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and chat panel

**A**GRICULTURAL **U**UTILITY  
**G**ROUP **M**MEETING

December 17, 2024



# Ice Breaker

What's your favorite winter activity, and food?



# Agenda

- 10:00-10:05 AM Welcome/Ice Breaker – David Lee
- 10:05-10:10 AM FY24 Ag Sector energy savings by measure – David Lee
- 10:10-10:15 AM Ag marketing support and collateral refresh efforts – Rachael Ettelman
- 10:15-10:25 AM Ag Irrigation Management (AIM) Measure research – Tom Osborn
- 10:25-10:30 AM Rate Period IM changes being pursued – Lita Mahan
- 10:30-10:37 AM Training on Ag VFDs for pumps and VFD for pumps Calculator – Tom Osborn
- 10:37-10:50 AM Ag energy audit measures & Rural Energy for America Program (REAP) Grants – David Lee
- 10:50-11:00 AM Utility Share-out on their Ag program - Utilities
- Closeout – David Lee



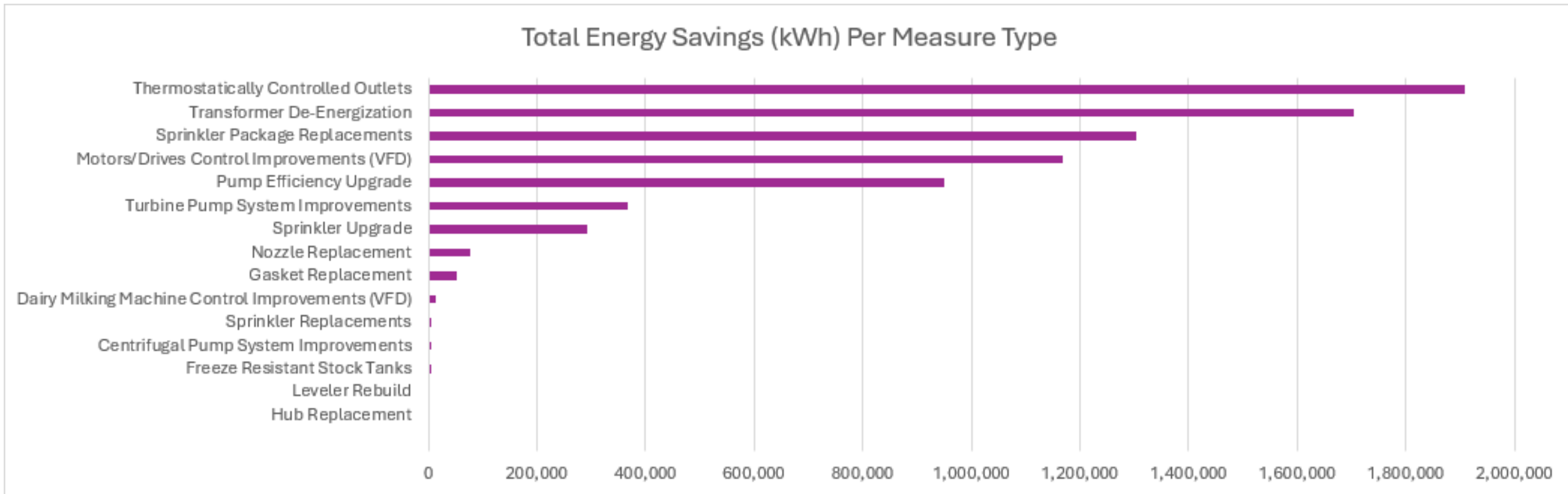


# Ag Sector Team Members

-  David Lee - Ag Sector Lead/Program Manager
-  Dena Hilde - EER Liaison
-  Tom Osborn - Sector Tech Lead, Customer Service Engineer
-  Lita Mahan - Ag COTR
-  Ben Mabee - Planning and Evaluation
-  Larry King - Ag Program Specialist
-  Dick Stroh, Travis Wood – Customer Service Engineer
-  Jonathan Farmer - Ag Program Support Specialist
-  Rachael Ettelman - Marketing Support



## FY24 Ag Sector energy savings by measures for all utilities



***FY24 Ag Sector total energy savings: 1.34 aMW (11,738,400 kWh)***



[bpa.gov](#) > [energy & services](#) > [energy efficiency](#) > [utility resources](#) > [marketing resources](#)




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## Aeneas Lake Irrigation District Sees Big Energy Savings


2023




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**Project Background**




Aeneas Lake Irrigation District in Tonasket is seeing energy savings with the installation of a new 600 horsepower irrigation pump upgrade. The district irrigates 1,354 acres of farmland that includes orchards, hay and grass and serves 87 agricultural and residential customers. According to Maintenance Supervisor Bryan Sawyer, the original pump was installed in 1969 with various parts replaced several times over the years. Now that the replacement parts are obsolete and unavailable, it was time to work with their electric utility, Okanogan County PUD, to install the upgrade.



