

Spring 2022 Agricultural Utility Group Meeting





10:00 – 10:05	Welcome, meeting norms and roll call	David Lee
10:05 – 10:15	Indoor Grow Operations	Boyd Wilson and Tom Osborn
10:15 – 10:25	Ag April IM updates	David Lee
10:25 – 10:35	Demonstration of revised VFD spreadsheet tools/irrigation hardware form	Tom Osborn
10:35 – 10:45	AUG survey results	David Lee
10:45 – 10:59	Let's hear from you	
	Adjourn	

David Lee

Ag Sector Lead/Program
Manager

Ben Mabee & Phillip Kelsven

Planning & Evaluation

Dick Stroh, Travis Wood,
& Tom Osborn

Engineering

Boyd Wilson & Dena Hilde

EER Liaisons

Michele Francisco

Marketing Support

Lita Mahan

COTR

Donna Andrews

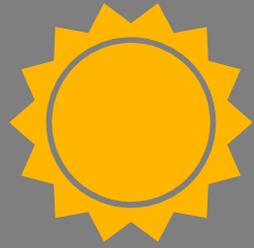
Ag Program Support Specialist

Robert Wallace

Ag Program Specialist

Larry King

Ag Program Specialist



Oregon's
top-10
valued
commodities
by value for
the 2020
crop year

1	???	\$1,188,911,000
2	Cattle & calves	\$587,848,000
3	Hay	\$569,160,000
4	Milk	\$557,348,000
5	Grass seed	\$458,367,000
6	Wheat	\$273,760,000
7	Potatoes	\$216,810,000
8	Wine grapes	\$157,900,000
9	Cherries	\$133,826,000
10	Hazelnuts	\$132,300,000



Greenhouse & nursery

\$1,188,911,000



Indoor Cultivation – Controlled Environment Agriculture (CEA)

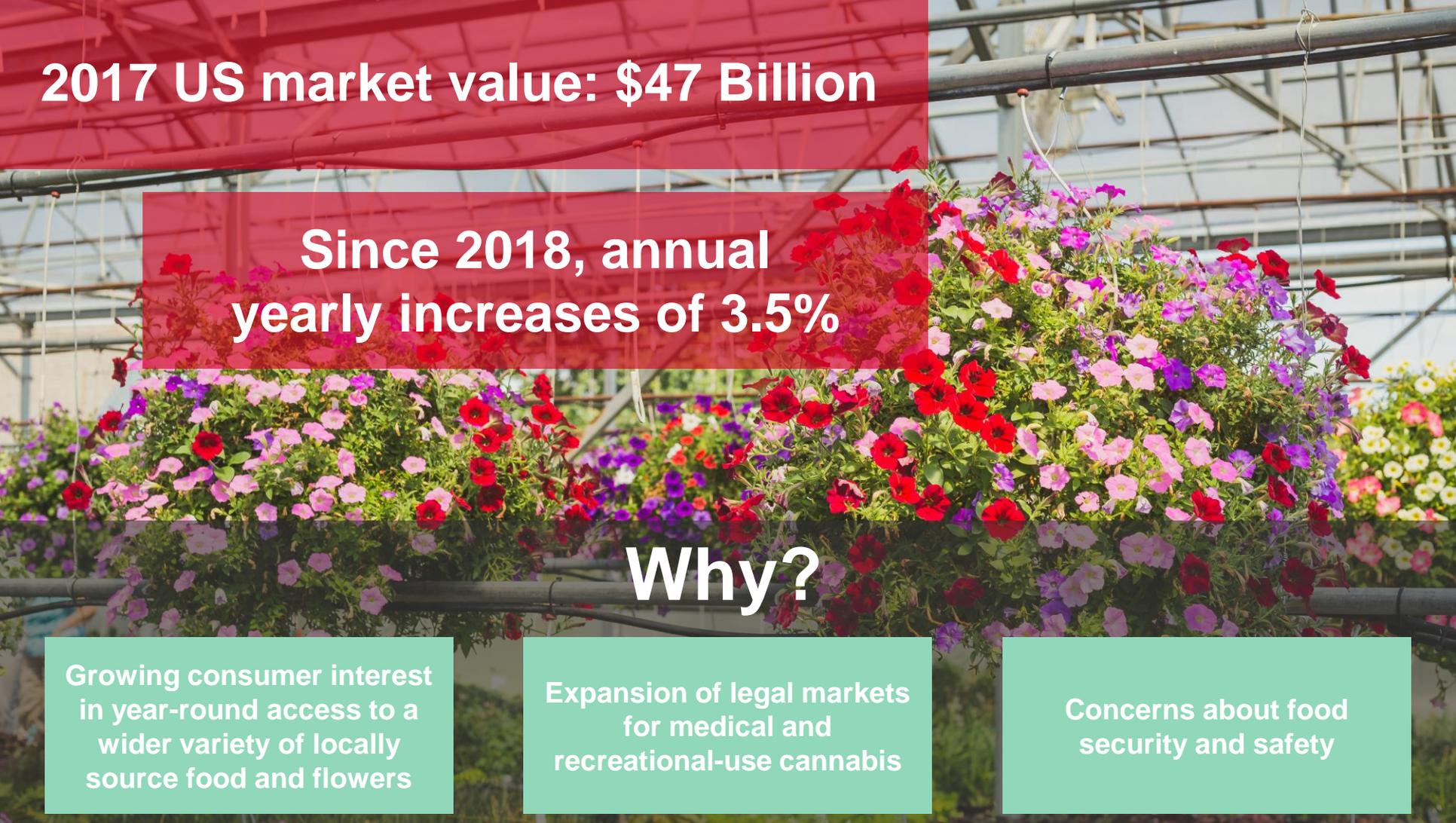
Technologies include hydroponics, aeroponics, aquaculture and aquaponics

