

# TRYDEN ENERGY

Solving Americas Major Challenges



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Introduction

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ZNE - Opportunity

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Combined ORC/HP System

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Micro-Grids

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Future Implications

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Questions and Answers



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# TRYDEN ENERGY

## HOW CAN WE:

Reduce dependence on non-renewable energy  
that is produced off-site  
and delivered to a single family home?



Peter Said,  
Founder,  
CEO



Greg Smart,  
Founder,  
CFO



John Anderson,  
COO



Adam Compton,  
CTO



Robert Carson III,  
Director of PM

# Zero Net Energy (ZNE) Opportunity



Focus on:

- ✓ Energy Efficiency
- ✓ Energy Policy
- ✓ New Technology

California  
Public Utilities  
Commission



Focus On:

- ✓ Ratepayer Equity
- ✓ Utility Control
- ✓ Regulation

# Zero Net Energy (ZNE) Opportunity



Works Out as:

- ✓ Energy Star Requirements
- ✓ New Building Code
- ✓ Research Grants

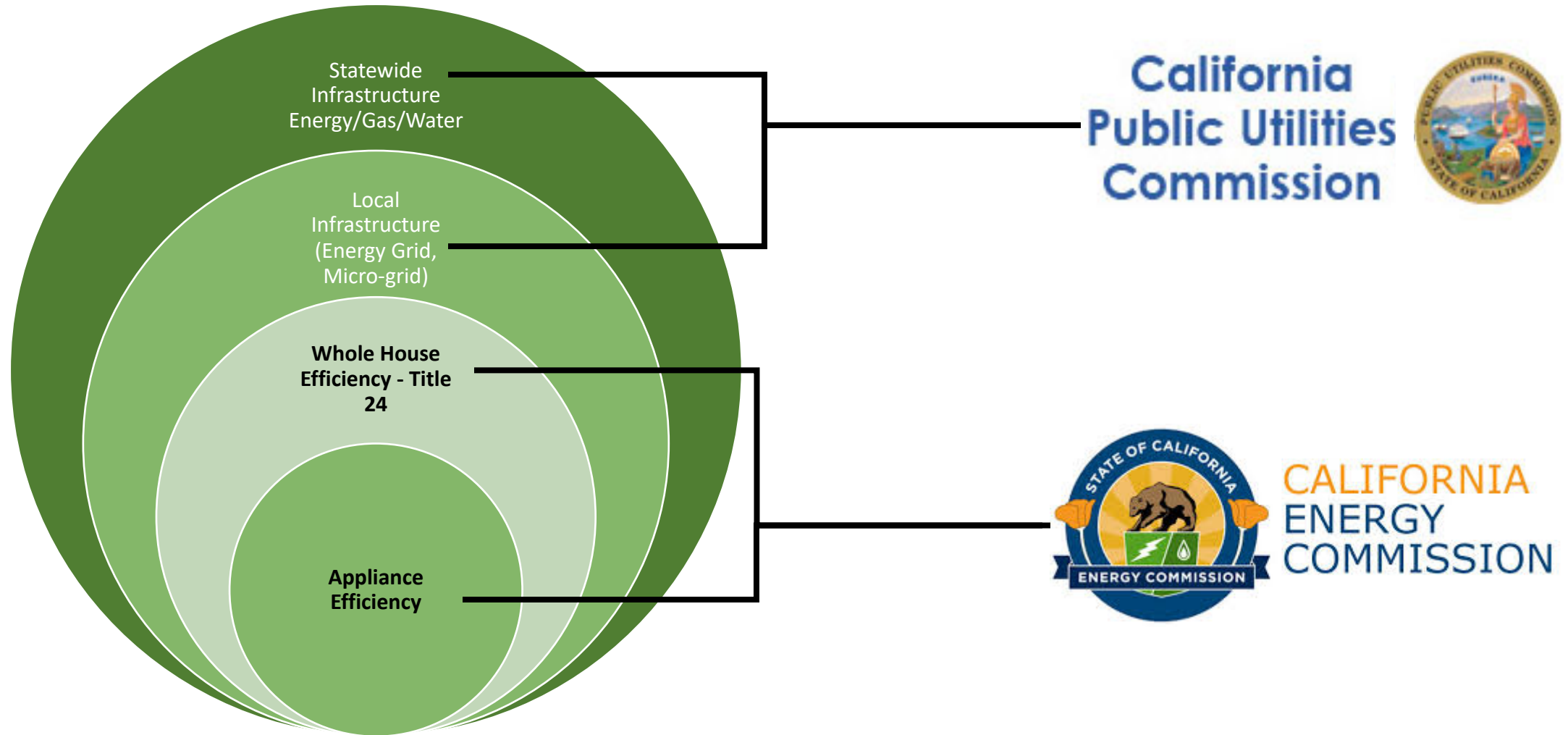
California  
Public Utilities  
Commission



