



# Paving the Way from Pilot to Prescriptive: Accelerating Adoption of New Technologies

**Presenter:** Jeff Crittenden

**Co-Authors:** Ayad Al-Shaikh, Mike Corbett

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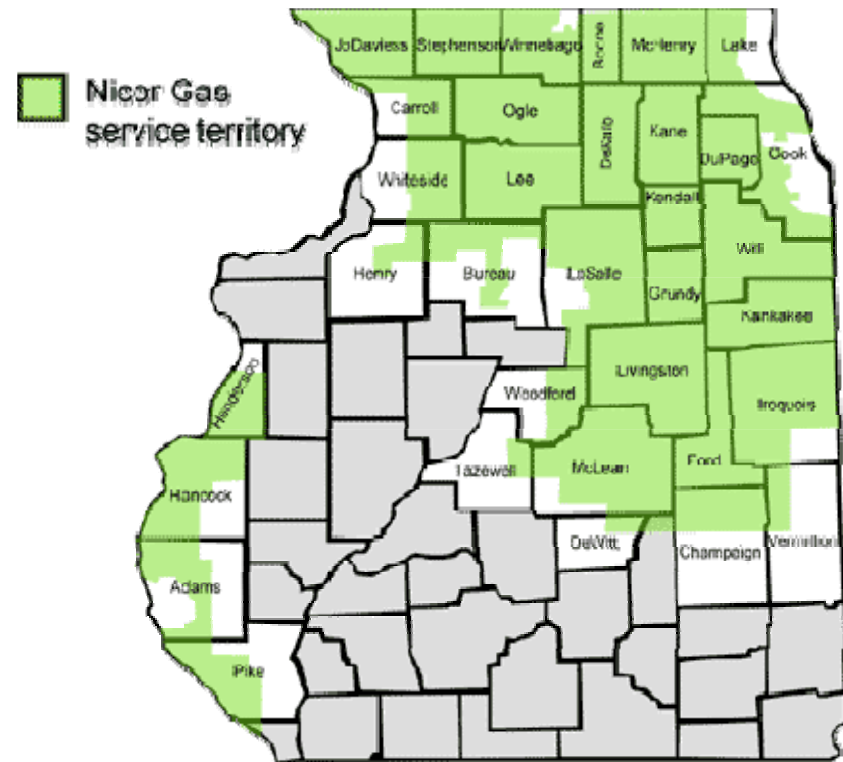
# Emerging Technology Review

- Emerging technologies = new technologies, but also underutilized technologies
  - Example: Condensing unit heater, a 15 year old technology but still “emerging” due to minimal adoption by commercial space heating market
- Needs a “tipping point”
- Potential for higher volumes
- Most effective Emerging Technology programs have preliminary scoring system
- Emerging technologies currently under review, e.g.:
  - Ozone laundry systems
  - Grease trap filters
  - Boiler reset controls
  - Condensing rooftop units



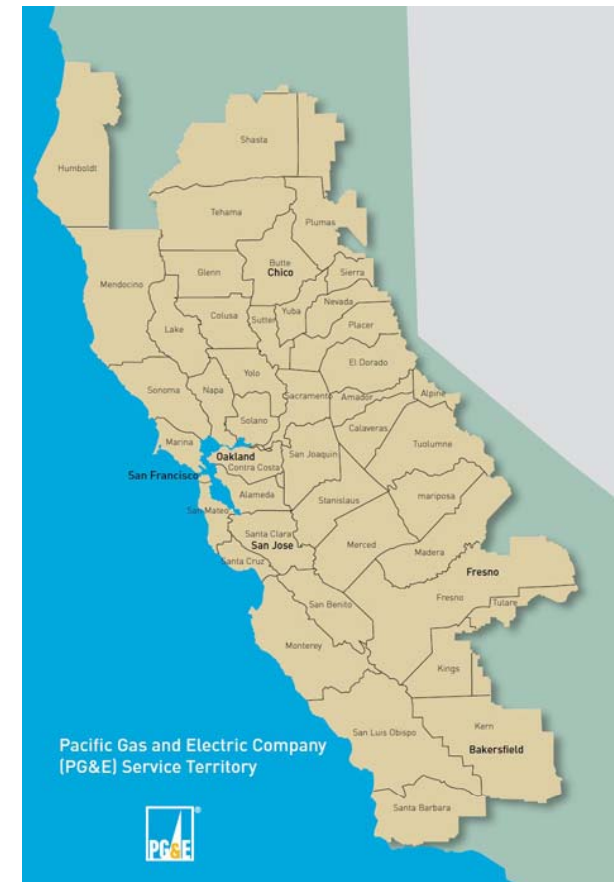
# Introduction: Illinois Case Studies

- Commercial & Industrial Program for Nicor Gas, an AGL Resources Company
  - Northern Illinois
  - Ratepayer funded program implemented by RSG
  - 2<sup>nd</sup> year of 3 year cycle
  - Stakeholders Advisory Group (SAG) input; Illinois Commerce Commission approval
  - Publicly funded institutions run through IL Department of Commerce

