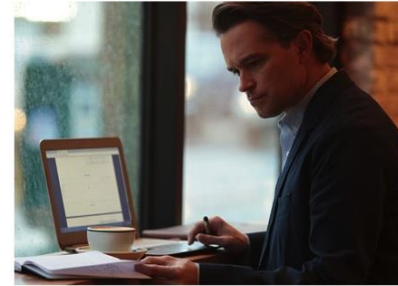


# Popular Non-Lighting Projects

## *Incentives for* Pumps, Fans, Doors and Forklifts

(Irrigation, Farm & Dairy, Refrigeration & More)



Shawn Huff  
Energy Efficiency Outreach Engineer

# Wattsmart Business Typical Incentive Categories



Irrigation



Refrigeration & Distribution



Farm & Dairy



Compressed Air

# Industrial Facilities



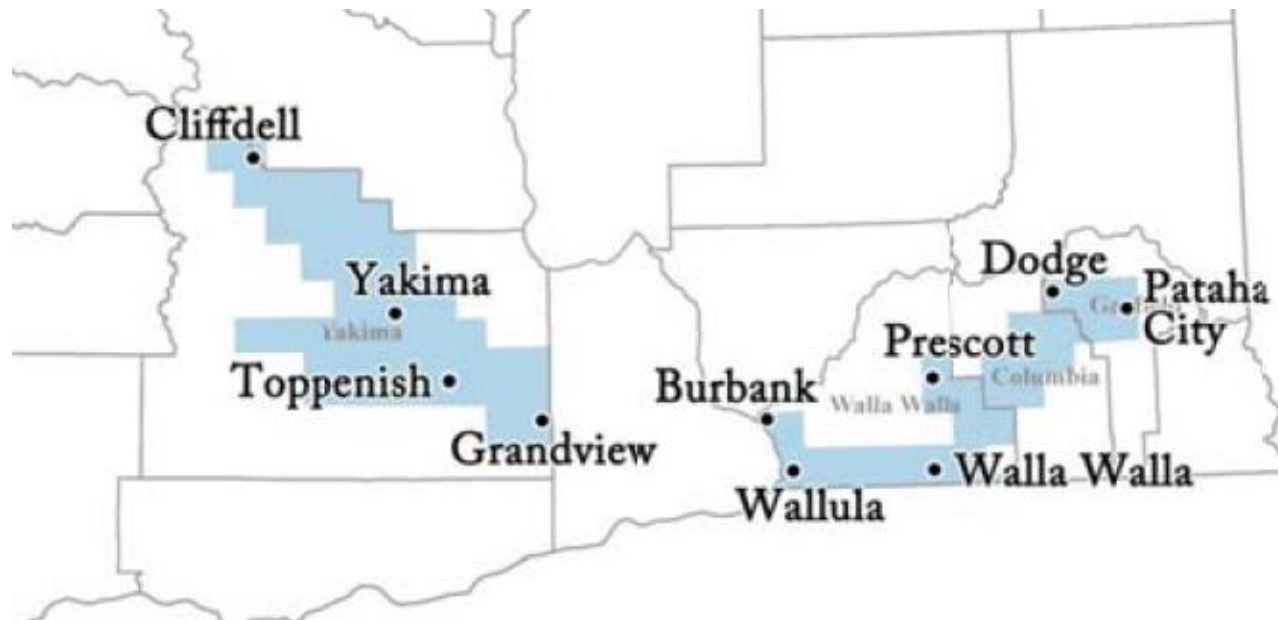
# Wattsmart Business How??

Call to confirm eligibility & discuss projects

Shawn Huff


Shawn.Huff@CascadeEnergy.com

(503) 880-0743



# Wattsmart Business What's New? Increased incentive rate!

Capital Projects	2021	2022	2023
Incentive	\$0.18/kWh	\$0.24/kWh	\$0.28/kWh
Cost Cap	80%	70%	70%
Payback Cap	1 year	1 year	1 year



