Energy Trust Dairy Incentives

April 9, 2020
About us

Independent nonprofit

Providing access to affordable energy

Generating homegrown, renewable power

Serving 1.6 million customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista

Building a stronger Oregon and SW Washington
18 years of affordable energy

From Energy Trust’s investment of $1.5 billion in utility customer funds:

- Nearly 660,000 sites transformed into energy efficient, healthy, comfortable and productive homes and businesses
- 10,000 clean energy systems generating renewable power from the sun, wind, water, geothermal heat and biopower
- $6.9 billion in savings over time on participant utility bills from their energy-efficiency and solar investments
- 20 million tons of carbon dioxide emissions kept out of our air, equal to removing 3.5 million cars from our roads for a year
Energy Trust Service Territory
Cash Incentives

- **Lighting**: $.25/kWh
- **Equipment Rebates**: $0.30/kWh, $2.50/therm
- **Custom incentives**: $2.50/therm
Receiving your project incentives

1. **Call your vendor**
   - Energy Trust will estimate your incentive
2. **Receive and sign your incentive offer**
3. **Install your project**
4. **Energy Trust may verify your project**
5. **Receive cash incentive from Energy Trust**

---

**We are always here to help you**
Energy Use in a Dairy

Source: SCE Dairy Farm Energy Management Guide California
Dairy Upgrades

• Vacuum pump VFD
• Heat recovery
• Milk pre-cooler
• Auto milk take-offs
• Irrigation systems
• Manure separators
Vacuum Pump VFD

• Low cost
• High savings potential ~ 60%
• Less noise
• Less wear $\rightarrow$ longer pump life
• Stable vacuum
• Most Dairies have it
Heat Recovery

• Recovers refrigeration heat
• Preheats water
• From 50 \rightarrow 80 degrees

Other opportunity

• Pipe Insulation
Milk pre-cooler

- 100 degree Milk has to be cooled
- Uses ground water
- A chiller finishes the cooling
- Precooler prewarms wash water
Auto milk take-offs

• Most have this already.

• If not using this they use more vacuum than they need to.
## Irrigation Systems Efficiency comparison

<table>
<thead>
<tr>
<th></th>
<th>Application Efficiency</th>
<th>PSI</th>
<th>Annual Energy Cost</th>
<th>Initial Cost</th>
<th>Estimated Energy Trust Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Gun Hard Hose Traveler</td>
<td>60%</td>
<td>100</td>
<td>$7,700</td>
<td>$12 k</td>
<td></td>
</tr>
<tr>
<td>Wheel Line / Solid Set</td>
<td>65%</td>
<td>70</td>
<td>$4,325</td>
<td>$70 k $200 k</td>
<td>$12,375*</td>
</tr>
<tr>
<td>Pivot / Linear</td>
<td>85%</td>
<td>60</td>
<td>$3,150</td>
<td>$80 k $117 k</td>
<td>$16,250</td>
</tr>
<tr>
<td>Drip Micro Irrigation</td>
<td>95%</td>
<td>35</td>
<td>$1,645</td>
<td>$185 k</td>
<td>$21,625</td>
</tr>
</tbody>
</table>
Manure separators

- A few projects
- Add a VFD
- Application specific

- Do not want manure out of suspension too soon!
Lighting upgrades

• Talk to a lighting contractor
• All are calculated measures
• All require preapproval

• Great measure
  long operating hours
## Industrial Equipment Incentives and Rebates

### Rebates
- Battery Chargers
- Steam Traps
- Compressed air
- Natural gas heating
- Insulation
- Welders
- Irrigation
- Greenhouses
- Cannabis Dehumidifiers

### Calculated Projects
- Variable-frequency drives
- Refrigeration Controls
- High-speed doors
- Compressed Air
- Dust collection
- HVLS fans
- Industrial pumping
- Cannabis Insulation
- Process hot water boilers

Submit within 6 months and before the end of the year

Call before you buy
Preapproval is required
Program Staff

Aaron Frechette
Program Manager

Brad Moore – Bend
Compressed air, Irrigation, Steam traps

Christian Bernard
Compressed Air, Steam traps

Jeff Bernacki - Eugene
Dust Collection, Compressed Air, Irrigation

Nell Patten and Natalie Gaffar
Rebates and Program Questions

Steve Ziemak
Irrigation, Greenhouses

Todd Toburen
High Speed Doors, Refrigeration Controls

Ulrike Mengelberg
Outreach Manager
Thank you

Ulrike Mengelberg – Outreach Manager
Ulrike.Mengelberg@cascadeenergy.com
971-244-8193 – Direct
503-956-1568 – Cell