

DOCKETED	
Docket Number:	18-IEPR-07
Project Title:	Doubling Energy Efficiency Savings
TN #:	223689
Document Title:	Presentation - Industrial & Agricultural Sector
Description:	*** This document supersedes TN# 223676 *** - Presentation by Colleen Breitenstein for June 7, 2018 IEPR Workshop on Doubling Energy Efficiency Savings
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Organization:	PG&E
Submitter Role:	Public
Submission Date:	6/5/2018 3:56:41 PM
Docketed Date:	6/5/2018

Doubling Energy Efficiency Savings Workshop

Industrial & Agricultural Sector

Colleen Breitenstein

June 7, 2018

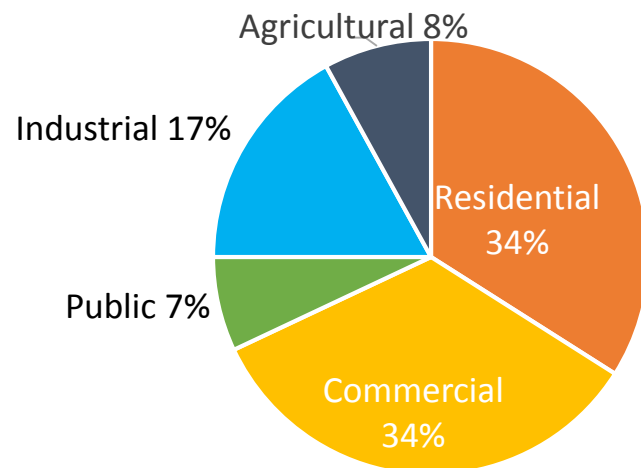


Together, Building
a Better California

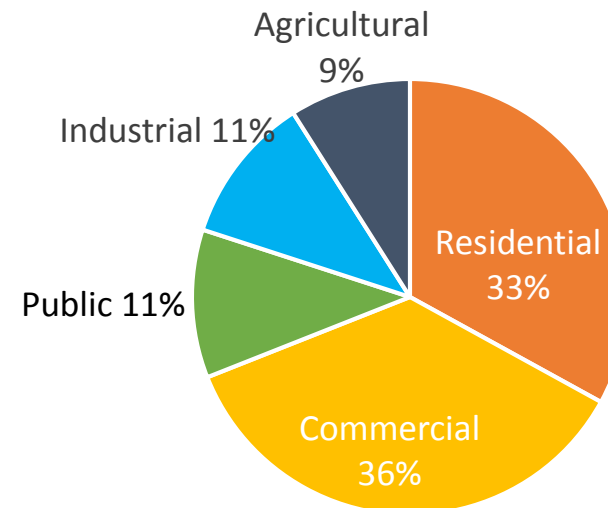


PG&E Portfolio Overview (2015)

