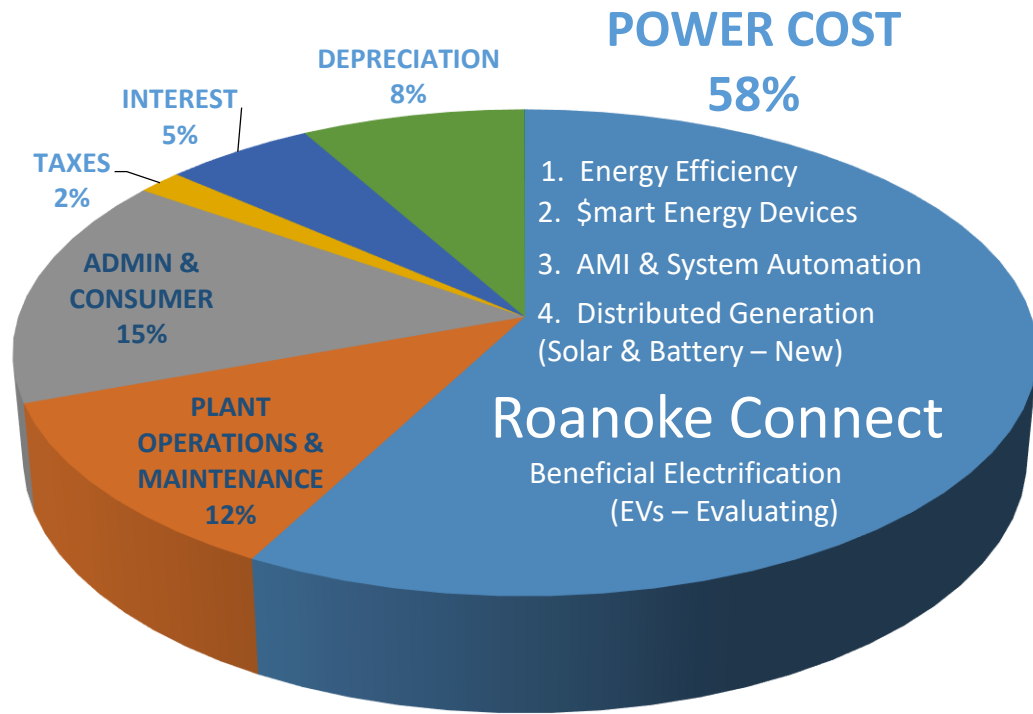
Equitable Solutions to Rural Energy Burdens



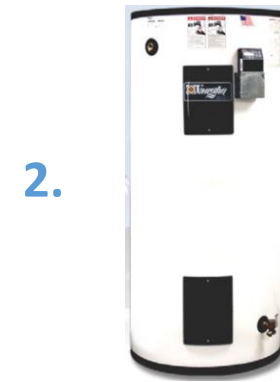
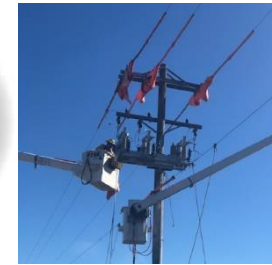
NRECA Presidential Platform

- Rapid pace of change
- Three key realities:
 1. The **market-driven future** of the electric utility industry
 2. The future will demand **sustainability and efficiency**.
 3. The future will **require grid flexibility**.
- Acknowledge, Act, Lead **Together**

