



# AG Sector, Spokane Roundtable

## Tom Osborn



# Ag in the PNW

---

**Aerospace**

**\$70B**

---

**250,000  
jobs**

**Tourism**

**\$71B**

---

**250,000  
jobs**

**Farming,  
Ranching,  
Food Processing**

**\$15B**

---

**300,000  
jobs**





# **AGRISOLAR**

Harvesting the sun, twice



# Ag Adopts Technology

- ❖ Cost pressure overseas
- ❖ Labor costs
- ❖ Supply chain
- ❖ Fuel costs
- ❖ Fertilizer costs
- ❖ Changes in eating patterns
- ❖ Staying home more
- ❖ Climate uncertainties
- ❖ Adopting tech
- ❖ Fruit growth
- ❖ Advanced irrigation management
- ❖ Autonomous tractors
- ❖ Cow ear tags



A wide-angle photograph of a lush green soybean field stretching to the horizon. The sky is a vibrant blue with scattered white cumulus clouds. The plants are in the foreground, showing their characteristic trifoliate leaves and some small yellow flowers. A dark blue rectangular box with a white border is centered over the middle of the image, containing white text.

The New Ag Energy Audit Measures  
will become effective Oct 1, 2023

# 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, P.E., or experienced Ag Energy Auditor
- ❖ No savings measure that should lead to identifying and implementing other Ag program UES measure and custom projects that have energy savings





# Eligible?

---

- ❖ Irrigated Crops
- ❖ Dairy
- ❖ Livestock or Poultry Farm
- ❖ Indoor Ag Grow/Greenhouse Facility
- ❖ Vineyard
- ❖ Any Other Ag Operation



# Why do it?

## ❖ For Utility

- ❖ Creates pipeline of customer energy efficiency projects
- ❖ Assists in EEI spend planning
- ❖ Helps your members

## ❖ For Ag Producer

## ❖ Comprehensive Energy Audit Report

- ❖ Business case for Ag Producer to make financial decision on EE improvements implementation
  - ❖ Energy and O&M cost savings
  - ❖ Available utility incentive
  - ❖ Available funding sources
    - ❖ Enables implementation of low cost measures
    - ❖ Assists in planning for capital projects
- ❖ Completes necessary step to get REAP grant or loan





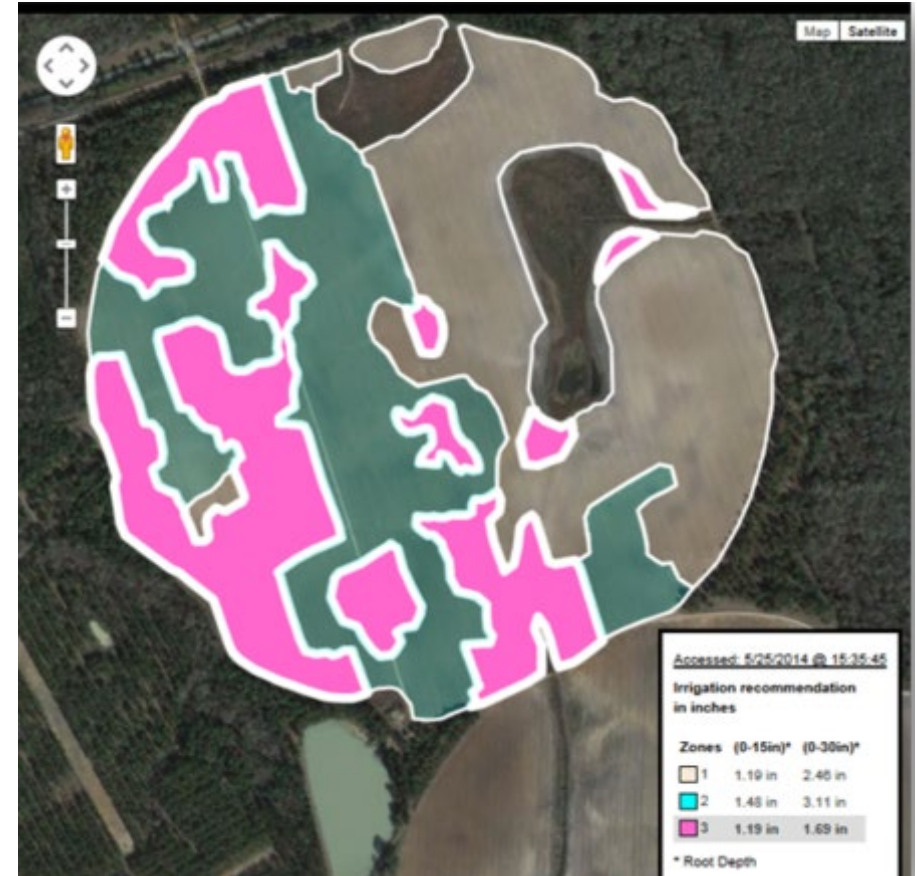
# Why do it?