Focus On:

- ✓ Approval of Rate Structures
- ✓ Creation of CCA (or CCE)  
Municipal Utility Competitors
- ✓ Capitalization Caps & Return  
on Investment Limits/Controls

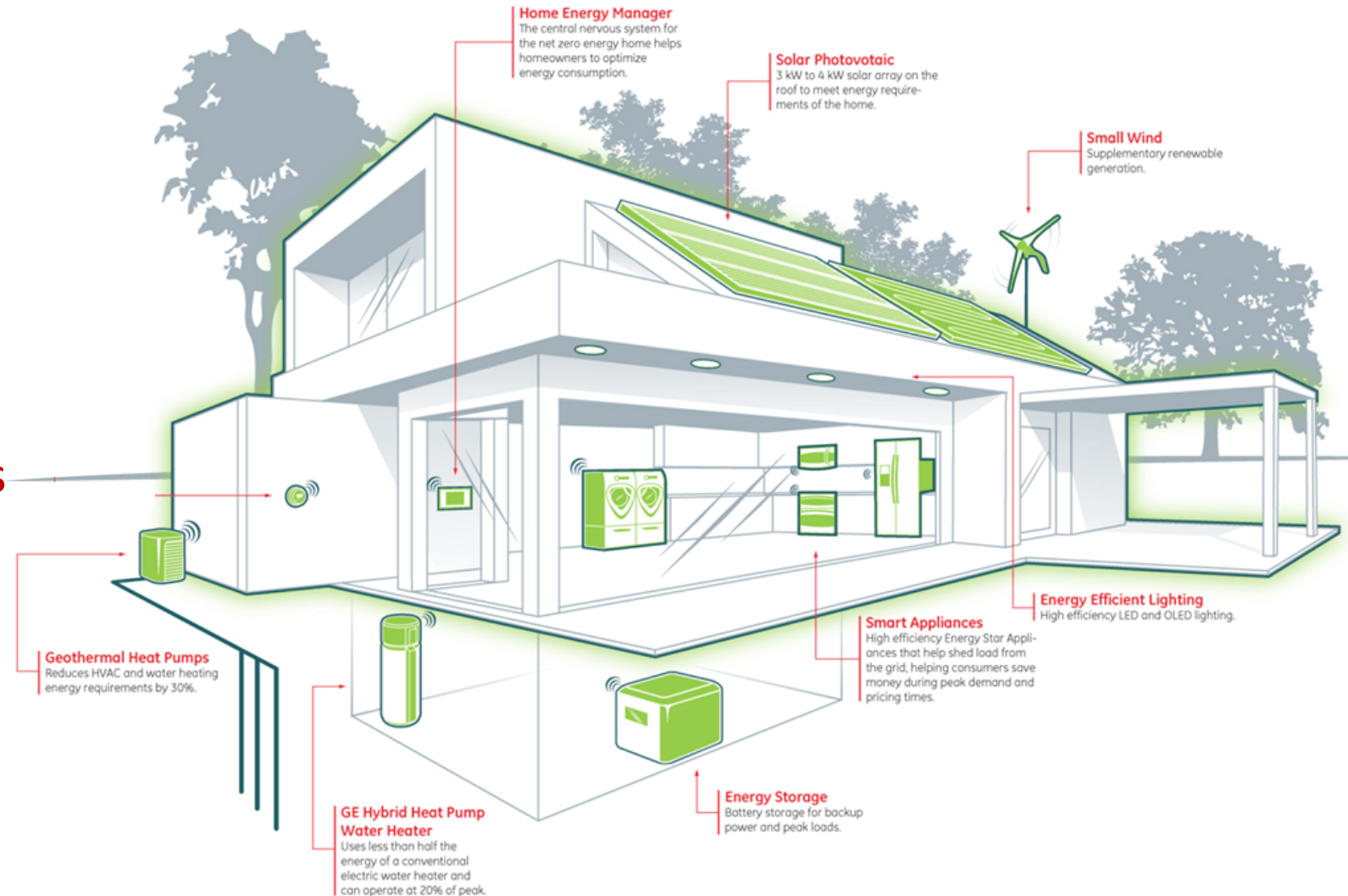
# Zero Net Energy (ZNE) Opportunity



# Zero Net Energy (ZNE) Opportunity

## *State Mandated : Developer Must Adopt New Product*

1. Smart Meters & Controls
2. Heat Pump Water Heaters
3. Solar Panels