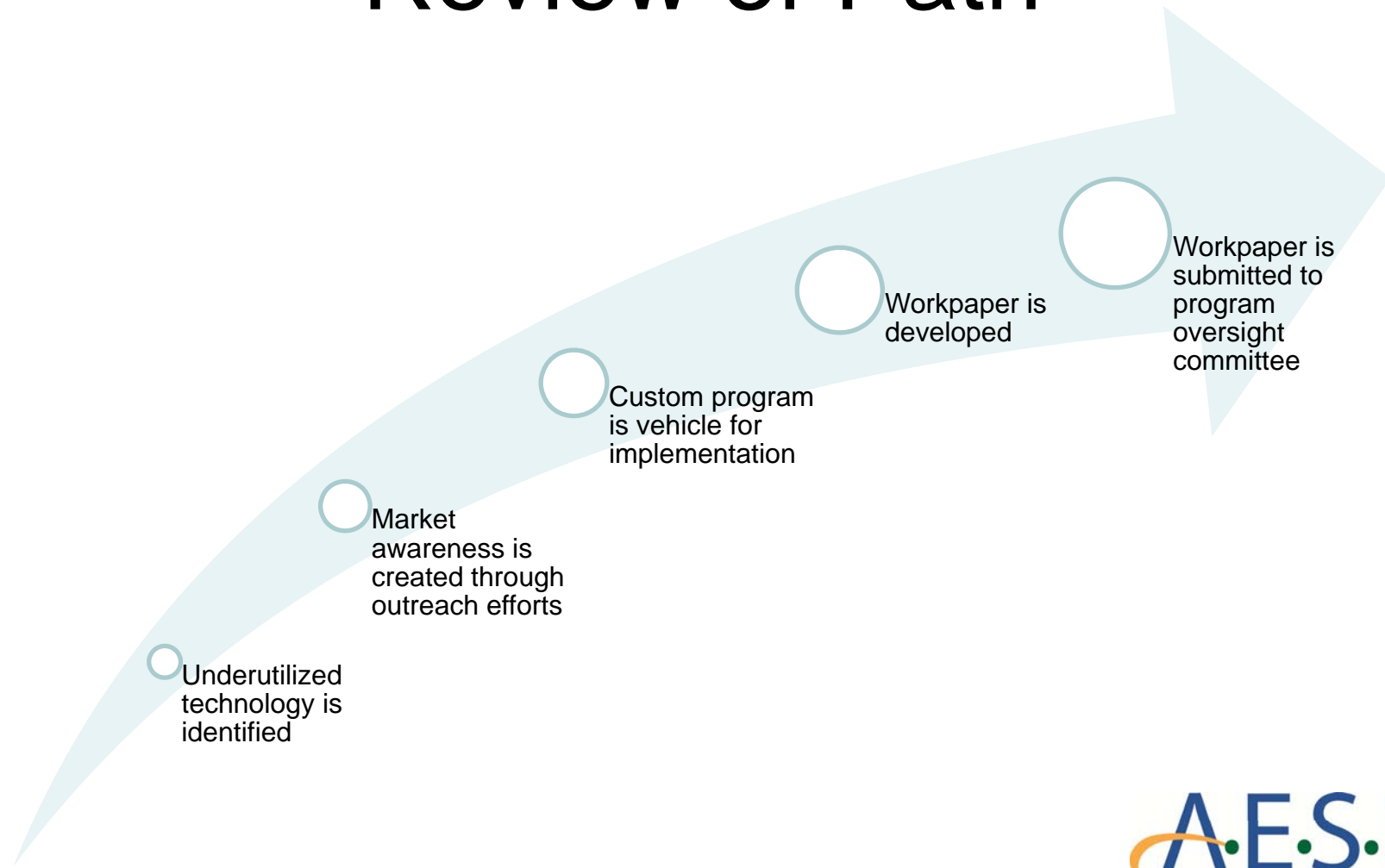


# Introduction: California Case Studies

- Third Party programs in Pacific Gas and Electric Company (PG&E) portfolio
  - Wine Industry Efficiency Solutions (WIES) Program
  - School Energy Efficiency (SEE) Program
  - RSG implements for PG&E since 2006
  - Serves customers throughout Northern California
  - Identify many specialty energy consumption patterns, technology solutions