**143,232**  
kWh Annual Energy Savings



**\$38,815.33**  
Okanogan PUD Incentive Payment

What ideas do you have to save energy?

Okanogan PUD has multiple energy

**Results**

- Aeneas Lake Irrigation District received an incentive check of \$38,815.33 from Okanogan County PUD.
- The incentive covered 70% of the project costs.
- The District is enjoying an annual energy savings of 143,232 kilowatt hours.
- The new pump is delivering more water with improved efficiency and less maintenance.
- Okanogan County PUD manages the incentive programs through funding by the Bonneville Power Administration, a major source of its electricity.

### RURALITE Internet Advertising (300 x 250)



Improve the quality of your crops and increase your yield with Low Energy Precision Application (LEPA), designed to reduce water and save energy with lower pressure, higher efficiency irrigation.

**CALL YOUR LOCAL UTILITY TO GET STARTED.**

# UPGRADE TO EFFICIENCY

**COMPANY LOGO**  
PUBLIC UTILITIES



## DAIRIES

**You work long, hard hours to keep your agricultural business productive, bountiful and profitable. But how much time does it leave for you to consider how to operate at a lower cost?**

Upgrading to more energy-efficient tools and devices is proven to help you do just that—without sacrificing productivity. And thanks to available utility incentives, can put cash back into your hands.

Use this guide to learn more about potential energy-saving upgrades you can make to your business.

**Dairies need new ways to get cost-competitive.** The price of milk has not changed, but the cost of doing business has increased, making it difficult to earn a profit. With more than 1,100 dairies in the Pacific Northwest, dairies are very keen on keeping their assets at peak performance. Enhancements such as lighting upgrades, VFD-driven compressed air, VFDs on pumps, wastewater treatment, heat exchangers and refrigerators are all opportunities to use energy more efficiently and reduce costs, while maintaining peak performance. BPA supports utility incentives for dairies that implement barn and area LED lighting, chiller improvements, and VFD applications on vacuum pumps.

**Pump House Thermostatic Controls**  
During cold winters, pump house temperatures can get below zero and threaten to freeze or burst pipes. Heaters are often used to prevent freezing conditions during those cold winter months. Thermostatic controls manage the operation of the heaters to prevent the freezing of pipes and tanks, and shut off automatically when the threat of freezing has passed. Installation of thermostatic controls can be as simple as plugging the device in between the space heater and the outlet.

**Lighting and Controls**  
In addition to energy-cost savings of 25% to 50%, energy-efficient LED lighting upgrades and controls can increase visual acuity and lighting equipment life, improve security, and may also improve worker safety, productivity, and quality of work. You can save energy by converting old incandescent, halogen, and fluorescent lights to more efficient LEDs anywhere on your farm where lights are used. LEDs have improved significantly in the past 10 years, lasting much longer than other types of bulbs, and come in a wide selection of colors and color temperatures (warm or cool light). For greater savings, add controls to these lighting systems to ensure they only operate when needed.