Optimizes the use of resources such as water, energy, space, capital and labor

- 95% less water compared to field farming
- Energy intensive

Typical crops:

Herbs, flowers, cannabis, leafy greens, microgreens, tomatoes, variety of starters



2017 US market value: \$47 Billion

**Since 2018, annual
yearly increases of 3.5%**

Why?

Growing consumer interest
in year-round access to a
wider variety of locally
source food and flowers

Expansion of legal markets
for medical and
recreational-use cannabis

Concerns about food
security and safety



<https://www.reuters.com/video/watch/idPDKn?now=true>



Kalera is opening a vertical farm in Seattle

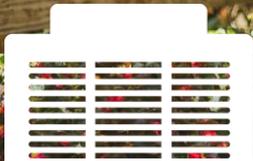
Montana-based Local Bounti plans to open \$40 million grow facility in Pasco
(32 Greenhouses on 28 acres)



Lighting



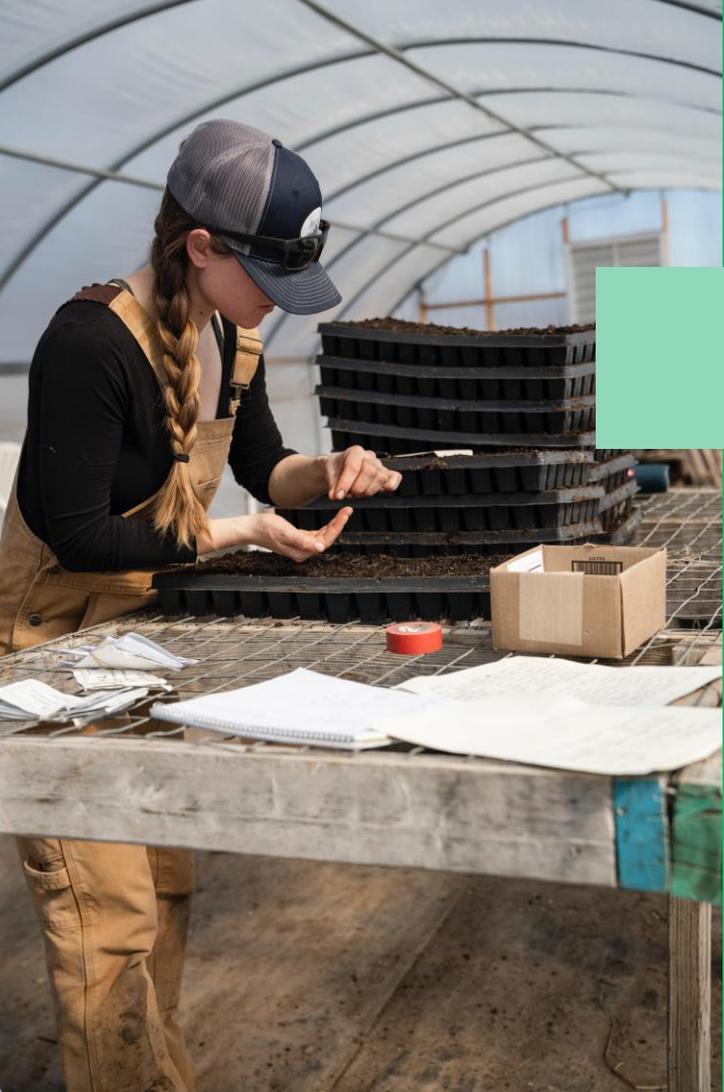
HVAC and dehumidification and controls



Other systems

Typical indoor container farm consumes around 45 MWh per year

Production intensive vertical farms may annually consume between 8,700 - 70,000 MWh depending on the crop and size of the facility



Indoor Cultivation

How can I participate?

How can my customers participate in energy efficiency incentive for their indoor grow facility?

- Not typically covered by code since considered process load
- Complex CEA's usually have a design firm
- The short answer is probably go custom unless it's a simple a design firm making the grow facility design decisions

IM Changes

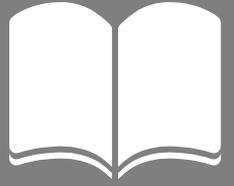


Effective April 1, 2022 –

- Measure expanded
- Some measures expired/dropped
- Changes in measure savings and incentives

IM Changes

Savings and
Payments



IM Changes



Savings and Payments Increase April 2022

Irrigation System
Conversion to MESA
from high pressure
Center Pivot or Lateral
Move System

LESA/LEPA/MDI
Sprinkler Package
Center Pivot or Lateral
Move System

MESA Sprinkler
Package Center Pivot or
Lateral Move System

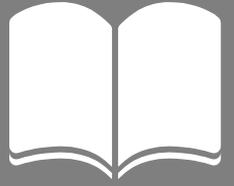
High Pressure Sprinkler
Package Center Pivot or
Lateral Move System

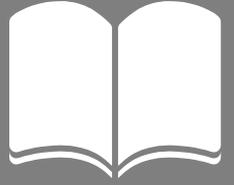
System Conversion to
LESA/LEPA/MDI from
high pressure, Lateral
Move or Center Pivot
Systems

IM Changes

Savings and
Payments
Decrease
April 2022

Hub Replacement Thunderbird
Wheel Line Hubs





IM Changes

Expired Measures

April 2022

Replace Leaking Base
Boot Gasket with New
Gasket Center Pivot or
Lateral Move System

Replace
Tower/Span/Pivot-Flex
Gasket Center Pivot or
Lateral Move System

Leaking Pipes Wheel-
line, Hand-line, or
Portable Main-Line
System

Upgrade Low Pressure
Sprinklers to Rotating
Type Sprinklers Center
Pivot or Lateral Move
System

Upgrade Impact
Sprinkler to Rotating
Type Sprinkler Wheel-
lines, Hand-lines, Center
Pivots or Lateral Move
systems