# Adoption of New Technologies: Review of Path



# Why Add New Technologies?

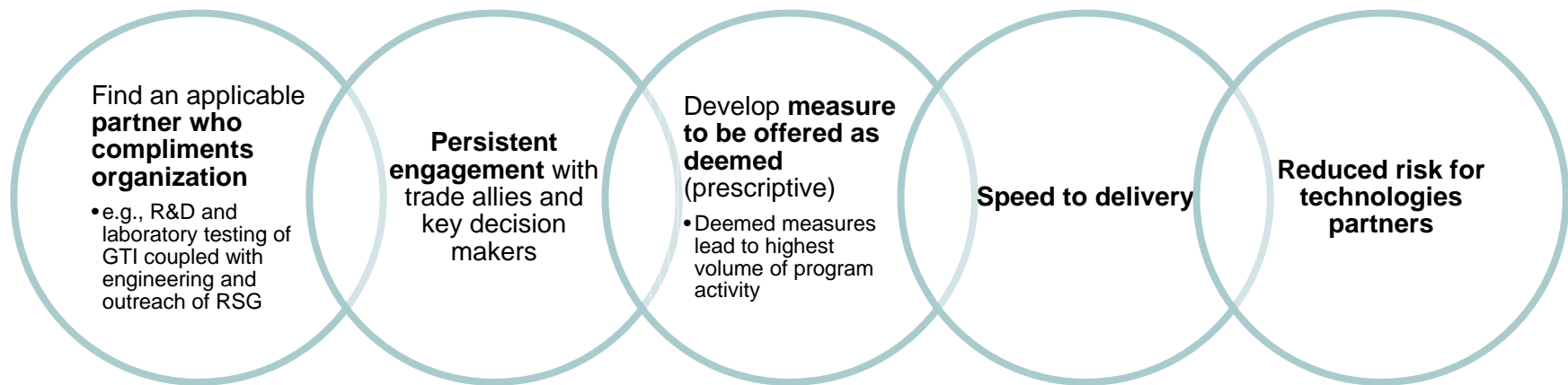
- Growth beyond mature measures
- Market transformation opportunities
- Partnering opportunities with successful trade allies
- Higher influence = higher program Net to Gross evaluations
- Utilities want diversity

# Benefits of Prescriptive Path

- Reduce program administrative costs
  - Reduce time required for pre/post inspections and engineering calculations
- Alleviate customer and vendor uncertainty and risk related to incentive level
- Streamline program participation
- Increase program participation
- Accelerate technology adoption



# Strategies for Conversion



# Requirements for Success

A new measure must have:

- ✓ Market Transformation opportunities
- ✓ Viable market penetration
- ✓ Program influence
- ✓ Incentive influence
  - \$ per unit must be enough to meet customer payback thresholds
- ✓ Ability to pass TRC requirements

# Emerging Tech Market Transformation Examples

## Grain Dryer

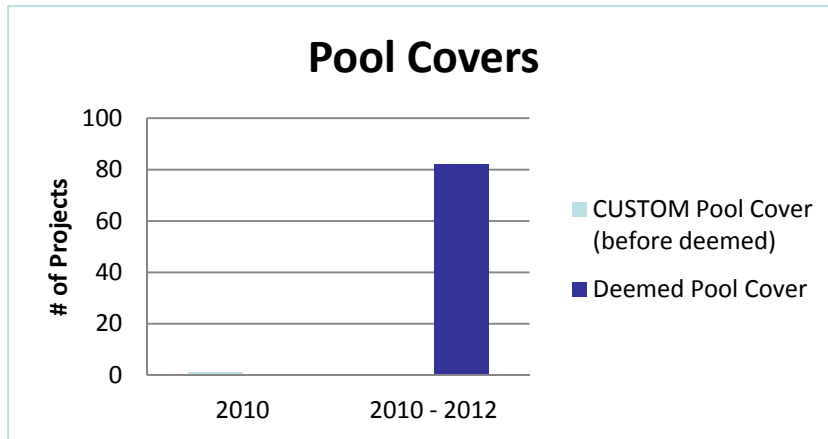
- Higher efficiency motors
- Program generates need for 100 new dryers per year
- 25 energy efficient motor per dryer
- 2,500 high efficiency motors per year. Mature industry that benefits further from emerging tech development