**CONTACT UTILITY NAME TO GET STARTED.**





# Marketing Materials

Updated marketing materials will be available early next calendar year

COMPANY  LOGO		AG PROGRAM MEASURE LIST
PUBLIC UTILITIES		
	<b>AG ENERGY AUDIT</b>	<ul style="list-style-type: none"> <li>Rebate for Ag Energy Audit Screening is \$150</li> <li>Rebate for Ag Energy Audit is up to \$15,000 minus outside funding</li> <li>Necessary to apply for a USDA Renewable Energy for America Program grant or loan</li> </ul>
	<b>VFDs FOR IRRIGATION PUMPS</b>	<ul style="list-style-type: none"> <li>Rebates vary from \$70 to \$100 per motor hp depending on pump type</li> <li>For new or existing centrifugal or turbine irrigation pumps</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>HIGH EFFICIENT IRRIGATION PUMPS</b>	<ul style="list-style-type: none"> <li>Rebates are \$70 per motor hp</li> <li>For new high efficient pumps from 20 to 500 hp</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>IRRIGATION SYSTEM LOW-PRESSURE CONVERSION: HIGH-PRESSURE TO LOW-PRESSURE</b>	<ul style="list-style-type: none"> <li>\$16 per head per Wheel-line or Hand-line</li> <li>\$18 per drop per Center-pivot or Lateral-move</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>IRRIGATION HARDWARE UPGRADES</b>	<ul style="list-style-type: none"> <li>Rebates vary from \$1 to \$4 depending on rebuild or replaced hardware</li> <li>Rebuild or replace existing irrigation hardware</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>SPRINKLER PACKAGE REPLACEMENT</b>	<ul style="list-style-type: none"> <li>\$7 to \$16 per package; depending on the type of sprinkler</li> <li>Many types qualify - High Pressure, MESA, LESA, LEPA, MDI</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>LIGHTING UPGRADES</b>	<ul style="list-style-type: none"> <li>Nonresidential rebates of up to \$0.25 per kWh savings</li> <li>Must achieve at least 25% kWh reduction</li> <li>Self-installed or by a licensed contractor</li> </ul>
	<b>IRRIGATION PUMP TESTING AND SYSTEM ANALYSIS</b>	<ul style="list-style-type: none"> <li>Rebates vary \$100 to \$600 based on complexity of pumping system and acreage</li> <li>Testing and analysis of existing simple or complex pumping system</li> <li>Performed by a knowledgeable consultant</li> </ul>
	<b>THERMOSTATICALLY CONTROLLED OUTLETS</b>	<ul style="list-style-type: none"> <li>Rebate of \$14 per outlet</li> <li>Prevents freezing conditions in a space</li> <li>Only 1 per pump house or utility room is eligible</li> </ul>
	<b>FREEZE RESISTANT STOCK WATER TANKS/FOUNTAINS</b>	<ul style="list-style-type: none"> <li>\$140 - \$225 per tank/fountain based on heating zone</li> </ul>
Utility Contact Name: Utility Address: City, State, Zip	Utility Phone Number: Utility Website: Additional Information	Updated 11/2024

○ Ag Measure Specific

○ Industries

○ Irrigated Crops

○ Dairies

○ Vineyards

If you need assistance in creating or customizing marketing materials, please contact your Energy Efficiency Representative (EER) or email [EEmarketing@bpa.gov](mailto:EEmarketing@bpa.gov).



# Ag Irrigation Management (AIM) Research

- Irrigated Agriculture has generally been early adopters of technology and innovation
- Some of the first remotely controlled devices were large farm irrigation systems (pumps, valves, pivots)
- BPA Scientific Irrigation Scheduling research  
Historically 10% +/- over non SIS fields
- 2017 study found no statistical difference
- How to unlock the potential for water and associated energy savings





# Ag Irrigation Management (AIM) Research

- BPA met a few companies at Smart Orchard demo (I can send a couple of photos?)
- Today farms can look at weather, soil moisture, soil density, plant status, # blossoms, sap movement, fruit growth, autonomous weeding/spraying, drone IR data, satellite imagery, in field zonal differences, pest management
- Lots of layers and data formats
- How can AI type strategies integrate data to help farms make more informed decisions



# Ag Irrigation Management (AIM) Research

- BPA grant to WSU Prosser to looking at research and interviewing industryDraft report does not find much research on these all encompassing strategy set
- AI movement/offers accelerating
- BPA may want to partner with a few farms on AIM in 2025






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## Smart Orchard field day draws a crowd in Central Washington

Ross Courtney // July 30, 2024



Lav Khot, left, of Washington State University greets guests on July 26 at the Smart Orchard field day in Mattawa. About 200 people attended the event that showcased the high-tech tools of more than 20 vendors.

(Ross Courtney/Good Fruit Grower)

About 200 people turned out on July 26 to check out the latest in sensors, robotics and irrigation automation at the Smart Orchard field day near Mattawa, Washington.

"Great to see so many people," said Keith Veselka, managing partner of NWFM, a farm management company that operates the orchard. "I think that's an event that will continue to grow."