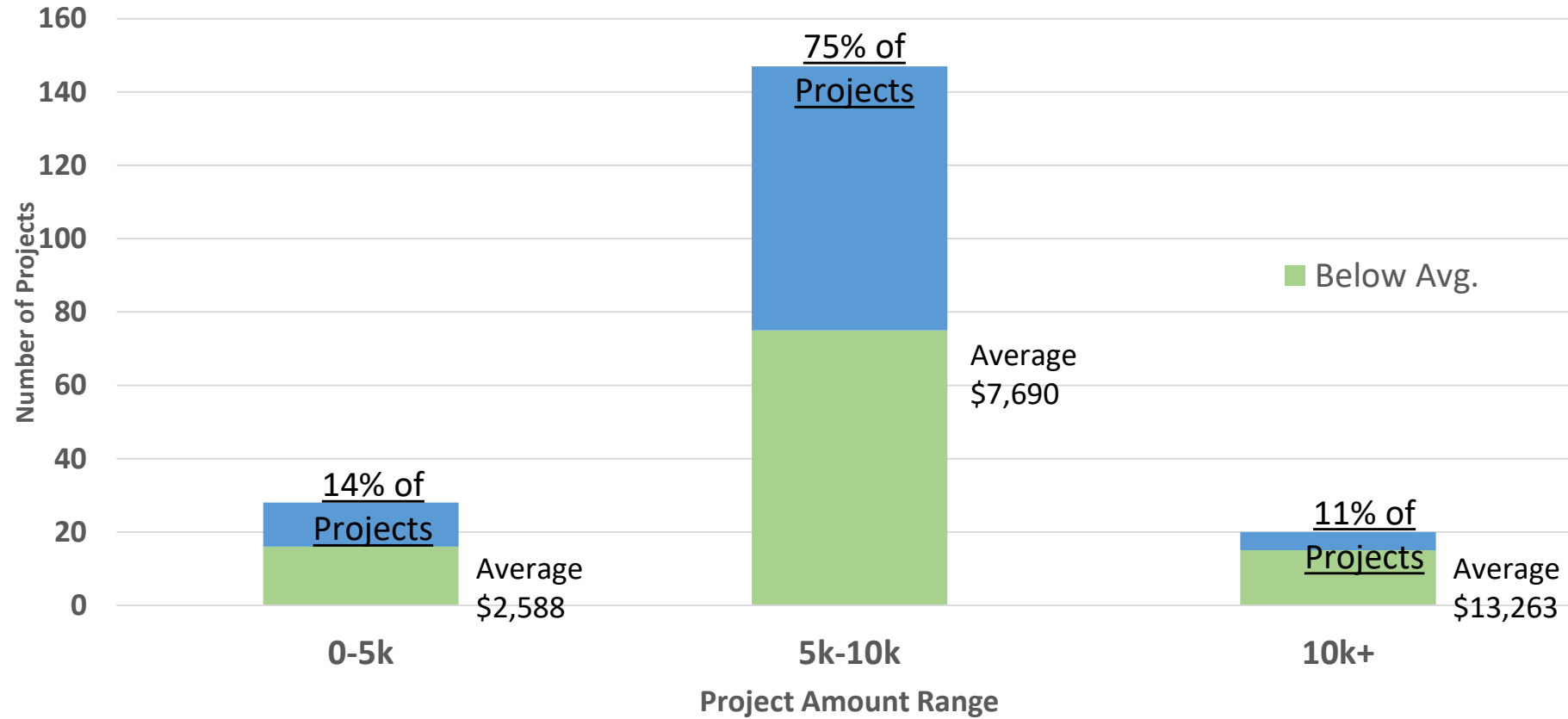
The Business Case for Reducing Energy Burdens



Roanoke Connect broadband deployment is the primary enabler of all of the above; creating cost savings for Roanoke EC and our member-consumers, while reducing carbon emissions



The Business Case for Reducing Energy Burdens



The Business Case for Reducing Energy Burdens



COST / SAVINGS	One (1) Participant	1,000 Participants
Electricity We Don't Sell	(\$ 2,762)	(\$ 2,762,000)
REC Upgrade Investment	(6,182)	(6,182,000)
Program Operation Cost	(770)	(770,000)
Electricity We Don't Buy (Demand Savings)	\$ 10,622	\$ 10,622,000
Payments from Member-Owners (Bill Tariffs)	6,182	6,182,000
<u>Program Operation Cost Recovered</u>	<u>200</u>	<u>200,000</u>
20 Year Savings	\$ 7,290	\$ 7,289,858

These numbers do not account for propane and other fuel conversions to electricity – “beneficial electrification”.