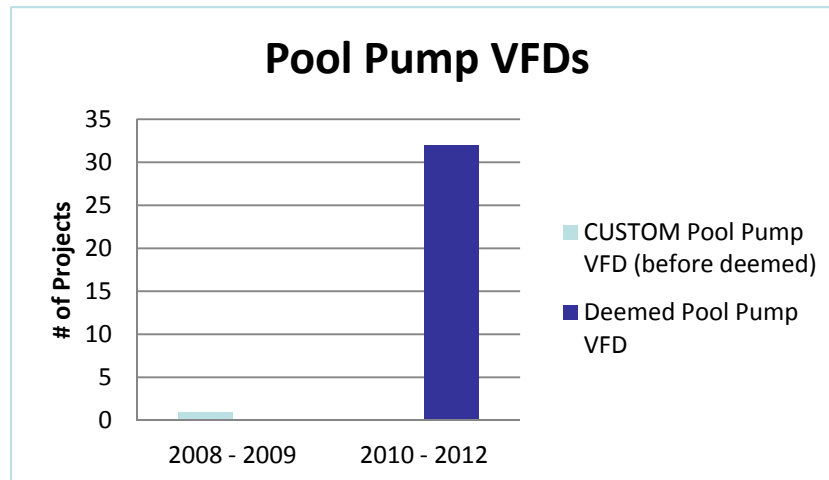
## Ozone Laundry

- Water, Gas and Electric implications
- Water reduction >50% for washing machines
- Less output from waste water treatment plants
- Less drying times → smaller capacity dryers
- Creates demand for energy efficient dryers

# Program Impacts: School Energy Efficiency Program



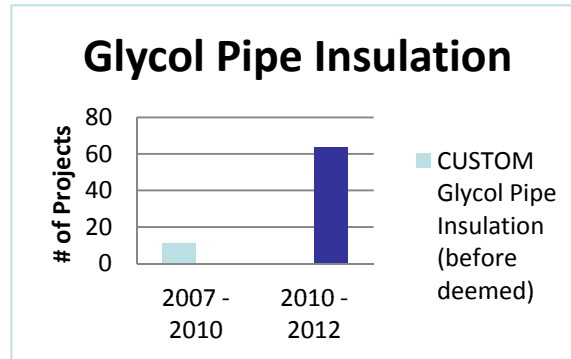
8,100% increase



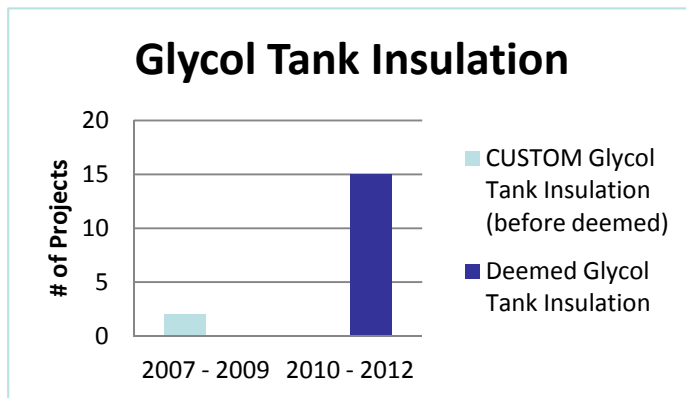
3,100% increase



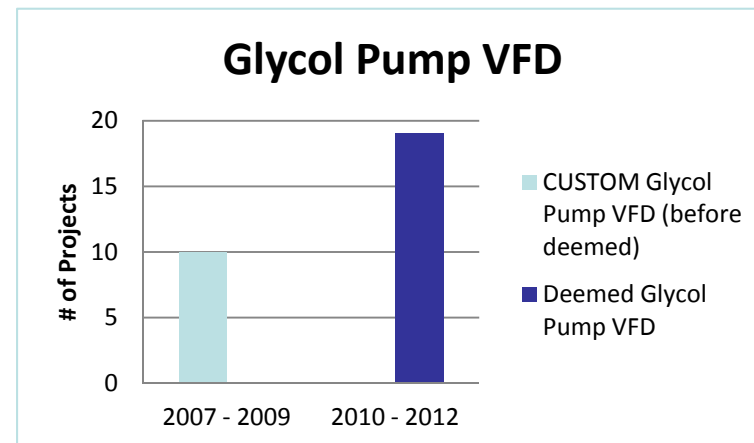
# Program Impacts: Wine Industry Efficiency Solutions Program



482% increase



680% increase



90% increase

# Market Penetration and Maturity

- Emerging Technologies comprise of at least 20% of portfolio
- Emerging Technologies are part of business process
- Technical barriers are mitigated
- Market acceptance is achieved
- Offshoot measures develop as part of process
  - Example: Condensing rooftop units create a demand for condensing furnaces or make up air units
- New measures lead to stagnant measures being reinvigorated
  - Example: Condensing economizers can lead to increased activity in standard flue stack economizers

# Questions?

**Jeff Crittenden**  
Senior Engineer  
Resource Solutions Group  
[jcrittenden@rsgroup.com](mailto:jcrittenden@rsgroup.com)





## Save the Dates

Sept. 30-Oct. 2, 2013

AESP's Fall Conference  
Seattle, WA

Jan. 27-30, 2014

AESP's National Conference  
San Diego, CA

May 12-14, 2014

AESP's Spring Conference  
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