4. Energy Storage
5. Water Filtration
6. Smart Applications



1

Create Financial Security

2

Create Sustainable Homes

3

Create Sustainable Cities

4

Improve the Energy Grid

5

Increase Home Efficiency

6

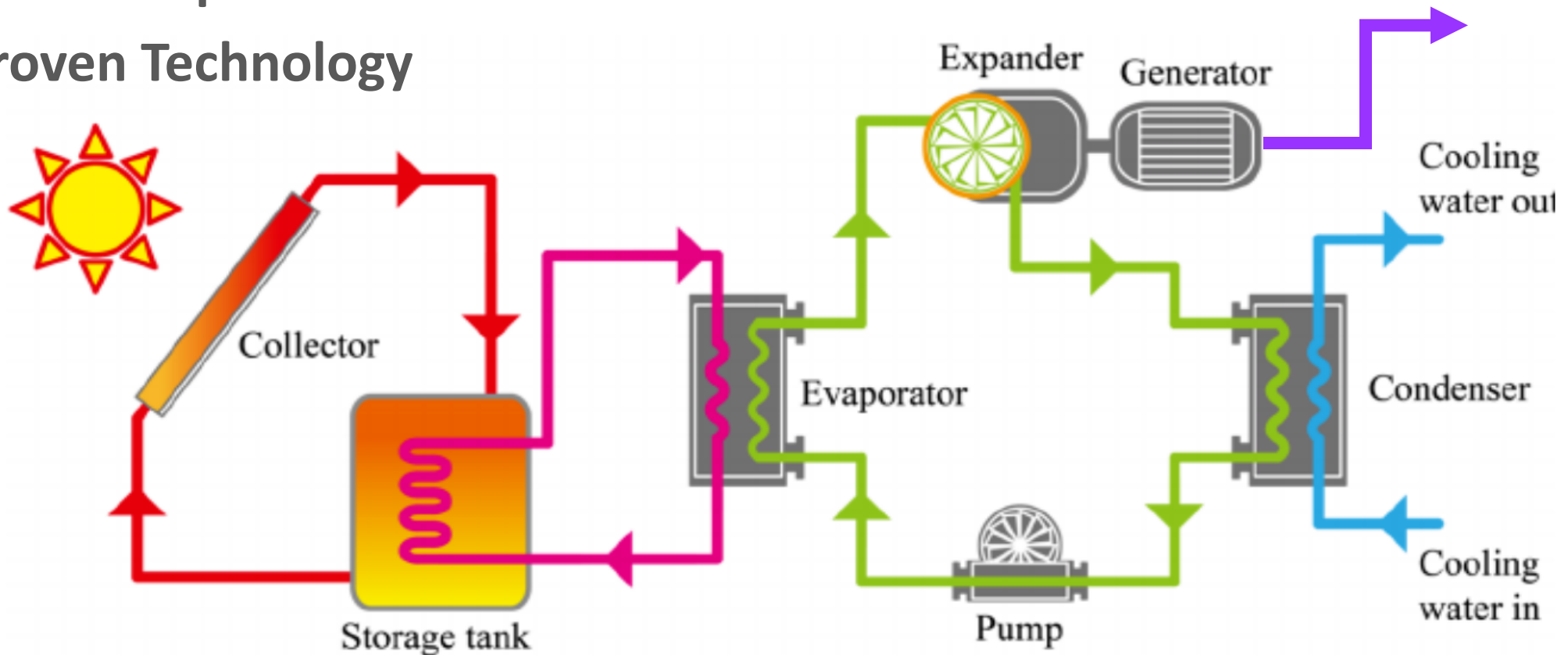
Avoids Distribution Cost





# Organic Rankine Cycle (ORC)

- ✓ Converts Heat to Electricity
- ✓ Heat Pump that works in reverse
- ✓ Proven Technology