- ❖ Necessary step to obtain USDA Rural Energy for America (REAP) program funding
- ❖ Addresses barriers identified in 2018 USDA survey results
  - ❖ Investigating not a priority
  - ❖ Improvements will not reduce costs enough to cover installation costs
  - ❖ Cannot finance improvements
- ❖ ODOE currently has Rural Energy Development (REDA) funds, covering 75%  
of cost for Oregon Ag producers
  - ❖ Energy Trust of Oregon is funding remaining 25% for Ag producers in their territory
  - ❖ BPA will fund remaining 25% in their territory



# Variable Zonal Irrigation

- ❖ Allows pivot systems to adjust water application by turning sprinklers on and off at different locations Labor costs
- ❖ Estimated ~10% energy savings Fuel costs
- ❖ Less than a dozen systems in BPA territory
- ❖ Exploring data to develop a measure in the future
- ❖ Looking for four sites in the Tri-Cities/Hermiston/S Idaho area



# Utility Experiences

- ❖ Okanogan PUD
- ❖ Benton PUD
- ❖ Umatilla?





# Questions?

Tom Osbourne (509) 527-6211





# Okanogan PUD

Kim Johnson – Energy Services Coordinator  
Agricultural Sector

# Okanogan County Stats

- Okanogan County is the largest county in Washington state, 5,266.20 square miles
- Population approximately 43,000
- Approximately 1,200 irrigation PUD accounts
- Ag sector comprises about 11% of the annual kWh usage
- 6% of customer accounts are agricultural
- Primary type of irrigation customers – orchardists, hay and feed growers
- 130 frost control accounts





# Partnership



## What does that look like?

- Okanogan PUD and Okanogan Conservation District (OCD) sign contract for 2-year BPA rate period
  - Contract includes maximum amount OCD may bill for time and materials associated with the program
  - Details expectations – acquire and complete required paperwork, site visits, etc.
- Okanogan PUD provides marketing handouts for agricultural energy efficiency measures to OCD
- Handouts may be used at the annual horticulture meeting, fair and other events
- Energy Services may attend customer site visits
- Energy Services processes the incentive when all requirements are met

# Marketing handouts

## VFD INSTALLATIONS - NEW OR EXISTING PUMPS

7.5-1,000 HP



Add a VFD to a new or existing pump.  
Contact the Okanogan Conservation District  
**BEFORE** you begin your project:  
**509-429-3468**

(See more about how to qualify on other side)



## IRRIGATION PUMP TESTING & SYSTEM ANALYSIS

BPA-QUALIFIED



The irrigation pump must be electrically  
powered, 20 hp or greater, and must not have  
been tested through BPA-sponsored pump  
testing services within the past five years.  
Contact the Okanogan Conservation District  
**BEFORE** you begin your project:

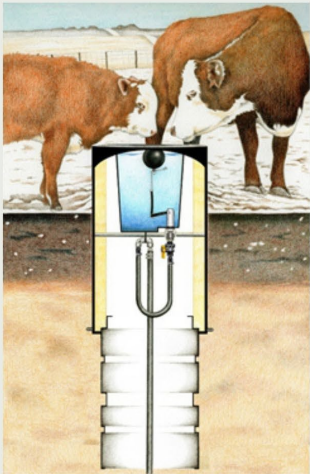
**509-429-3468**

(See more about how to qualify on other side)



## FREEZE-RESISTANT STOCK TANKS

\$165 REBATE!



Purchase a qualifying product and receive a  
rebate from Okanogan County PUD!  
Contact the Okanogan Conservation District  
**BEFORE** you begin your project:

**509-429-3468**

(See more about how to qualify on other side)





# Other ways to get the word out...

- Website
- Local paper
- Social media
- Radio
- Ag groups
- Community events
- External newsletter
- Hardware and feedstores
- Extension center
- Chambers
- Create videos



# Energy Efficiency Success Story

- Success story posters are a great way to recognize the team involved with the project
- Advertise your program – local paper, social media, website, utility lobby
- Highlights what the utility is doing in the community. All customers in the OID territory benefit from a reliable irrigation system



## Okanogan Irrigation District Saves at Shellrock Pump Station 2022



### Project Background

- Three of the four pumps were replaced at Okanogan Irrigation District's Shellrock station.
- Replacement pumps were issued because rebuilding the original 43 year old pumps would cost more than replacing.
- Longer lasting, stainless steel pumps replaced the original bronze pumps from 1979.