IM Changes



7.7.2 VFDs for Centrifugal Ag pumps

7.7.3 VFDs for Turbine Ag pumps

7.7.4 VFDs for new Ag pumps

Expands the eligible hp for VFD with pumps in UES measures

Existing
centrifugal or
turbine pumps

New
centrifugal or
turbine pumps

Changes from
20 hp to 500 hp, to
7.5 hp to 1000 hp

2022 Agricultural Utility Group (AUG) Member Meeting Survey Results

19

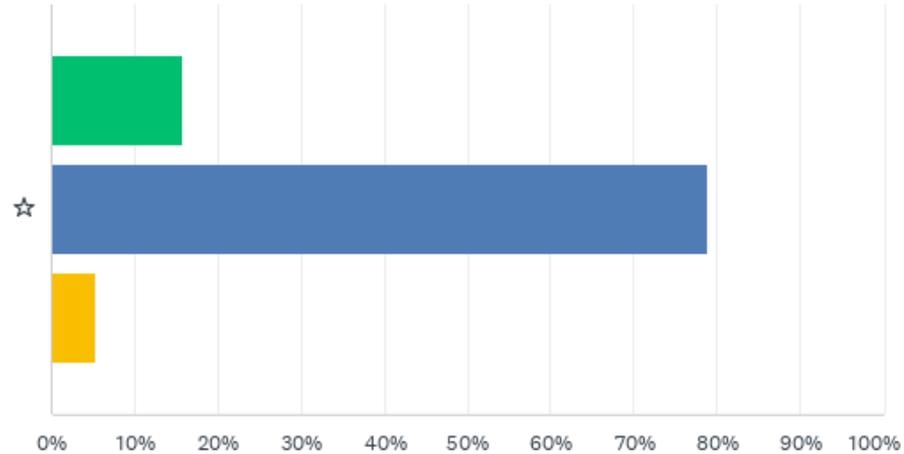
Total Responses

Date Created: Wednesday, January 26, 2022

Complete Responses: 19

Q1: With the new year, the BPA Agricultural Programs team is evaluating their Agriculture Utility Meetings (AUG). Please take a few minutes to provide your feedback on how they can better address your needs in future meetings. Your suggestions will help the team focus on what is most important to you. Is BPA dedicating enough time for utilities to share successes and challenges?