# Organic Rankine Cycle



# TRYDEN ENERGY



**Miniaturized the  
ORC system for  
Residential Use**



# ORC + Nanogrid = 5kW per hour – 24/7

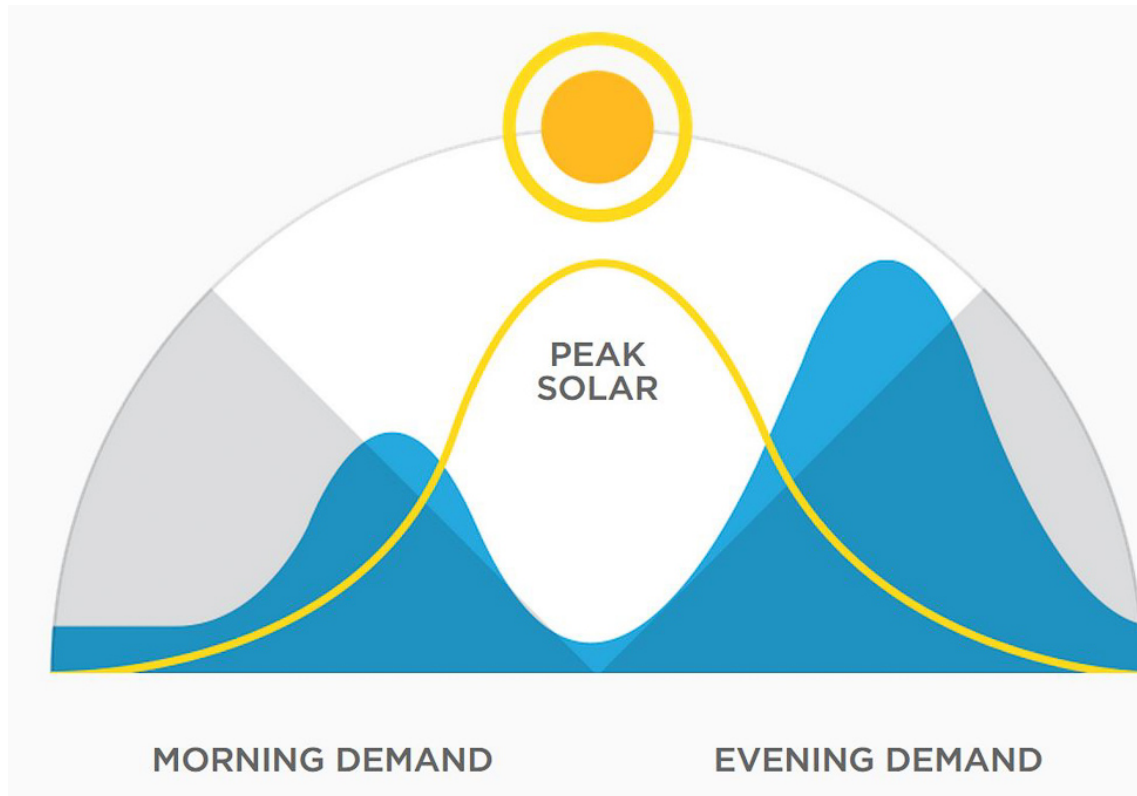


# This isn't your grandmothers water heater

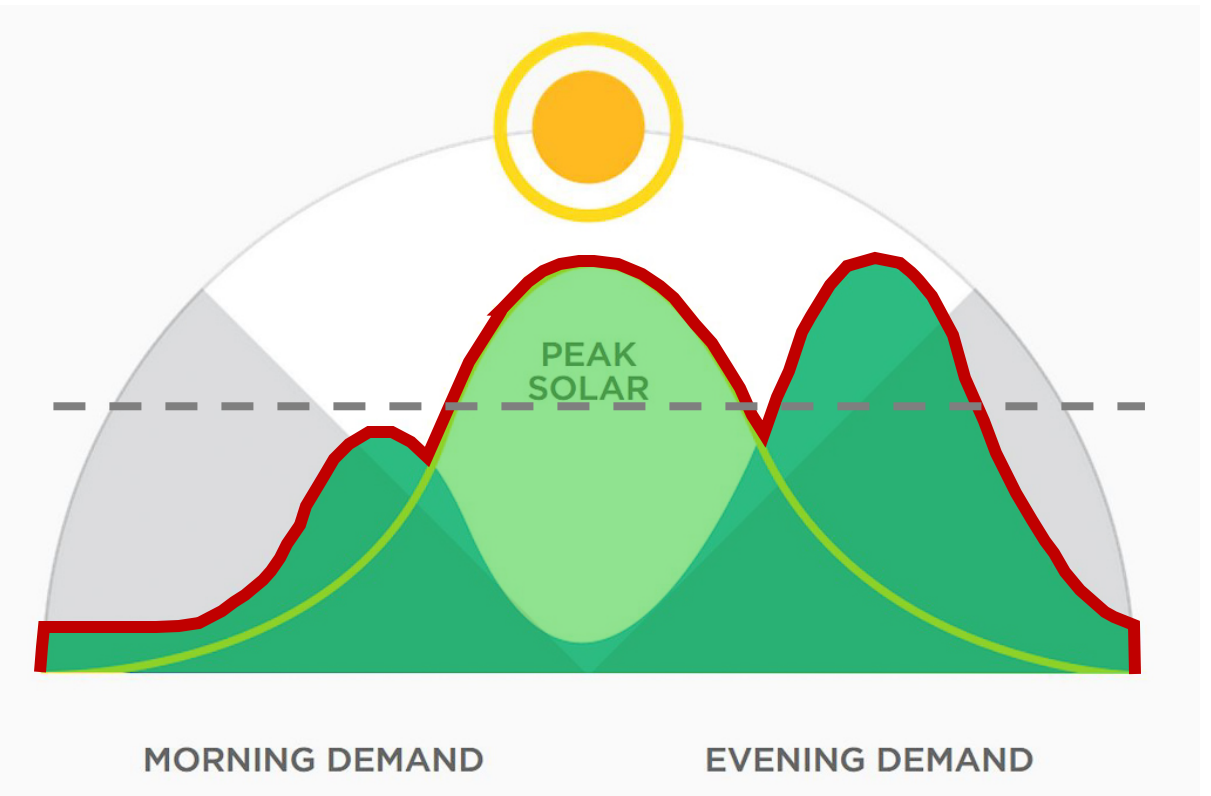


# Peak Periods – Meets Demand

