

# INEFFICIENCY IS OLD SCHOOL: A Technical Deep Dive for Getting to Zero in Schools

Brought to you by the Investor-Owned Utility Proposition 39 ZNE Schools Pilot

Tuesday, October 30, 2018 - 1:00 p.m.-5:00 p.m.  
Green California Schools and Community Colleges Summit & Expo, Pasadena, CA

## Workshop Agenda

### Learning Objectives:

1. Participants will learn how data can drive design and operations decisions, including the importance of using energy benchmarking to set absolute energy use intensity (EUI) targets.
2. Participants will learn how ZNE retrofits can be planned and optimized across the entire school district.
3. Participants will understand the changing contribution of regulated and unregulated loads in ZE Buildings such as HVAC, lighting and envelope efficiency measures.
4. Participants will be able to identify and implement a procurement and planning process, select design team and contractors, evaluate cost effective techniques to implement ZNE, and design buildings to meet educational and energy needs.

12:30 – 1:00 pm	<i>Registration, Refreshments &amp; Networking</i>
1:00 – 1:15 pm	<b>Welcome</b> <ul style="list-style-type: none"> <li>• <i>Workshop Goals &amp; Expectations</i></li> <li>• <i>SCE &amp; SoCal Gas</i></li> </ul>
1:15 – 1:35 pm	<b>Introduction: Zero Net Energy Status Update</b> <ul style="list-style-type: none"> <li>• California Goals</li> <li>• National Status</li> </ul>
1:35 – 2:00 pm	<b>Process: ZNE Versus a Typical Project</b> <ul style="list-style-type: none"> <li>• Benchmarking &amp; building evaluation approaches</li> <li>• Energy targets &amp; triggers for improvement</li> <li>• The RFP - integrating energy performance into contracts</li> <li>• Integrated design starting with early design charrettes</li> <li>• Modeling to inform design decisions</li> <li>• Building Assessment</li> <li>• Connecting design, construction &amp; operations</li> </ul>
2:00 – 2:35 pm	<b>The Process to Zero</b> <i>Isaac Knipfing, Utility &amp; Sustainability Specialist, San Mateo County Community College District</i>
2:35 – 2:50 pm	<i>Break</i>

**2:50 – 3:10 pm**

**Prop 39 Case Study: San Diego Unified School District**

*Darin Vey, Energy Utilities Program Supervisor, San Diego Unified School District*

**3:10 – 4:00 pm**

**Common ZNE Measures and Technologies**

- Passive Measures
- Envelope
- Space Conditioning and Ventilation
- Plug Loads
- On-site Energy Generation and Storage
- Relative savings opportunities in existing schools
- Common challenges to ZNE performance
- Commissioning, fine tuning & on-going evaluation
- Addressing the gap from hand off to operations & maintenance
- Verifying energy use & recognition of success

**4:00 – 4:15 pm**

**Resources & Case Studies**

**4:15 – 4:45 pm**

**Activity: The Path to ZNE**

**4:45 – 5:00 pm**

**Closing Discussion**