Answered: 19 Skipped: 0

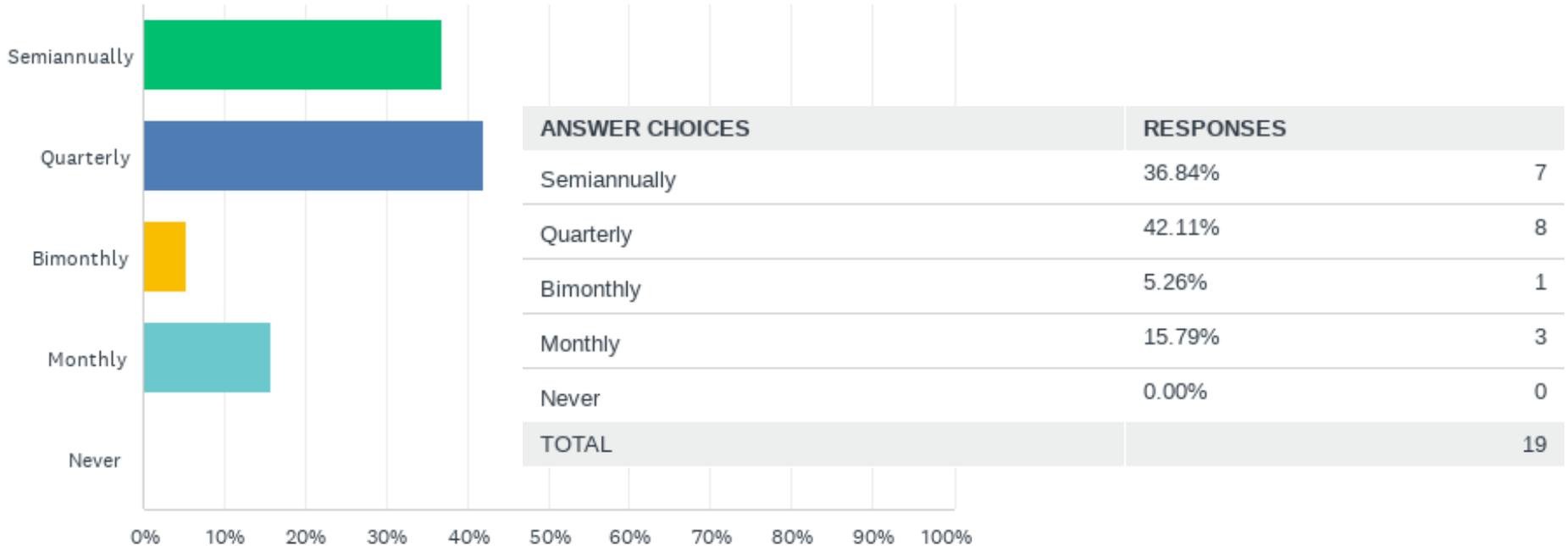


■ Not enough...
 ■ The right a...
 ■ Too much ti...

	NOT ENOUGH TIME	THE RIGHT AMOUNT OF TIME	TOO