# Wattsmart Business What's New? New Incentive Categories!

Fuel Switching – Replacing propane or diesel with electric

*Pre-approval required*

Propane to electric  
forklifts



Diesel to electric  
pumps



# Compressed Air Incentives

## VFD air compressors

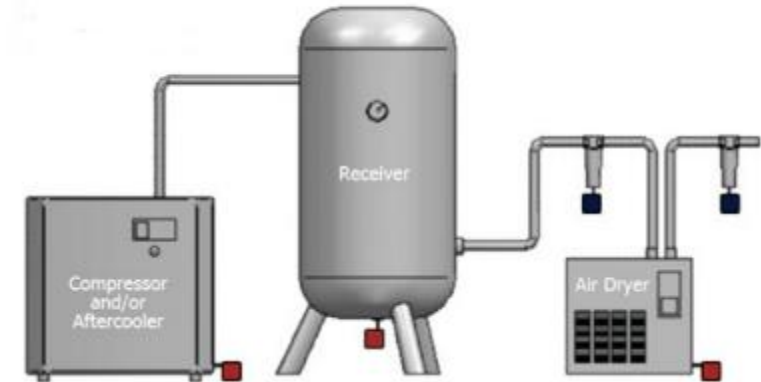
- Up to 75 hp single compressor
- Savings from \$1,500 to as much as \$9,000 / yr
- Incentive calculated at \$0.28/kWh of savings (caps may apply)



# Compressed Air Incentives

## Other upgrades

- Refrigerated cycling dryer
- Zero-loss condensate drain
- Receiver capacity addition
- Outside air intake





# Refrigeration, Distribution, Waste Water

## Adaptive refrigeration controls

- \$0.28 per kWh annual savings
- Evaporator fan cycling
- Defrost control



## High Speed Doors

- \$0.28 per kWh annual savings



## Low-Power Mixers

- \$0.28 per kWh annual savings

# Wattsmart Business Fuel Switching Example – Propane Forklifts

**OLD:** Three propane powered forklifts

**Upgrade:** Three electric powered forklifts

**Cost:** \$131,430  
**Incentive:** \$40,862 (31% of cost)  
**Net Cost:** \$90,658

**Energy Reduction:** 145,938 kWh/year  
**Annual Savings:** \$22,642 per year  
**Payback:** 4 years



# Irrigation – Details

## Important restrictions:

1. Retrofit installations only – not brand new systems which will have new components anyway. (*Except VFDs – those can be on new systems*)
2. Incentives are limited to mobile systems – wheel lines, hand lines, pivots, linears. Fixed-in-place systems are not eligible. (*Except VFDs – those can be on fixed-in-place systems*)
3. Incentive caps: 1 yr payback or 70% project cost

# Wattsmart Business Irrigation Pump Example – 40 hp Pump VFD

**Pump sometimes serves 2 fields,  
sometimes only 1**

**Cost:** \$8,000

**Incentive:** \$3,954 (34% of cost)

**Net Cost:** \$4,046

**Energy Reduction:** 18,474 kWh/year

**Annual Savings:** \$1,293 per year

**Payback:** 3.1 years



# Is a VFD Right for Your Pump?



- Is the pump oversized?
- Is it throttled?
- Is there more than one pressure or flow setpoint?
- Pumping level in well varies?

# Wattsmart Business Fuel Switching Example – Diesel Irrigation Pump

**OLD:** 75 HP irrigation pump,  
powered by diesel generator

**Upgrade:** Electric service with  
VFD

**Cost:** \$34,182  
**Incentive:** \$11,798 (35% of cost)  
**Net Cost:** \$22,384

**Energy Reduction:** 49,160 kWh/year  
**Annual Savings:** \$5,596 per year  
**Payback:** 4 years



# Other Irrigation Upgrades

- Sprinklers – rotators, spray-type, impacts replacing same design flow or less
- Regulators – same design pressure or less
- Nozzles, flow controlling nozzles
- Gaskets and drains
- Pivot sprinkler package

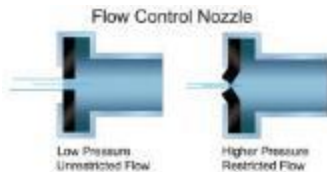
\$2 each

\$3 each

\$1.50 ea

\$2 each

\$2 - \$7 per drop



## Wattsmart Business Example – Regulators and Low-Pressure Sprinklers



**Replace 64 worn regulators & low pressure sprinklers on MESA with new regulators & sprinklers**

<b>Cost:</b>	\$2,159
<b>Incentive:</b>	\$256
<b>Net Cost:</b>	\$1,903

**Energy Reduction:** 4,599 kWh/year  
**Annual Savings:** \$322 per year  
**Payback:** 5.9 years

*Non-energy benefits* – water savings,  
consistent watering, yield improvement



# Farm & Dairy Upgrades



Vacuum Pump VFD  
\$206 per hp



Potato or Onion Fan VFD  
\$219 / fan hp



Heat Recovery - Refrigeration Units  
\$0.28 per kWh annual savings



Automatic Milker Takeoffs  
\$294 each



Milk Precooling with Well Water  
\$0.28 per kWh annual savings

# Farm & Dairy Upgrades

- High efficiency circulating fans
- High efficiency ventilation fans
- Programmable ventilation controllers
- Chiller upgrade (custom projects)