The Smart Orchard is a commercial farm set aside as a testing grounds for agricultural technology companies conducting research projects with the Washington Tree Fruit Research Commission. The Mattawa location, featuring a block of WA 38 and Cripps Pink apples, is the third location of the ongoing effort.

Lav Khot, the project's principal researcher from Washington State University, called the field day a success.

"A few ag-tech developers called me to say they had good, direct feedback from growers on ways to move their solutions forward," Khot said.

### Related:



Smart Orchard continues testing technology

ADVERTISEMENT

### LATEST UPDATES



Washington State University names WA 64 apple

Sunflare

December 10th, 2024



IFTA wraps up South Africa tour with apples, pears and stone fruit under shade netting

December 10th, 2024

[MORE UPDATES](#)

### EVENTS CALENDAR

ADVERTISEMENT

# Ag Irrigation Management (AIM) Research

## Smart Orchard Pilot In Sunnyside

Smart Orchard field day draws a crowd in Central Washington –

Good Fruit Grower

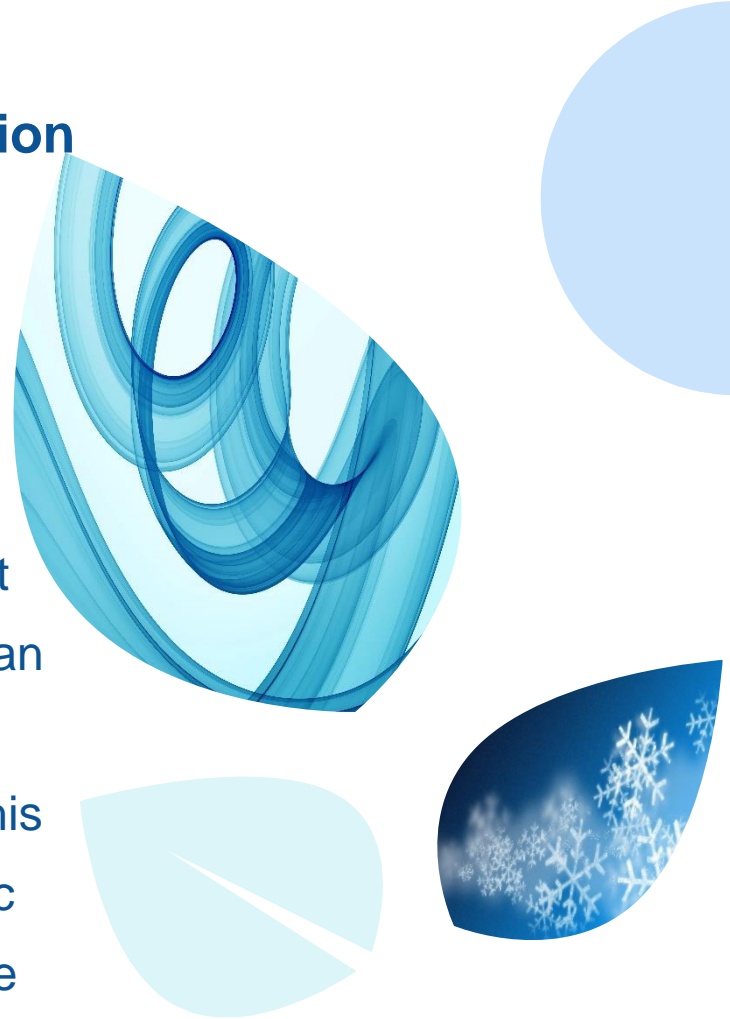


## 2026/27 IM Updates

**The BPA Agricultural team is adding clarifying language to Section 7.3 for THERMOSTATICALLY CONTROLLED OUTLETS**

### **Current language:**

This measure requires the addition of a thermostatically controlled outlet or controller to control the heating load in a pump house or utility shed to prevent piping and other equipment from freezing. The base case for this measure is an electric-resistance heater operating in a pump house or utility room to provide freeze protection to piping and other equipment. The more efficient case for this measure adds thermostatically controlled outlets that provide power in specific temperature bands. The thermostatically controlled outlet will turn on when the building ambient temperature is below 39° Fahrenheit (F), and will stop providing power at a temperature no higher than 50°F.





The BPA Agricultural team feels this language is limiting as it only refers to pump houses and utility sheds.

### **Proposed new language:**

We would like to update the specific language to make it more descriptive as this measure does allow for placement in also barns and chicken houses.