MUCH TIME	TOTAL	WEIGHTED AVERAGE
☆	15.79% 3	78.95% 15	5.26% 1	19	1.89

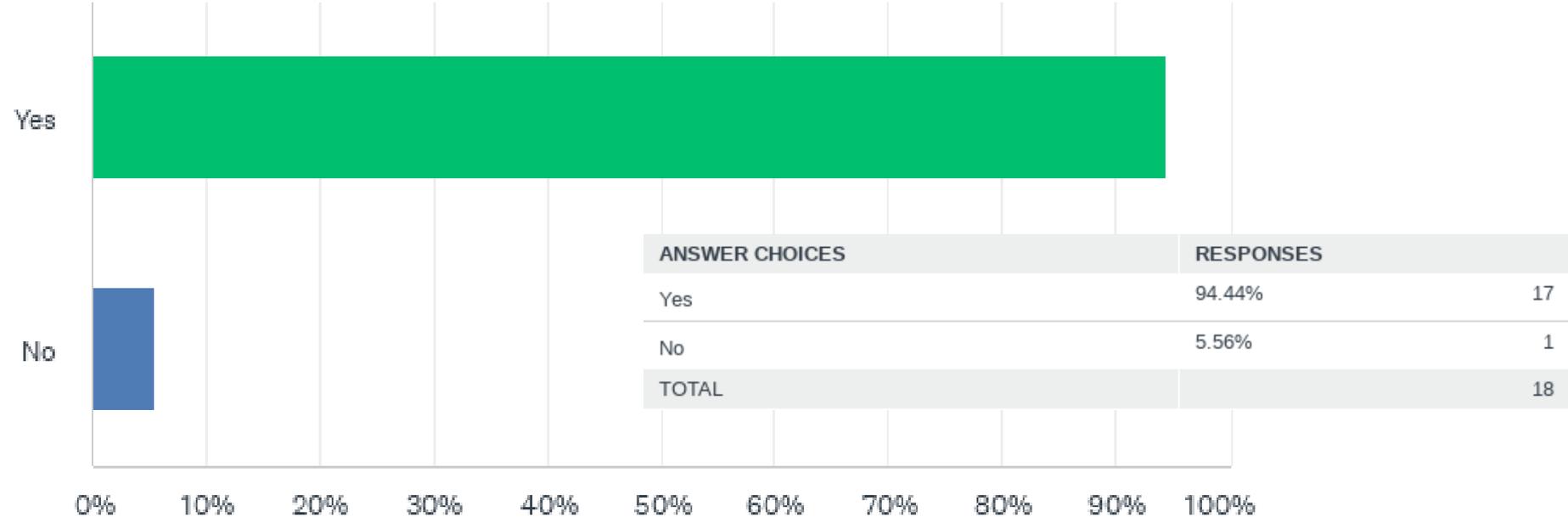
Q2: How often would you like to have future AUG meetings?

