



Reducing Wineries' Climate Impact: **How PG&E's Energy Efficiency Programs Assist**

July 19, 2011
Eco-winegrowing Symposium

Clem Lee
Energy Solutions Manager
PG&E



What I'll Cover

- “Winery Facts”
- Overview of 2010 Project Savings
- PG&E Energy Efficiency Incentives
 - Catalog Rebates (“prescribed measures or deemed”)
 - Customized Retrofit Incentives (calculated measures)
 - New Construction Incentives (Title 24)
- Audits - Facility and Customized Energy Efficiency Audits
- PG&E Third Party Programs
- Energy Efficiency Classes/Tool Library



“Winery Facts”

- There are ~3,000 wineries in California.
- ~1,000 wineries* in the North Coast
 - Napa, Sonoma, Mendocino, & Lake Counties
- Since 2006, approximately 150 wineries have received rebates or incentives by taking advantage of PG&E’s energy efficiency programs.
- ~85 wineries are “Solar Powered”.

* data from www.wineweb.com



2010 Results

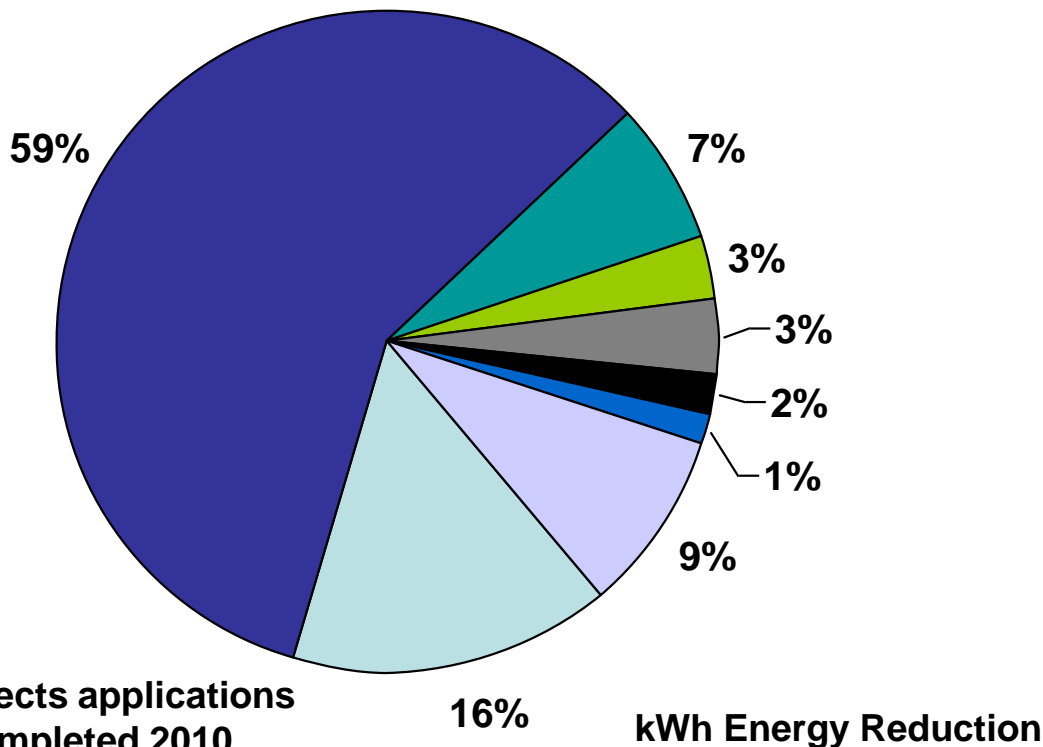
North Bay/Coast - Ag/Food Sector

- Electricity – **10,607,941 kWh**
- Gas - **275,670 Therms**
- Total Paid Rebates - **\$1,080,681**

- Note – this is a one year snap shot based on top incentives paid. May include non-winery measures.