We propose amending the description to say: a pump house, utility shed, barn or chicken house....



## Variable Frequency Drive (VFD) for pumps





## Located at BPA Document Library:

[bpa.gov/-/media/Aep/energy-efficiency/document-library/231001-Existing-Pump-VFD-Deemed-Savings-Tool.xlsx](https://bpa.gov/-/media/Aep/energy-efficiency/document-library/231001-Existing-Pump-VFD-Deemed-Savings-Tool.xlsx)

AGRICULTURE RETROFIT - TURBINE AND CENTRIFUGAL PUMP VFD CALCULATOR TOOL				
				Version Date: 10/1/2023
<b>Please fill in all of the green highlighted fields. Add explanatory notes where needed</b>				
Use this tool to determine eligibility and calculate the BPA deemed energy savings related to VFDs installed on EXISTING pumping plant installations in Ag applications.				
<b>A. IRRIGATOR INFORMATION</b>				
Estimated Date of VFD Installation:	October 2, 2023			
Irrigator Member Name:	New Adventure Farms			
Address:	Sunshine Lane	cell #509-520-1123		
City, State, ZIP:	Walla Walla, WA 99362			
Serving Electric Utility:	The Electric Coop			
Account Number or	123456			
Meter Number	54123			
Average Annual Energy Usage	686,367	kWh per year		
Melded Average Cost per kWh:	0.065	\$/kWh		
<b>B. PUMP MOTOR DATA</b>				
Irrigation Pump Rated HP for VFD:	400	HP (eligible from 7.5-1,000 HP)		
Total Rated HP on meter (enter value from below):	473	HP		
<b>C. PUMP DATA</b>				
Pump Type (select Centrifugal or Turbine):	Turbine	Use pull down		
Pump Manufacturer:	Good Old Pumps			
Pump Model:	123-abc			
Rated Head (or TDH) (nameplate or curve):	550	feet	WHP check = 306	
Rated Flow (from nameplate or curve):	2,200	gpm	EHP check = 424	
Pump Depth (feet):	400	feet	use zero for centrifugal	
Estimated Average Lift (feet):	360	feet		
Maximum Estimated Lift (or inlet pressure in feet):	360	feet		
Lowest Estimated Lift:	300	feet		



# BPA Agriculture Energy Audit Measures

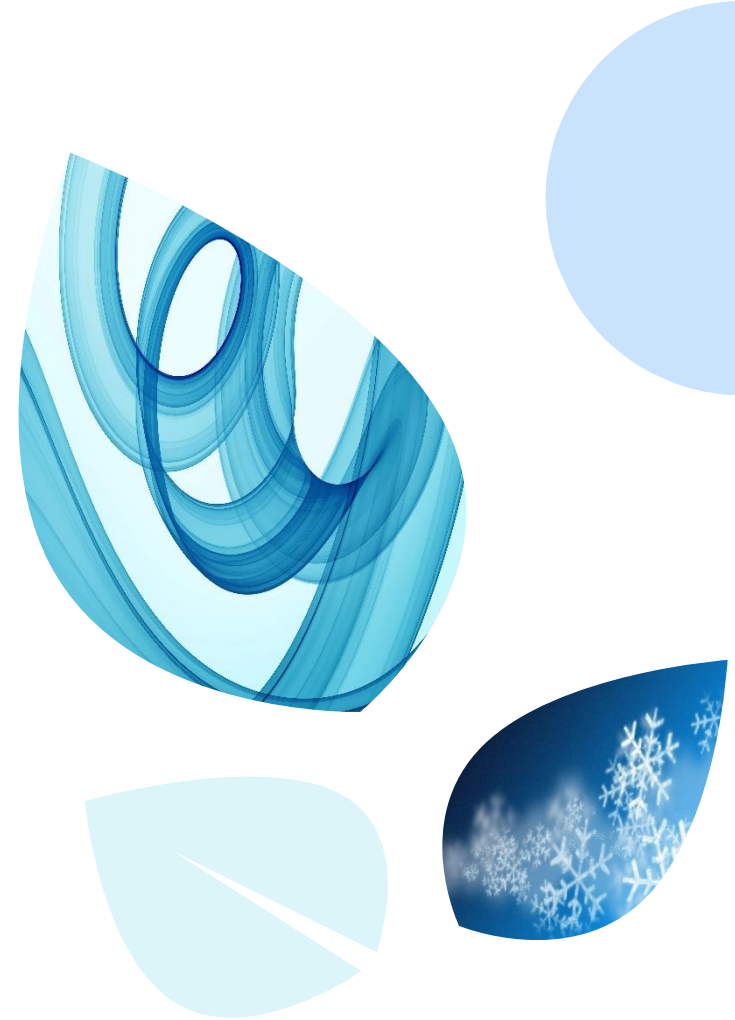
- Became effective October 1, 2023
- 7.8.1 Ag Energy Audit Screening
  - \$150 per site
- 7.8.2 Ag On-site Energy Audit (must complete 7.8.1 prior to proceeding)
  - Up to \$15,000 (minus outside funding)
- No savings measures that should lead to identifying and implementing other Ag program UES measure and custom projects that have energy savings.