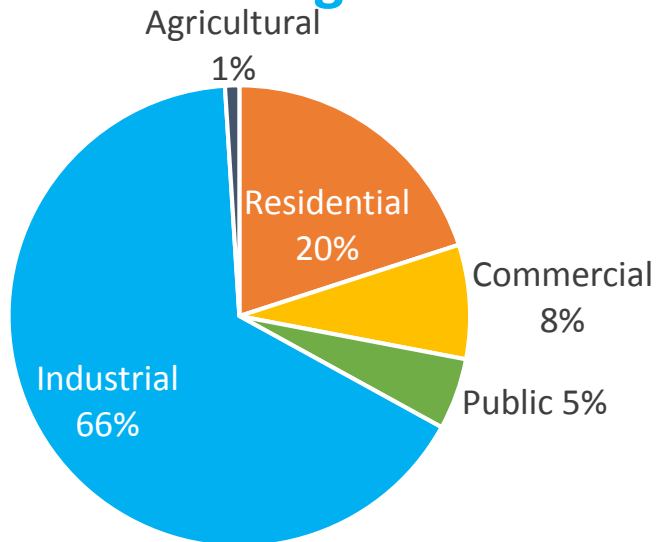
Electric Usage



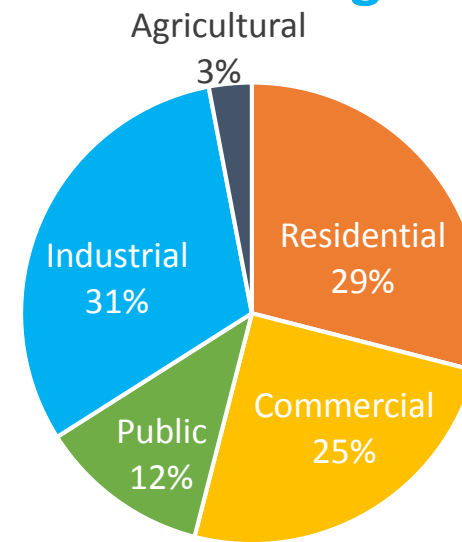
Electric Savings



Gas Usage

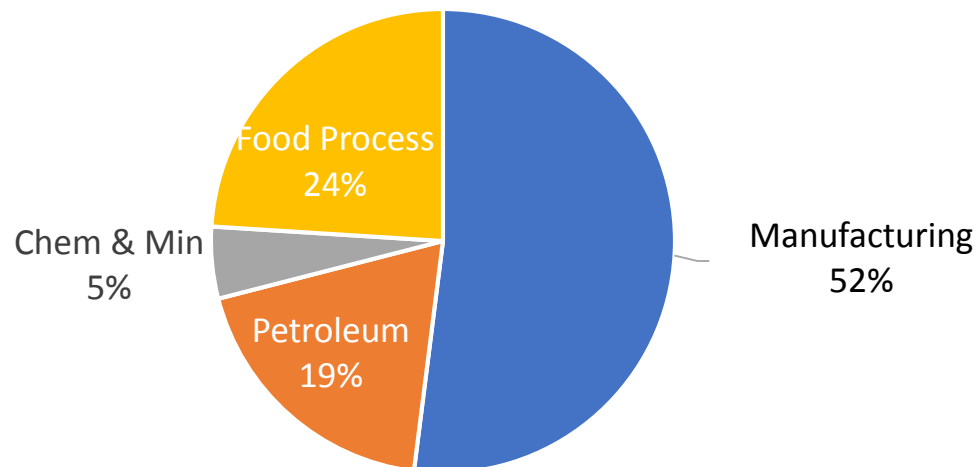


Gas Savings

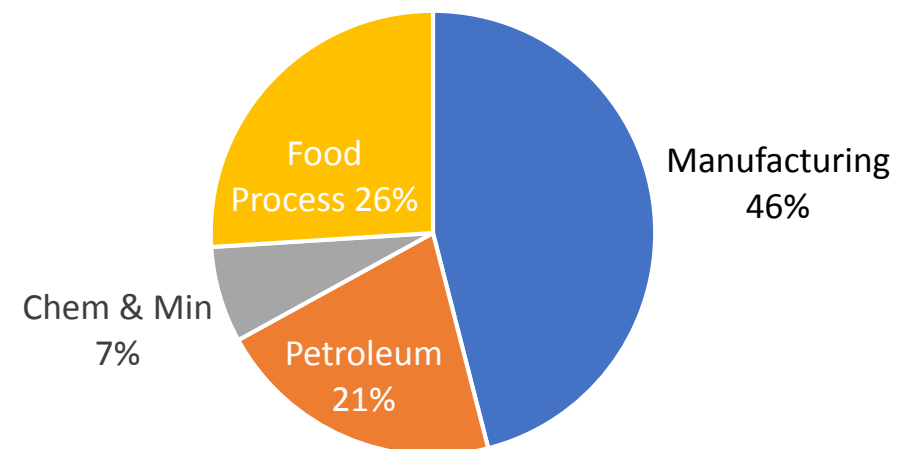


Industrial Sector Overview (2015)