### Results

- Okanogan Irrigation District received an incentive check for \$87,782.75 from Okanogan County PUD, which manages incentive programs through funding from Bonneville Power Administration, a major source of its electricity.
- With the new pumps in place, the district's electric bill dropped nearly in half from an average of \$1,200-1,400 per day to \$700-800 per day.
- The 920,589 kilowatt-hours of electricity saved annually could power more than 54 average homes.
- The energy and maintenance savings will help to keep irrigation rates low for the district's approximate 1,020 accounts, which represents more than 5,000 acres.
- Incentive check will help the district fund future upgrades, including the purchase of new motors.



**920,589**

kWh Annual Energy Savings



**\$87,782.75**

Okanogan PUD Incentive Payment



New 800hp stainless steel pumps (blue)



Kim Johnson, Okanogan PUD Energy Services Coordinator, (Left) presents a check to Brad Armstrong, Okanogan Irrigation District Manager (Right).

**What ideas do you have  
to save energy?**

Okanogan PUD has multiple energy efficiency incentives for residential, commercial and other types of customers.

**PUD Energy Services Dept**  
509-422-8428  
www.okanoganpud.org

A wide-angle landscape photograph showing a vast field of green crops in the foreground, transitioning into golden-brown fields in the distance. The sky is overcast with soft, grey clouds. The overall tone is muted and atmospheric.

**Questions?**

# Benton PUD Agricultural Conservation Overview

Revenue Class Groups	Energy KWH	% of Total
Residential	781.1M	42%
Commercial / Industrial	627.3M	34%
Irrigation	391.8M	21%
Other	63.0M	3%



Top six customers by revenue are irrigation

Projects Include:

- VFDs for pumps (now deemed)
- Indoor Agricultural projects
  - Capped at \$100K due to self-funding
  - In excess of 2.5M kWh savings
- Irrigation (sprinkler) equipment
  - \$500 - \$33,000
  - Attempted to contact distribution network
  - Trade shows
- Storage sheds – Industrial
  - Most recent in 2021 resulted in over 1M kWh savings and \$40,000 to customer

Potential future projects:

- Underground pipe lining

# Questions?

Terry Mapes

*Benton Public Utilities District*

Office: (509) 582-1268

Cell: (970) 222-5715

[mapest@bentonpud.org](mailto:mapest@bentonpud.org)



**U&C** UMATILLA  
ELECTRIC  
COOPERATIVE

# Agriculture Energy Efficiency Programs

# East Improvement District Improvement Project



- The EID installed a 2,000 HP VFD
- With estimated energy savings of  
2,937,614.16 kWh
- 10 VERY LARGE pumps, that lift water out of the Columbia River and push water uphill through a 68-inch pipeline
- The new pipeline connects to new pump stations that helps deliver water to 13 landowners to irrigate 26,500 acres
- This is 1 of 3 irrigation projects in the region, that resulted in a billion dollars in industrial growth

One of the goals for using the Columbia River water source is to recover and stabilize the declining basalt aquifers in Eastern Oregon. Each landowner will grow a myriad of rotation crops (corn, wheat, potatoes, onions, carrots, etc.) and some specialty crops such as lavender and mint.





# Staying Connected with Our Irrigators

Twice a year UEC hosts an Irrigators breakfast to distribute important updates while sharing a meal.

- In the early spring, we cover topics that will be important to the upcoming irrigation season, including any promotional energy efficiency rebates, while addressing any questions or concerns irrigators may have.
- In the fall, we celebrate the completion of another irrigation season. We discuss energy efficiency rebate changes and receive feedback on how the irrigation season went. This is a great time to personally connect with irrigators, to see what potential projects they plan to tackle before the next irrigation season.



# THANK YOU FROM



# EE TEAM!

## Questions?

Visit our  
website for  
more info



Jackie Caldera  
[Jackie.caldera@umatillaelectric.com](mailto:Jackie.caldera@umatillaelectric.com)  
(541)289-6503

Chandra Harvey  
[chandra.harvey@umatillaelectric.com](mailto:chandra.harvey@umatillaelectric.com)  
(541)289-1317



<https://www.umatillaelectric.com/energy-efficiency/>