# What is an Ag Energy Audit?

- Identifies/Analyzes Ag energy efficiency opportunities
  - Irrigation system/hardware upgrades/conversions
  - VFDs for pumps, pump efficiency upgrade opportunities
  - Lighting upgrades
- Follows American Society of Agricultural and Biological Engineers
  - (ASABE) 2009 standard
- Performed by a CEM, USDA NRCS TSP, P.E., or experienced Ag Energy Auditor



# Where? Ag sector sites

- Irrigated Crops
- Dairy
- Livestock or Poultry Farm
- Indoor Ag Grow/Greenhouse/Controlled Environment Ag Facility
- Vineyard
- Fish farm
- Any other Ag Operation





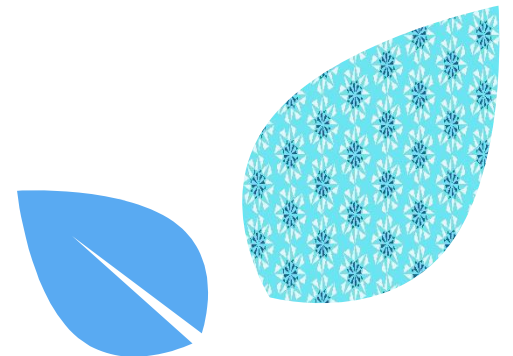
# Why do it?

## For the Utility

- Helps your Ag producer members
- Creates pipeline of energy efficiency projects that could be incentivized
- Assists in EEI spend planning

## For the Ag Producer

- Comprehensive Energy Audit Report
  - Business case for Ag Producer to make financial decision on implementing EE projects
    - Energy and O&M cost savings
    - Available utility incentive
    - Available funding sources
      - Enables implementation of low-cost measures
      - Assists in planning for capital improvement projects
  - **Completes necessary step to get USDA Rural Energy for America (REAP) grant or loan**



# Great example of web based promotion



Agriculture Programs

Sprinkler Equipment Program

Irrigation Pump Efficiency Upgrades & Variable Frequency Drive (VFD) Program

**Agricultural Energy Audit**

Central Electric Cooperative, Inc. > Customer Service > Energy Efficiency > Agriculture Programs > Agricultural Energy Audit

## Agricultural Energy Audit

Font Size: + - + Share & Bookmark Feedback Print

The agricultural energy audit enables agricultural producers to get detailed information about electrical energy-consuming equipment, as well as information about agricultural production activities on ways to best use energy. An experienced agricultural on-site energy auditor will inspect buildings, equipment and processes, to identify and analyze energy efficiency improvements that could be implemented and result in energy savings.

At this time the Oregon Department of Energy (ODOE) is providing funding for 75% of the cost of the audit and CEC is reimbursing the remaining amount up to a maximum of \$15,000. CEC is also paying an additional per \$150 applicant for a completed CEC screening application.

**Steps to Participate:**

1. You will need to complete an [audit interest form with ODOE](#). Please note that ODOE will assign a state approved technical service provider to your audit if approved. ODOE will review your application for the audit cost share.\*
2. You will also need to complete a [CEC audit screening form](#). Once this form is completed and submitted to CEC, we will pay the member applicant a \$150 payment. CEC will review your application for the remaining audit cost share.
3. Once both applications are approved, you and your state approved technical service provider will conduct the audit. The audit report must meet BPA's/CEC's audit [standards](#) and [format](#).
4. Once the report is complete you will submit the audit invoice along with a copy of the audit to CEC at [energy@cec.coop](mailto:energy@cec.coop). CEC will issue a payment for the remaining cost of the audit that ODOE does not cover up to \$15,000 as long as the report meets all of CEC's requirements.