- Amount depends on fan diameter
- \$25 per fan controlled
- \$0.28/kWh annual savings



# Irrigation Incentive Application – Washington



To apply for Wattsmart Business incentives:

1. Review the measure descriptions below to ensure that equipment meets eligibility criteria.
2. Purchase and install equipment. Complete and sign this application form (front and back).
3. Attach a copy of invoice(s) or sales receipt(s). Also attach either a copy of a recent Pacific Power bill or write account number or meter number in the space below.
4. Fax, mail or email this form together with [IES Form W-9](#) to the address shown at end of form within six months of equipment purchase. Please allow 6 weeks for delivery of check.

Incentives below are available for retrofit installations only, where new items replace existing. The incentive check will be issued to the Participant name given below unless a third-party payment release is completed and submitted with this application. If you wish the incentive check to be made out to a third party, attach the completed third-party release and check here:

Send completed application by mail, fax, or email to:  
 wattsmartbusiness@pacificpower.net  
 Wattsmart Business  
 123 NE 3rd Ave, Suite 400  
 Portland, OR 97232  
 fax 503-282-0177  
 For information or assistance with this application, please call **971-244-8178**

**PARTICIPANT INFORMATION** (check all that apply)

Participant name (if account holder, name on Pacific Power bill): \_\_\_\_\_ Contact: \_\_\_\_\_  
 Participant is:  Customer  Electricity User  Facility Owner  
 Title: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Contact call or telephone: \_\_\_\_\_  
 Mailing address: \_\_\_\_\_  
 Contact primary language spoken is:  English  Other than English (specify): \_\_\_\_\_

**PROJECT SITE INFORMATION where items are installed**

Address where items installed: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Field name or #: \_\_\_\_\_  
 Account # or meter # where installed: \_\_\_\_\_  
 Pump electrically driven?  Yes  No  
 Crop (current year): \_\_\_\_\_  
 Pump type: \_\_\_\_\_  
 Water source:  Surface  Well  
 Installation date: \_\_\_\_\_  
 Dealer: \_\_\_\_\_  
 System type:  Wheel line  Pivot or Linear  Portable Main Line  
 Hand line

Does Participant rerelease the project site location?  Yes  No

**QUALIFYING CRITERIA.** To confirm eligibility, please review and check off:  
 Equipment below is installed on linear, pivot, wheel line, or hand line system. Fixed-in-place systems are not eligible.  
 Equipment has been installed at the site identified above.  
 Application is submitted within 6 months of purchase.  
 Nozzles, sprinklers and regulators are of equal or lesser flow than those being replaced.  
 Incentives have not been received for these components on the affected irrigation system(s) in the past 5 years.

For Wheel lines, Hand Lines, or other Portable Systems - Retrofit Only (not New Construction)	Qty	Incentive	Total
1. New rotating sprinkler replacing worn or leaking impact or rotating sprinkler		\$2.00	\$
2. New impact sprinkler (including nozzle) replacing worn or leaking impact sprinkler		\$1.50	\$
3. New nozzle replacing worn nozzle of same design flow or less on existing sprinkler		\$2.00	\$
4. New gasket replacing leaking gasket - includes main line valve or section gasket, seal or riser cap (dome disc)		\$1.00	\$
5. New drain replacing leaking drain		\$7.00	\$
6. New or rebuilt wheel line leveler replacing leaking or malfunctioning leveler		\$4.00	\$
<b>Sprinkler Packages for Pivots and Linears - Retrofit Only (not New Construction), per drop</b>			
7. Replacement - High Pressure (Impact Sprinklers)		\$2.00	\$
8. Replacement - MESA (Mid-Elevation Spray Application)		\$7.00	\$
9. Replacement - LESA/LEPA/MDI (Low-Elevation Spray or Precision Application)		\$7.00	\$
10. Upgrade - High Pressure (Impact Sprinklers) to LESA/LEPA/MDI		\$5.00	\$
11. Upgrade - MESA to LESA/LEPA/MDI			
12. Upgrade - High Pressure (Impact Sprinklers) to LESA/LEPA/MDI			
13. Irrigation pump Variable Frequency Drive (VFD) for new pump or existing pump. Incentive is paid at the rate of \$0.24 per kWh of annual savings. Please call for assistance with incentive determination. Incentive is capped at 70% of project cost, and incentives will not be available to reduce energy efficiency project simple payback below one year. Energy savings and costs are subject to Pacific Power approval.		\$0.24 per kWh	\$
<b>Grand Total</b>			\$