2010 - Top Electric Measures North Bay/Coast

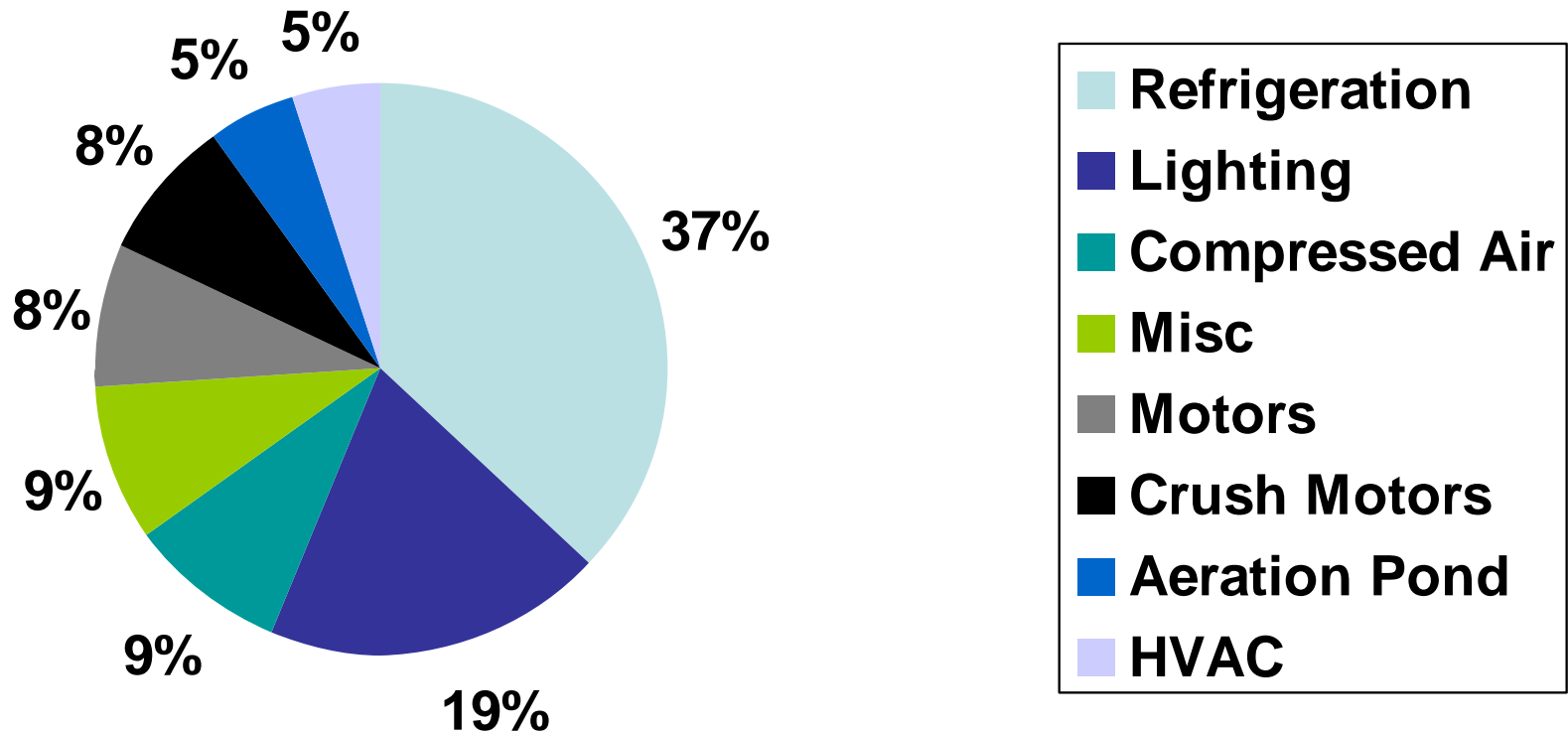


- Tank Insulation
- Motors/Pumps
- Controls/VSD's
- Lights/Sensors
- Compressed Air
- Chiller/Refrig
- Wastewater
- Strip Curt/other

- Note –
- Chart only reflects applications submitted & completed 2010.
- Motors & pumps may include wastewater projects
- kWh – steady power of kilowatt running for one hour



Typical Winery Energy Usage



This is an estimate for illustrative purposes



Carbon Footprint Reduction

- Assistance with Business Climate Planning
- PG&E calculates GHG reduction numbers from your energy efficiency project.
- Example, 2010 kWh savings:
 - 10,607,941 kWh = 2,690 metric tons of CO₂ avoided
 - Equivalent to powering 1,600 homes for one year



Energy Efficiency Incentives

“Three Buckets”

- Catalog Rebates
- Customized Retrofits
- New Construction



Catalog Rebates

- Rebates are the fastest and easiest way to get cash back for common energy efficiency retrofits
 - Simply purchase a qualified energy-efficient product for your business, fill out a rebate application, and PG&E sends you a check. (*no pre-inspection*)
- See PG&E Ag/Food Processing rebate catalog – www.pge.com/wineries
- Prescribed energy efficiency savings
 - Example 1 – Tank insulation, \$3/square foot. Save up to \$25/square foot per year in energy costs.
 - Example 2 – occupancy sensors, up to \$40/sensor, save \$43/year in energy costs, 501% return on investment first year.