\*If ODOE runs out of funding, or denies an application there is a potential that CEC could cover 100% of the cost of the audit as long as CEC approves your screening form. Please contact us at [energy@cec.coop](mailto:energy@cec.coop), or 541-548-2144 and select option 6 for additional information.





# USDA Rural Energy for America Program

[Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants | Rural Development \(usda.gov\)](#)

## What does this program do?

- Provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or energy efficiency improvements.
- Agricultural producers may also apply for new energy efficient equipment and new system loans for agricultural production and processing.

## Why does USDA Rural Development do this?

Helps increase American energy independence by:

- Increasing the private sector supply of renewable energy
- Decreasing the demand for energy through energy efficiency improvements.

*Over time, these investments can also help lower the cost of energy for small businesses and agricultural producers.*

## Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Loans & Grants in Washington

Program Status:

**OPEN**

Program Period:

**Open for Fiscal Year 2025 Application Windows:** Grant competition deadlines are September 30, 2024, December 31, 2024, and March 31, 2025. Only complete applications can compete for funding. See applicable Federal Register Notice below for more information. Guaranteed loans compete on an on-going basis in accordance with 7 CFR 5001.315.

For state specific information:

-- Select State --



# Who may apply for this program?

- Agricultural producers
  - An entity directly engaged in production of agricultural products where at least 50 percent of their gross income coming from agricultural operations.
- Small rural businesses
  - Must be located in eligible rural areas and one of the following:
    - Private for-profit entity (sole Proprietorship, Partnership, or Corporation)
    - A Cooperative [including those qualified under Section 501(c)(12) of IRS Code]
    - An electric utility (including a Tribal or governmental electric utility) that provides service to rural consumers and operates independent of direct government control)
    - A Tribal corporation or other Tribal business entities that are chartered under Section 17 of the Indian Reorganization Act (25 USC 477) or have similar structures and relationships with their Tribal entity without regard to the resources of the Tribal government.
  - Must meet the **Small Business Administration size standards** in accordance with 13 CFR 121.
    - Depending on Ag production type, \$2.25-\$5.0 Million Gross Revenue
    - Electric Power Distribution, <1,100 employees





## Who may qualify for loan guarantees?

Eligible borrowers are:

- Rural small businesses.
- Agricultural producers.

## What are the borrowing restrictions for loan guarantees?

- Individual borrowers must be citizens of the United States or reside in the U.S. after being legally admitted for permanent residence.
- Private-entity borrowers must demonstrate that loan funds will remain in the U.S.

## What is an eligible area?

- Projects must be located in rural areas with populations of 50,000 residents or less\*.
- Check [eligible rural areas](#)

Agricultural producers may submit projects to be located in non-rural areas as long as the project is associated with an on-site production operation.



## How may the funds be used?

Funds may also be used for the purchase, installation and construction of energy efficiency improvements, such as:

- High efficiency heating, ventilation and air conditioning systems (HVAC).
- Insulation.
- Lighting.
- Cooling or refrigeration units.
- Doors and windows.
- Electric, solar or gravity pumps for sprinkler pivots.
- Switching from a diesel to electric irrigation motor.
- Replacement of energy-inefficient equipment.

***Energy Efficiency Improvement applications must contain an Energy Audit, or Energy Assessment (depending on Total Project Costs) that complies with Appendix A to RD Instructions 4280-B***

Agricultural producers may also use guaranteed loan funds to install energy efficient equipment and systems for agricultural production or processing.





# What funding is available?

- Loan guarantees on loans up to 75 percent of total eligible project costs.
- Grants for up to 50 percent of total eligible project costs.
- Combined grant and loan guarantee funding up to 75% of total eligible project costs.



## What are the grant terms?

### Energy Efficiency Grants:

- \$1,500 minimum.
- \$500,000 maximum.