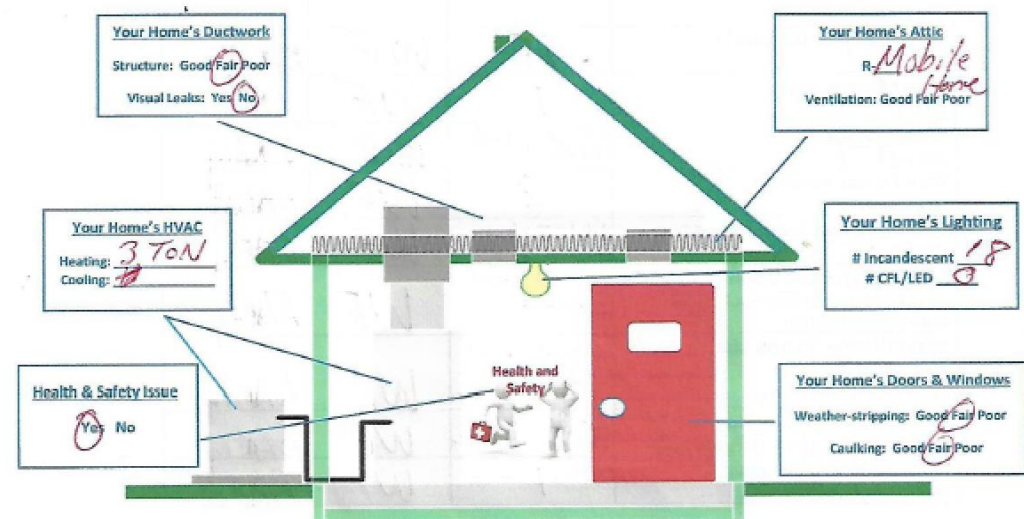
The Business Case for Reducing Energy Burdens

- Cooperative's tariff on-bill financing energy efficiency program
 - 450 + participants
 - 40% of inquiries can't fully participate due to **health and safety concerns**
- Still leaves many member-owners unable to "fully participate"

Date: 10-23
 Member:
 Address:

UPGRADE TO SAVE
 Roanoke Electric Cooperative

Member Assessment



Item	Energy Saving Tips
Lighting	Convert all bulbs to CFL or LED that are used a minimum of 2 hours a day
Air Infiltration	Maintain all seals around doors, windows and electrical/plumbing penetrations
Attic Insulation	Don't disturb existing insulation unless absolutely necessary, repair if disturbed
Duct Work	Make sure other workers don't crush it, keep critters and pets away
HVAC	Purchase service agreement to provide annual cleanings, evaporator every 3-5 years
Appliances	Always purchase Energy Star appliances
Water Heating	Keep temperature setting as low as possible
Water Usage	Use low flow faucets and shower heads

Other Recommendations:
 Member had an active leak in the master bathroom roof of the home. Roof will need to be repaired. Also septic is backing up in the back yard up against the porch area of the back yard.

Assessor Signature: Walter Jones Member Signature:

The Business Case for Reducing Energy Burdens

- Community Solar
 - A community solar farm or garden is a solar power installation that accepts capital from and provides output credit and tax benefits to individual and other investors.
 - In some systems you buy individual solar panels which are installed in the farm after your purchase. [Wikipedia](#)

HOW COMMUNITY SOLAR WORKS

MANY CONSUMERS ARE INTERESTED IN SOLAR POWER, BUT CAN'T INSTALL PANELS ON THEIR HOME. Maybe their house has too much shade, or they live in an apartment.