Answered: 19 Skipped: 0



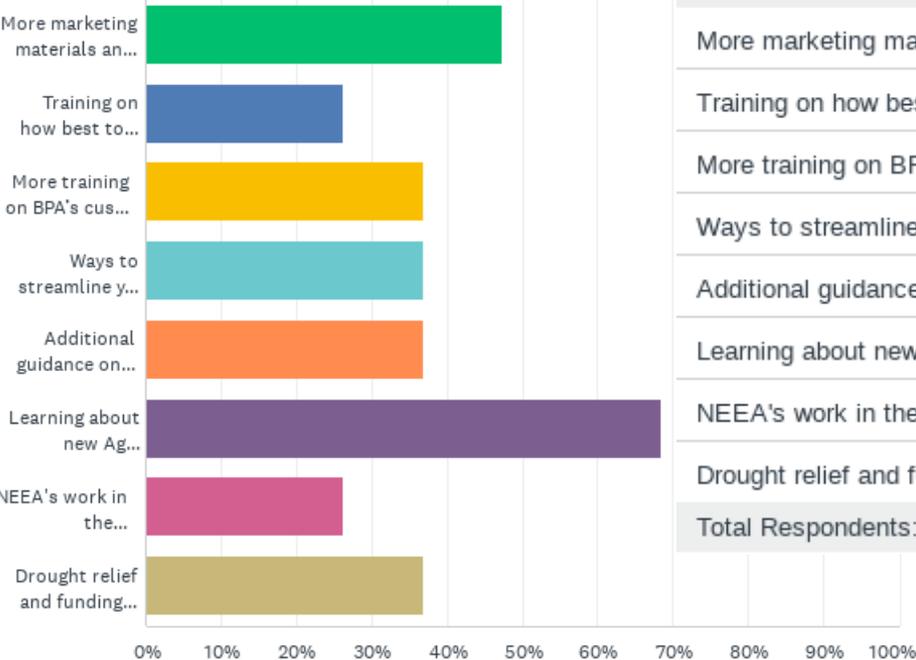
Q3: Would you like BPA to share AUG meeting agendas in advance

Answered: 18 Skipped: 1



Q4: Which of the following are you interested in? Check all that apply.

Answered: 19 Skipped: 0



ANSWER CHOICES	RESPONSES
More marketing materials and branding support for your Ag program measures	47.37% 9
Training on how best to utilize BPA's marketing materials	26.32% 5
More training on BPA's custom project process	36.84% 7
Ways to streamline your custom and UES project submittals	36.84% 7
Additional guidance on BPA's Implementation Manual	36.84% 7
Learning about new Ag technologies from vendors	68.42% 13
NEEA's work in the agricultural sector	26.32% 5
Drought relief and funding opportunities	36.84% 7
Total Respondents: 19	

Q4: Which of the following are you interested in? Check all that apply.

Answered: 19 Skipped: 0

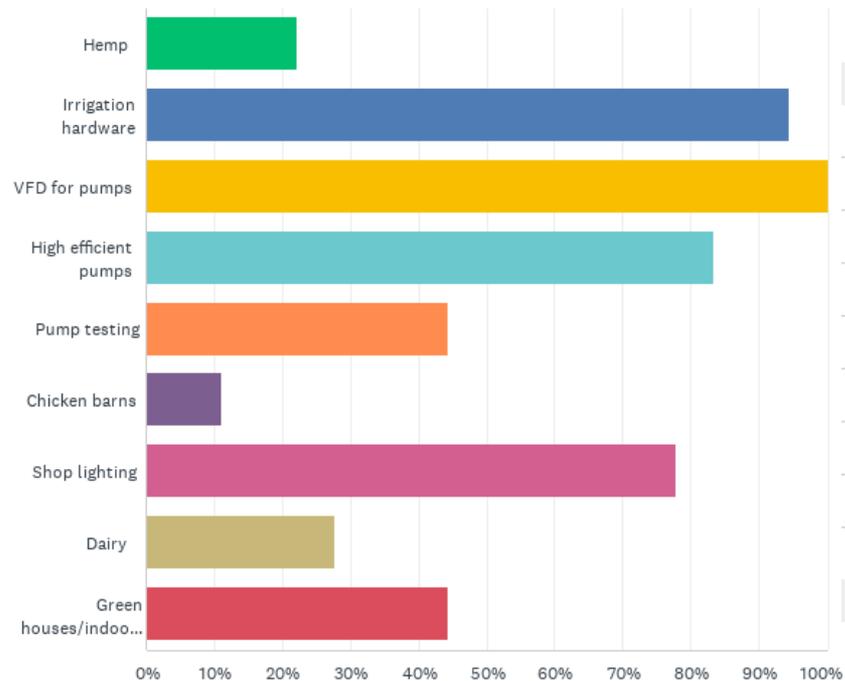
I would like to know more about AG rebates and specific products we can showcase to our AG members