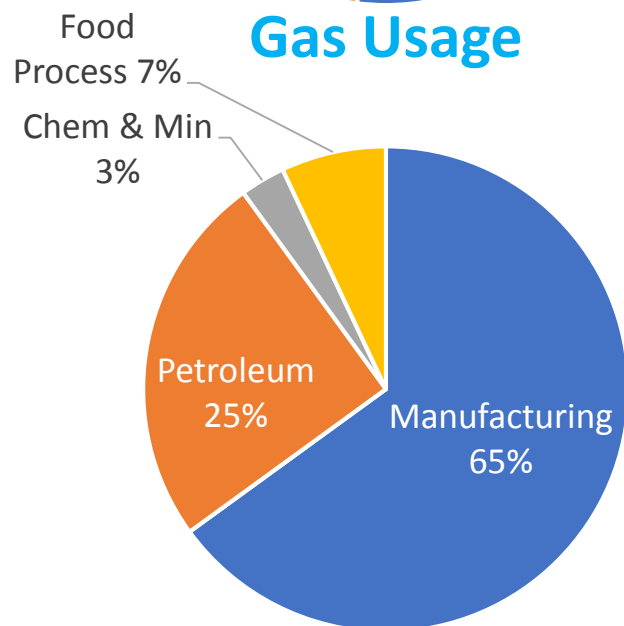
Electric Usage



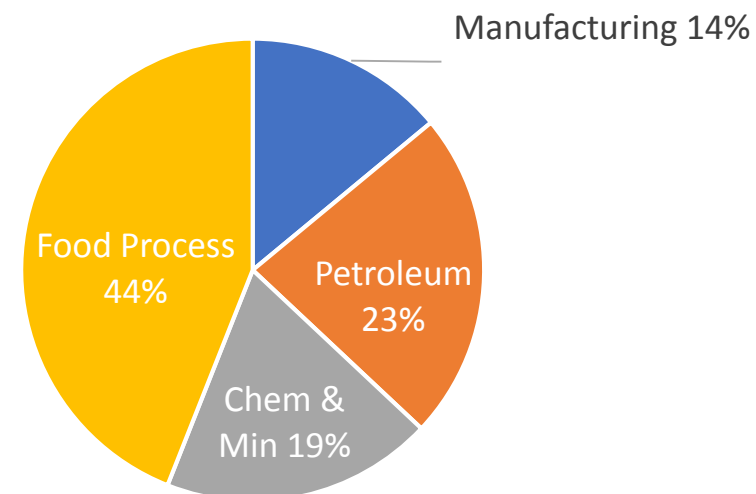
Electric Savings



Gas Usage



Gas Savings



Industry Standard Practice (ISP)

- Very difficult to establish baselines in highly customized environments
- Company-specific standards

Project-Level Influence

- Customer decision-making can be very complex
- Motivated customers can be excluded as free riders
- A standard approach is difficult in custom industrial environment

O&M

- Stranded savings—limited recent program penetration



Industrial Opportunities

Strategic Energy Management

- Potential to claim O&M and process improvements
- Education and market transformation
- Benchmarking

Financing

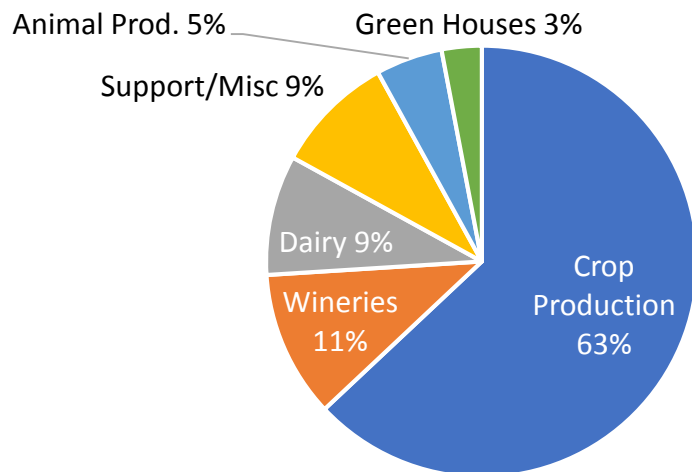
- Loans for good projects with no need for cash incentives
- Exploring raising loan amounts to cover larger projects