**Note:** Except for #13 pump VFD fixed-in-place systems are not eligible, and incentive is limited to two items per irrigated acre. Sprinkler package includes new sprinkler together with regulator, where applicable. \*Incentive for #1 and #2 is combination of \$0.50 for sprinkler plus \$1.50 for nozzle.  
 BeWattsmart.com  
 V 01/01/2023 Effective: January 01, 2023

# Application Process

1. Call to confirm eligibility
2. Purchase equipment
3. Install equipment
4. Complete application (paper or online)  
<https://csapps.pacificpower.net/idm/login>
5. Submit, mail, fax, or email with copy of invoice or receipt, W9, and copy of recent Pacific Power bill.

Checks are mailed ~4 weeks after complete application submitted.



# Pre-Approval VFD Opportunities

## DRIVES!!!

- Dairy fans
- Evaporator fans
- Condenser fans
- Compressors (in refrigeration systems)
- Dust collection systems (exhaust fans)
- Industrial pumps
- What else? You tell us!



# Energy Management Projects

## Tune-Ups

- Compressed air leak repair
- Setpoint adjustments
  - Fan speeds
  - Pressure
  - Idle time
- Pump reconditioning



# Custom Project Process

Call to confirm eligibility & discuss project details

Shawn Huff

Shawn.Huff@CascadeEnergy.com

(503) 880-0743

## General Application

### PARTICIPANT INFORMATION

(Check will be issued to the participant business name and address listed below unless the payment release section below has been filled out)  
Participant is (check all that apply)  Customer  Facility owner  Tenant/Electricity user

Participant business name (as shown on IRS Form W-9) \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Mailing address: \_\_\_\_\_  
Contact name: \_\_\_\_\_ Cell number: \_\_\_\_\_  
( ) \_\_\_\_\_  
Contact telephone number: \_\_\_\_\_ Contact title: \_\_\_\_\_  
( ) \_\_\_\_\_ Contact email address: \_\_\_\_\_  
Contact primary language spoken:  English  Spanish  Other (specify): \_\_\_\_\_

### PROJECT SITE INFORMATION

Facility / Project name: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Facility address: \_\_\_\_\_ State Schedule: \_\_\_\_\_  
Commercial / Industrial electric account # \_\_\_\_\_ Customer name (As shown on bill) \_\_\_\_\_  
Electric meter number - seven or eight digits (if multiple meters at site only) \_\_\_\_\_  
Does Participant rent/lease the project site location?  Yes  No  
Please provide a description of your project so we may better help you. Additional project information (scope and schedule): \_\_\_\_\_  
 Lighting Retrofit  
 Listed Equipment Incentives  
 New Construction  
 Custom or Energy Management Incentives  
 Other: \_\_\_\_\_

### INCENTIVE ASSIGNMENT (Complete only if incentive is to be assigned to someone other than participant above)

Check should be made out to: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Mailing address: \_\_\_\_\_ Contact telephone: \_\_\_\_\_  
Contact name: \_\_\_\_\_

### APPLICATION ACKNOWLEDGEMENT

By my signature below, I certify that all information provided for participation will be accurate including but not limited to supplemental material and claims of participant and equipment information. I confirm I have read, understand and agree with the terms and conditions and agree to be bound by them. I authorize Pacific Power to provide my electric account information to consultants associated with the Wattsmart Business program.

\_\_\_\_\_  
Signatory name & title (please print) \_\_\_\_\_ Participant signature \_\_\_\_\_ Date \_\_\_\_\_

A young boy with a backpack and arms raised in front of wind turbines. The boy is wearing a plaid shirt and light-colored pants. He has a purple backpack. The background shows several wind turbines against a clear blue sky. The boy is looking up and to the right with a slight smile. His arms are raised, and he appears to be holding something small in his right hand. The wind turbines are slightly out of focus, emphasizing the boy in the foreground.

Questions?

Shawn Huff

[Shawn.Huff@cascadeenergy.com](mailto:Shawn.Huff@cascadeenergy.com)

(503) 880-0743