Wine Tank Insulation: \$3/sq ft outdoor coastal; \$3.75 Valley; \$2.25 indoor

Strip Curtains: \$3/sq ft

Lights – up to \$125/qualified fixture (fluorescent)

Occupancy Sensors – up to \$44/sensor

Steam or water process boiler - \$2/mmbtuh

Pipe insulation for boiler systems – up to \$4/linear foot

Attic/roof insulation - .15 cents/sq ft

Wall insulation - .50 cents/sq ft

Commercial/Industrial steam traps - \$50-200/unit





Customized Retrofit Incentives

- ***PG&E needs to pre-approve your project***
 - Requires an application, pre-inspection and analysis prior to removal of equipment
 - We can review proposals from your vendor
- PG&E will develop a baseline (of existing system) and provide calculation assistance
- Incentive based on established baseline and PG&E approved energy savings





Customized Retrofit Examples

- Energy efficient **Motors**
- **VFD's** cooling and heating circulation pumps, glycol pumps, air handler and condenser fans;
- **Controls** floating head pressure and suction pressure
- **Aerators** for wastewater ponds
- Dissolved oxygen **Sensors** for wastewater ponds
- **Air compressor** upgrades and replacements
- Glycol pipe **Insulation**

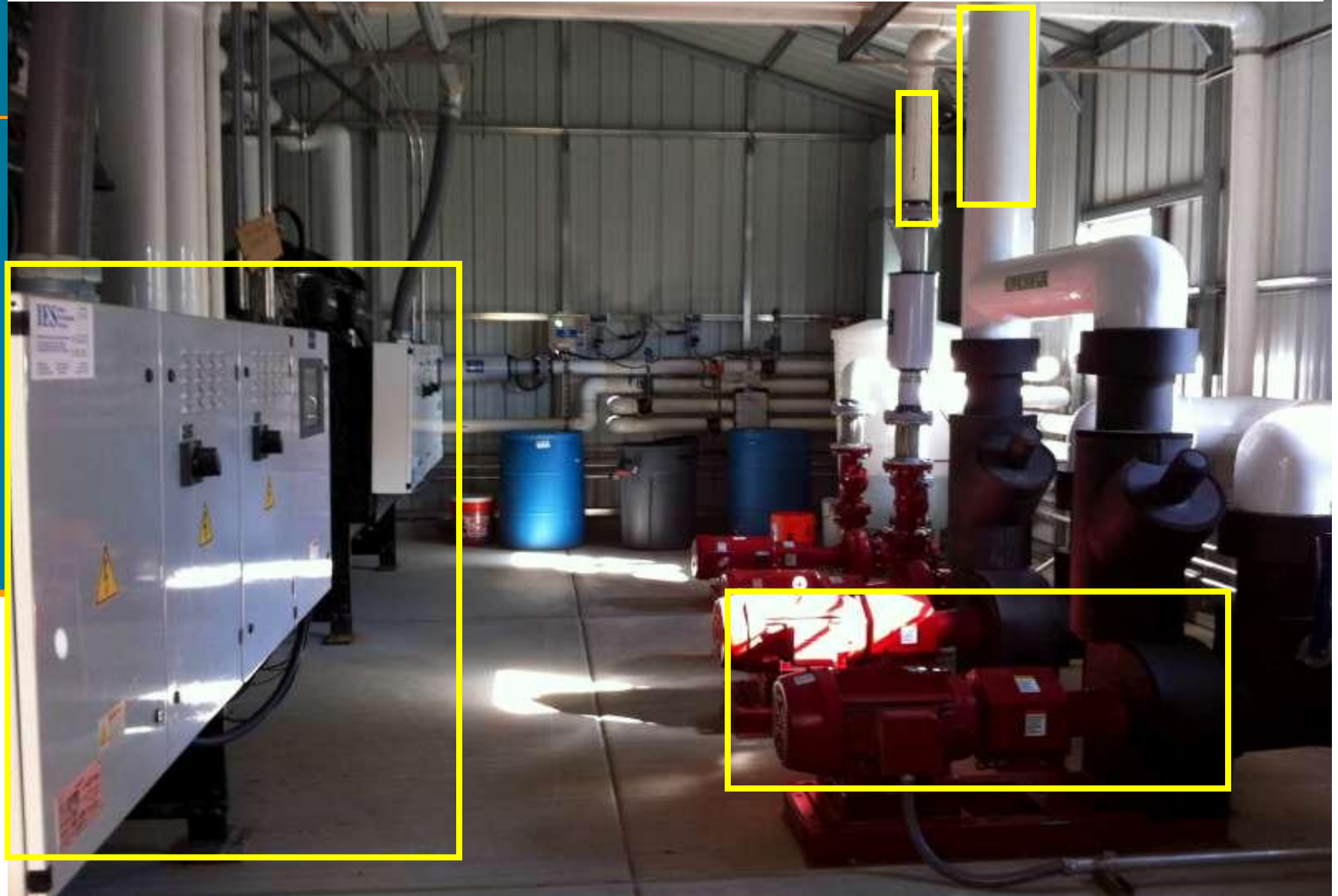


Customized Retrofit Incentives

- \$0.05/kWh Lighting
 - \$0.09/kWh Process
 - \$0.15/kWh HVAC or Refrigeration
 - \$100/kW Demand Savings
 - \$1.00/Therm Gas Saving Projects
- Incentive covers up to 50% of project implementation cost, up to about \$3.6 million cap/project.
 - Incentive can go to the owner or a project sponsor
 - *Important! PG&E needs to pre-approve your project and do a pre-inspection of your existing equipment*



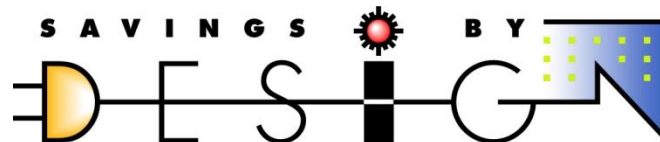
Customized Retrofits - Mechanical Room





New Construction Program

- **Savings By Design** – Free design assistance and calculated project incentives for exceeding building codes and standard practice.
- **SBD Process:**
 1. Work with your **PG&E Account Manager** to submit a New Construction Project application (“NRNC”)
 2. Project Manager will select a qualified energy consultant and schedule a project kickoff meeting with you and your design team to discuss project scope and efficiency options you are interested in modeling.