Expanding and Improving Existing Measures

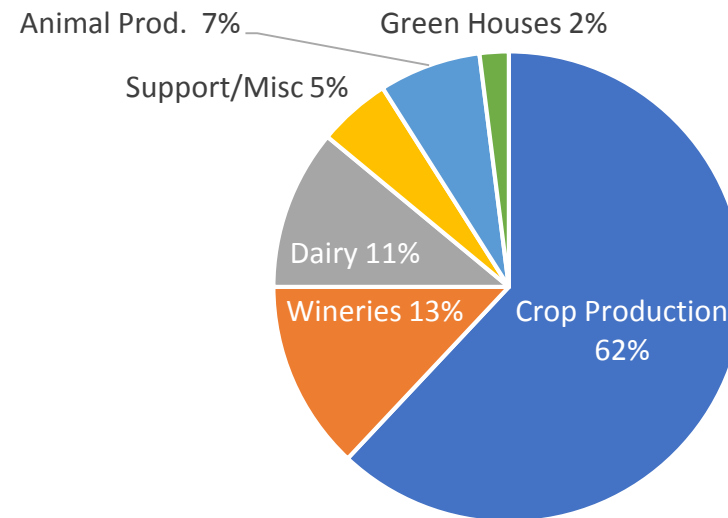
- Expansion of pipe insulation measures
- Allowing process fan VFDs to use customized calculations

Agricultural Sector Overview (2015)

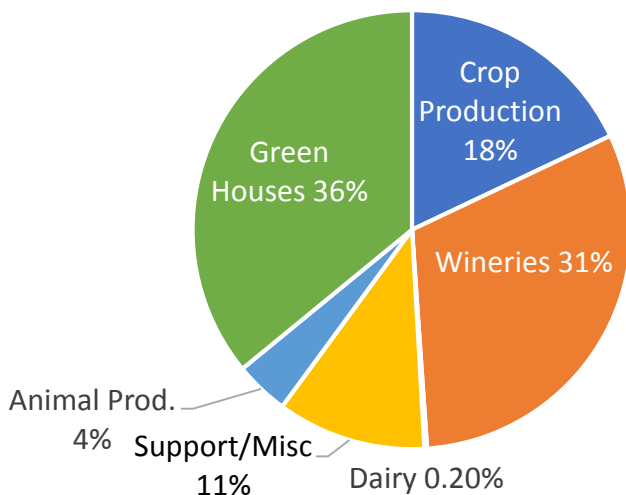
Electric Usage



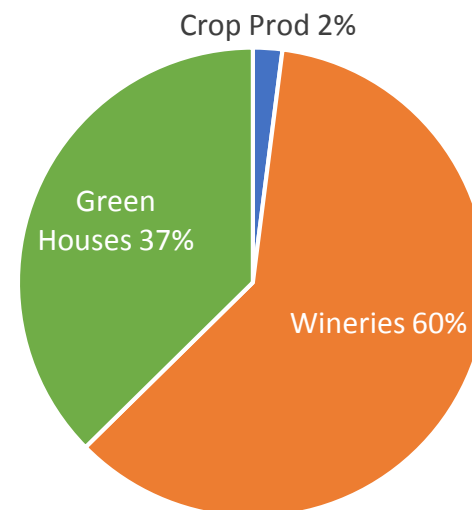
Electric Savings



Gas Usage



Gas Savings





Agricultural Barriers to Energy Efficiency

Limited Measures Available

- Savings potential dominated by pumps and pumping related measures
- Other measures have reached market saturation tipping point (ISP)
- Cost-effectiveness challenges

Industry Standard Practice

- Over 400 agricultural products in CA, studying each is not feasible
- Adoption varies by sophistication and resources

Lack of Current Market Characterization Information

- Information is stale
- Does not account for changes in regulatory environment

Project-Level Influence

- Customer decision-making can be very complex
- Motivated customers can be excluded as free riders
- A standard approach can present challenges due to variable environmental factors



Agricultural Opportunities

Strategic Energy Management for Food Processing

- Potential to claim O&M and process improvements
- Education and market transformation
- Benchmarking

Financing

- Loans for good projects with no need for cash incentives
- Exploring raising loan amounts to cover larger projects
- Food Production Investment Program (FPIP)

Expanding and Improving Existing Measures

- Exploring enhancement to VFD measures
- Relaunching process fan VFDs specifically for agricultural applications
- Change requirements for pump overhauls

Thank you