I deal with residential rebates on a daily basis, hence they are quite familiar to me. I am contacted on ag issues perhaps once every other month so it is difficult for me to retain familiarity. It would be beneficial to have methods to overcome this.

field specialists available for consultation and submission help

Q5: Is your utility planning to offer measures around these topics? Check all that apply.

Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES	
Hemp	22.22%	4
Irrigation hardware	94.44%	17
VFD for pumps	100.00%	18
High efficient pumps	83.33%	15
Pump testing	44.44%	8
Chicken barns	11.11%	2
Shop lighting	77.78%	14
Dairy	27.78%	5
Green houses/indoor grow	44.44%	8
Total Respondents: 18		

Q6: What areas should BPA research for potential new measures?

Push for the federal legalization of cannabis so we can reduce that energy burden. If we plan to eliminate carbon we will need to reduce the cannabis load.

Drip irrigation conversions.

I feel like we are pretty well covered; however, we don't know what we don't know... Hard to stay up with everything in a small utility so customer service by BPA is key

THANK

YOU

for your
feedback



Marketing Resources

BPA Energy Efficiency's Marketing Portal allows our utility customers, trade allies and contractors to customize BPA program marketing materials through a simple online template. Additional marketing tools are also available including original design files, stock photos, and case studies.

Marketing Portal	+
Marketing Toolkits	+
Social Media Assets	+
Stock Photos	+
Case Studies	+
Slide Decks	+



Marketing Portal	+
Marketing Toolkits	-
<ul style="list-style-type: none">• Commercial Marketing Toolkit• Residential Marketing Toolkit• Agricultural Marketing Toolkit	



All of BPA's promotional materials are also available for utilities and their trade allies to customize through simple online templates located on [BPA's Energy Efficiency's Marketing Portal](#).

The [BPA Stock Photo Library](#) also contains images that can be used with BPA marketing materials or additional customer communications. Should you need assistance with any customization, please contact your EER.

COMPANY LOGO PUBLIC UTILITIES

UPGRADE TO EFFICIENCY

COMPANY LOGO PUBLIC UTILITIES

UPGRADE TO EFFICIENCY

Efficient. The nation's leading business has 16. With more than 100 years of experience, we've been able to bring you the most advanced air, VFDs and energy more efficiently than anyone else. We'll help you get the most out of your investment and help you save money on your VFD applications.

Efficient. There are a lot of ways to save money on your VFD applications. We'll help you get the most out of your investment and help you save money on your VFD applications.

COMPANY LOGO PUBLIC UTILITIES

UPGRADE TO EFFICIENCY

SYSTEM UPGRADES

Lighting
Many processing applications at wineries including irrigation, harvest, and storage are ripe for energy improvements. Energy-saving advancements such as lighting upgrades, HVAC, pipe insulation, compressed air, VFDs, and refrigeration are all eligible opportunities for utility incentives. Reduce utility costs and improve cash flow with energy-efficient upgrades from the field to the office.

Compressed Air VFDs
Compressed air VFDs are designed to reduce the energy consumption of air compressors. They are ideal for applications such as irrigation, harvest, and storage. They can help you save money on your VFD applications.