## Are there additional requirements?

- Applicants must provide matching funds if applying for a grant only.
  - 50% Federal grant share limited to projects that meet one of the following:
    - Project is a Renewable Energy System (RES), or RES retrofit that produces zero greenhouse gas emissions (Carbon Dioxide, Methane, Nitrous Oxide, or Fluorinated Gases) at the project level.
    - Project is located in an Energy Community as defined in 26 USC 45(b)(11)(B) and determined by the Department of the Treasury.
    - Project is an Energy Efficiency Improvement (EEI).
    - Is a project proposed from an eligible Tribal Corporation or other Tribal Business entity (including agriculture operations) as described in 7 CFR part 4280.
  - All other projects are limited to 25% Federal grant share
- Applicants must provide at least 25 percent of the project cost if applying for loan.
- All projects must have technical merit and utilize commercially available technology.
- Energy efficiency projects require an energy audit or assessment.
- All projects require an environmental review prior to award or construction





# Types of project that have been funded via USDA REAP



United States  
Department of  
Agriculture

USDA Rural Development  
Rural Energy for America Program  
11.01.2023

**Total Projects: 696; Grand Total \$145,275,006;  
Loan Total \$30,300,000; Grant Total \$114,975,006**

States	Senators	Representatives	Recipient	Loan	Grant	Project Description
WA	Patty Murray Maria Cantwell	Cathy Rodgers (05)	Big Bird Farms Inc.		\$18,120	This Rural Development investment will be used to help Big Bird Farms Inc., a business located in rural Lincoln County, Washington, purchase and install a 14.6 kWh solar array. This project will realize \$1,912 per year in savings and will generate 17,943 kWh per year which is enough to power two homes.
WA	Patty Murray Maria Cantwell	Dan Newhouse (04)	Walking Rose LLC		\$14,840	This Rural Development investment will be used to help Walking Rose LLC, a business located in rural Okanogan County, Washington, purchase and install a 16kW solar array. This project will realize \$1,579 per year in savings and will replace 22,400 kWh per year, which is enough to power two homes.
WA	Patty Murray Maria Cantwell	Dan Newhouse (04)	Omak Mirage LLC		\$15,899	This Rural Development investment will be used to help Omak Mirage LLC, a business located in rural Okanogan County, Washington, purchase and install an energy efficient HVAC system. This project will realize \$1,024 per year in savings and will replace 26,000 kWh (38 percent energy savings) per year.
WA	Patty Murray Maria Cantwell	Rick Larsen (02)	Midnights Farm LLC		\$5,999	This Rural Development investment will be used to help Midnights Farm LLC, a business located in rural San Juan County, Washington, purchase and install a 8kW solar array. This project will realize \$417 per year in savings and will replace 4,721 kWh per year, which is enough to power one home.
WA	Patty Murray Maria Cantwell	Rick Larsen (02)	Hogstead LLC		\$20,000	This Rural Development investment will be used to help Hogstead LLC, a business located in rural Snohomish County, Washington, purchase and install a 27.65 kWh solar array. This project will realize \$2,318 per year in savings and will



# How to get started?

Applications for this program are accepted year-round at your [local office](#).

## Who can answer questions?

Contact your [State Rural Development Energy Coordinator](#)

[Program FAQs](#)

[Rural Energy for America Program - January 9 2023  
Stakeholder Webinar Questions](#)





# Ag Energy Audit Measures Resources

Located at BPA Document Library:

[bpa.gov/energy-and-services/efficiency/document-library](https://bpa.gov/energy-and-services/efficiency/document-library)

Custom Projects



Custom Programs



Agricultural Sector



- [ANSI/ASABE Audit Standard](#)
- [BPA Ag Energy Audit Standard](#)
- [ASABE Guide to Ag Energy Consultants May 2022](#)
- [Ag Energy Audit Screening Form](#)
- [Ag Energy Audit TSP Resources](#)
- [ODOE Audit Program](#)
- [Existing Centrifugal and Turbine Pump VFD Deemed Savings Tool](#)
- [New Construction Pump VFD Deemed Savings Tool](#)
- [Agricultural Pump Efficiency Upgrade PIF](#)
- [Agriculture Hardware Conversion](#)
- [Freeze-Resistant Stock Water Tanks and Fountains - RTF Specifications](#)
- [Irrigation Pump Testing and System Analysis BPA Screening Tool](#)
- [Dairy Milking Machine Vacuum Pump VSD Calculator](#)
- [Transformer De-energization Worksheet](#)

Commercial Sector



## **Utility Share-out on their Ag Programs**

- Interesting Ag EE project?
- Marketing approach to members or Ag equipment dealers?



**Thank You!**