 3. Consultant (or in some cases, the design team) will model options and present a project report with efficiency recommendations and potential SBD incentives.
 4. Customer selects desired efficiency options and PG&E generates and agreement. Project funds are held for 4 years, until project completed
 5. Project completed. Post-inspection. Check Delivered!





Facility Energy Audits



- PG&E consultant conducts an on-site audit of your facility and equipment
- Audit report itemizes 1) no cost, 2) low cost and 3) investment grade recommendations.
- For large customers, Integrated Energy Audit Provides EE, Self Generation and Demand Response Recommendations.
- Report can be used to prioritize a short and long-term energy management plan with your local PG&E rep.
- Resources:
 - Wine Industry Efficiency Solutions Program (**WIES**)
Small-Medium Wineries – Chris Pilek



Customized System Audits

- A system-focused evaluation can be completed by a PG&E consultant for systems such as:
 - Wastewater treatment (*WEP*)
 - Refrigeration (*WIES*)
 - Boiler system (*Enovity*)
 - Lighting (*WIES*)





Third Party Partners

1. Wine Industry Efficiency Solutions (WIES) Program – contact Chris Pilek, 650-726-4286, cpilek@rsgroup.com
 - **500,000 cases and below**
2. Wastewater Efficiency Program (WEP) – contact Ricardo Sfeir, 415-543-1600 ext 30, rsfeir@baseco.com
3. Enovity (boiler program) - **Joy Ulickey**, 415-983-3635, JUlickey@enovity.com



Pacific Energy Center

- Classes on energy efficiency, integrated design, green building, solar, building codes and standards, and more.
- Tool Lending Library
- Solar planning tools
- Resource librarian

www.pge.com/pec





Next Steps

1. Sign up for an audit and project follow up (clip board)
2. “Reduce before you produce” – energy efficiency is a stepping stone for solar.
 - Why? Efficiency is clean, cheaper than building generation, good for customers’ bottom line and live/work environments, and supports GHG reduction targets.



Questions and Contact Info

Lloyd Coker, Account Manager

llc5@pge.com / 707.577.7047

Clem Lee, Energy Solutions Manager

c1lt@pge.com / 707.577.1018

PG&E Winery Programs, www.pge.com/wineries

Business Customer Center:

1.800.468.4743