Variable Frequency Drives
VFDs are designed to reduce the energy consumption of motors. They are ideal for applications such as irrigation, harvest, and storage. They can help you save money on your VFD applications.

Energy-Efficient Irrigation Hardware
Energy-efficient irrigation hardware, such as new nozzles and gaskets, can provide more uniform water application, reduce unnecessary irrigation, and save energy. As equipment wears out, making the switch to more energy-efficient hardware is one of the easiest ways for you to start saving water and power.

WINERIES
You work long, hard hours to keep your agricultural business productive, profitable, and profitable. But how much time does it take 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, you can get cash back into your hands.

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

CONTACT UTILITY NAME TO GET STARTED.

LOGO HERE

Eastern Oregon Water
1235 SE River St.
La Grande, OR 97658
(503) 438-4387
eastorewater.org

A LOW PRESSURE CHOICE

LOGO HERE

Eastern Oregon Water
1235 SE River St.
La Grande, OR 97658
(503) 438-4387
eastorewater.org

HERE'S THE COST.

LEPA Provides:

- More uniform application
- Reduced water evaporation
- Lower pressure requirements for water meter energy reduction

SMALL CHANGES ADD UP TO BIG SAVINGS.

Call a new Variable Frequency Drive (VFD) for your motor. It's a small change that can make a big difference in your energy costs. Financially, it's a smart move.

IRRIGATION HARDWARE UPGRADES

Nozzles, sprinklers, and gaskets are just some of the small changes that can add up to BIG savings in water and energy. Many local utilities now offer additional incentives when you replace older equipment with more efficient components. Start saving big today!

CONTACT YOUR LOCAL UTILITY TO GET STARTED.

LOGO HERE

Eastern Oregon Water
1235 SE River St.
La Grande, OR 97658
(503) 438-4387
eastorewater.org

Irrigation Pump Testing

When was the last time you tested the performance of your pumping plant?

Did you know that irrigation pumps become inefficient:

- Due to wear and age, or
- The pump is not matched to the current operating conditions. Examples include where lower pressure or flows are required to serve the irrigation system, or a water table has dropped over time.

Agricultural Energy Efficiency

When it comes to retrofitting, there are many options. They can be as simple as changing the pump or as complex as upgrading the entire system. They can be as simple as changing the pump or as complex as upgrading the entire system.

Seaside Administration

Bonneville Power Administration (BPA) recognizes that energy efficiency is the premier low-cost source of new energy and seeks to bring energy saving to the agriculture industry. By saving energy, farmers, dairies, and ranches may be able to reduce energy costs, increase irrigation uniformity, decrease the amount of water and fertilizer required, or potentially even increase yield. Through energy-efficiency incentives, your utility offers services and financial reimbursements to farmers for eligible energy-efficiency measures. Contact your utility to learn how you may be eligible for incentives to increase energy efficiency in the following areas.

Overhead Watermeters
Do you take care of feedback during the winter months? An immersion tank heater uses a lot of electricity. Replace the tank with a non-electric tank, or add a thermostatically controlled outlet to limit tank-heater operation on freezing days, but still provide fresh water to your animal - and save energy.

Variable Frequency Drives
VFDs are designed to adjust water pump motor speed to match your changing irrigation needs, controlling the frequency of the electrical power that's supplied to your motor. Even small speed adjustments using a VFD can create big energy savings, often as much as 20 percent. You will also get greater precision and tighter control over water distribution and pressure, and help the pump meet-flow requirements. A new calculator is now available to make estimating savings and applying for incentives easier than ever.

Energy-Efficient Irrigation Hardware
Energy-efficient irrigation hardware, such as new nozzles and gaskets, can provide more uniform water application, reduce unnecessary irrigation, and save energy. As equipment wears out, making the switch to more energy-efficient hardware is one of the easiest ways for you to start saving water and power.

CONTACT UTILITY NAME TO GET STARTED.

Targeted Flyers

Measure Promos

Informational Flyers

Let's hear
from you...



**Our next AUG meeting
will be...mid-July**