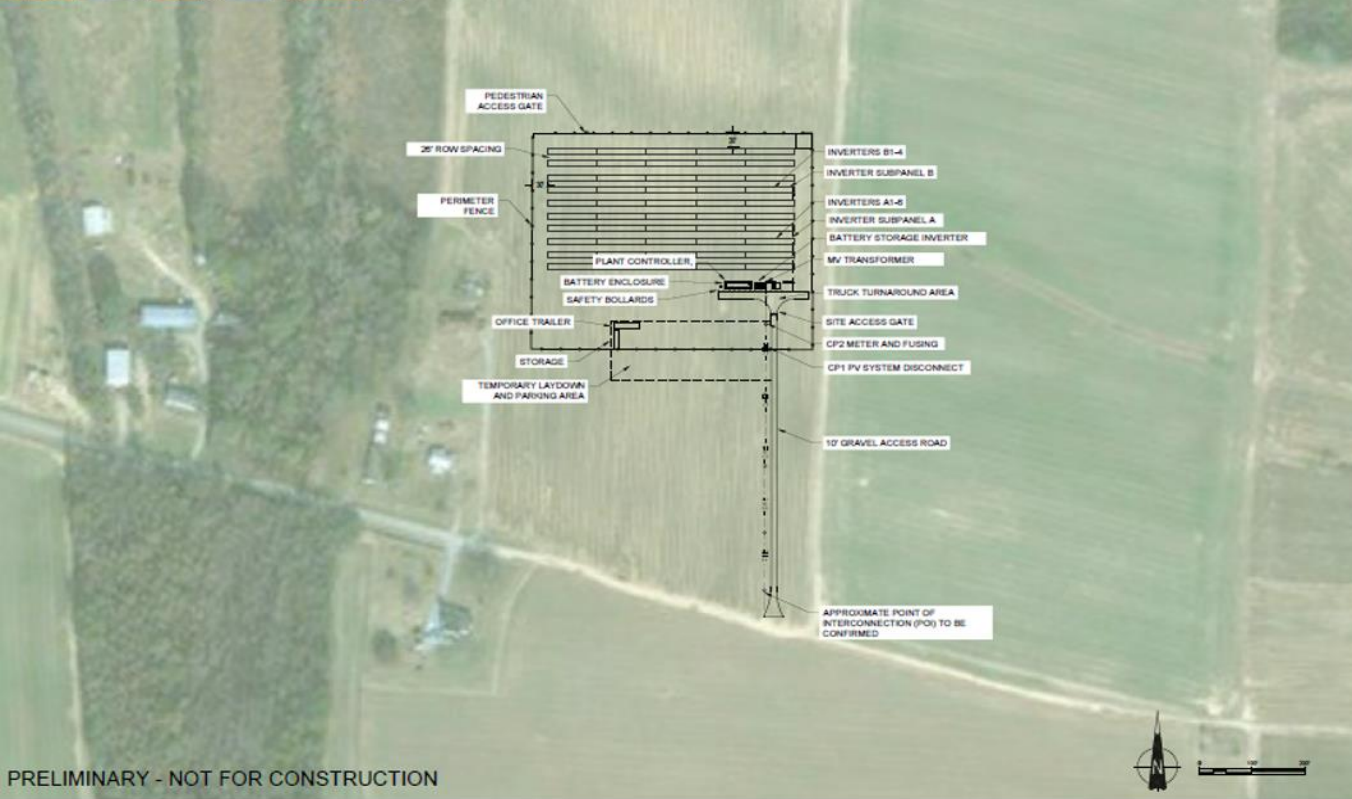
With community solar, you don't have to install panels. **YOU, YOUR NEIGHBORS AND BUSINESSES CAN SUBSCRIBE TO A PORTION OF A COMMUNITY SOLAR GARDEN.**

How you pay for it depends on the offer you sign, but your subscription helps the developer fund the garden. **IN RETURN, YOU GET A CREDIT ON YOUR ELECTRIC BILL** in proportion to your share of the electricity the solar garden produces.

ELECTRIC BILL	
YOUR USAGE	\$
CREDIT!	\$
TOTAL	\$

Designed by Citizens Utility Board

The Business Case for Reducing Energy Burdens



PRELIMINARY - NOT FOR CONSTRUCTION

Roanoke SolarShare

- Installed 'pilot' solar garden at headquarters facility – unsubscribed by member-owners
- Four (4) upcoming solar/battery projects that will include a **community solar** offer
 - Purposely developed on minority landowner properties
 - Identified via [Roanoke's Sustainable Forestry and Land Retention Project](#)
- Neighbors helping neighbors
 - Individual and philanthropic donations will purchase output from community solar
 - Credits will be used cover the cost to rectify **health and safety issues** for nearly 800 dwellings at ~\$2,000 each
 - Fundraising goal: \$1.7m

The Business Case for Reducing Energy Burdens

- Smart Energy Savings Devices
 - Each thermostat & water heater control installation is saving REC approximately \$170 and \$77 per year respectively
 - Over 1,000 thermostats installed
 - Over 850 water heater controls installed
- Roanoke Connect Broadband
 - Smart energy savings devices justify monthly credits for participating in demand response programs
 - Free installation of devices and broadband equipment
 - \$44.99 monthly subscription is well below market price for broadband
- System Automation
 - Increasing system resiliency and
 - Lowering wholesale power costs
 - Voltage reduction
 - Line loss

Questions?