## • SOLAR

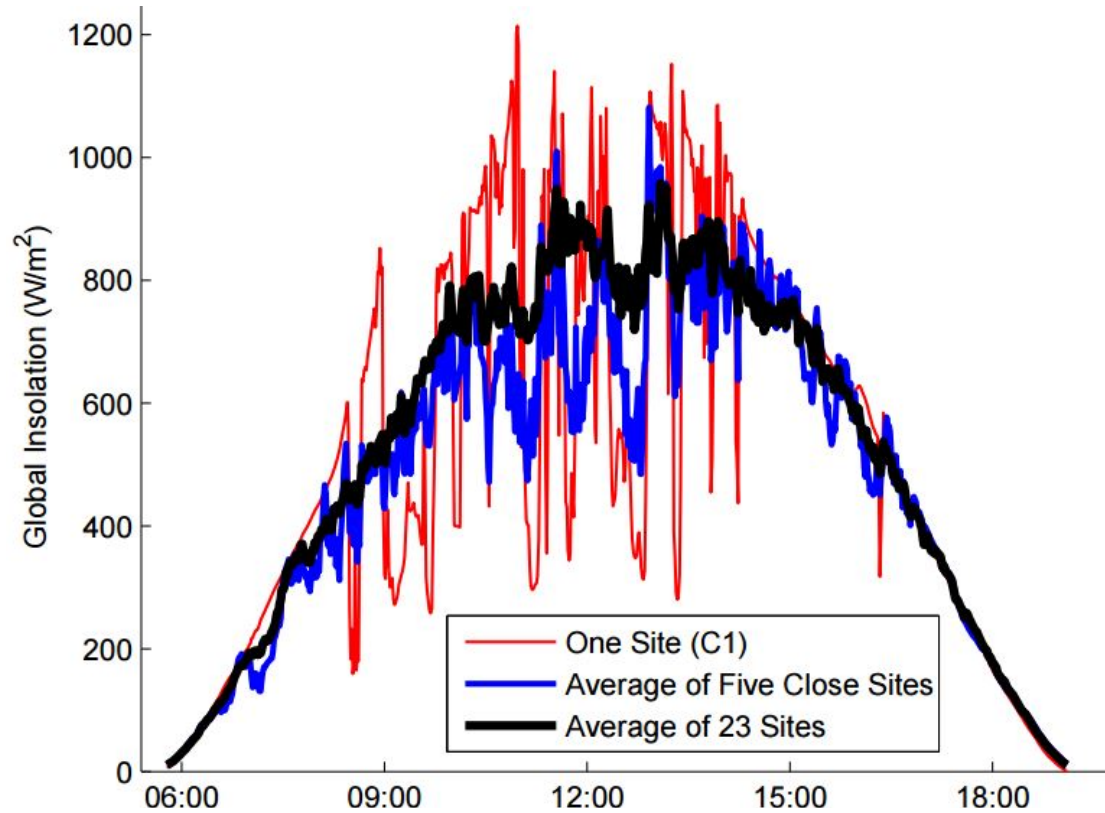


## • THERMAL

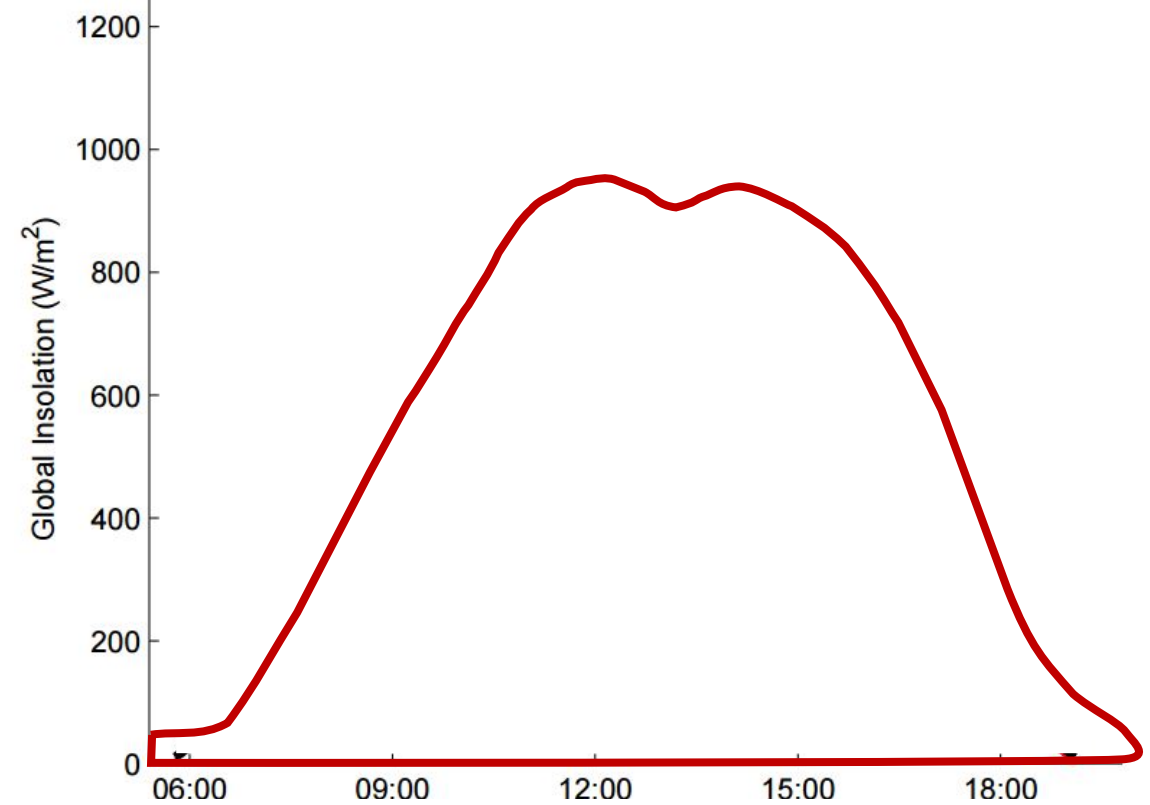


# Power Quality - Reliable

## • SOLAR



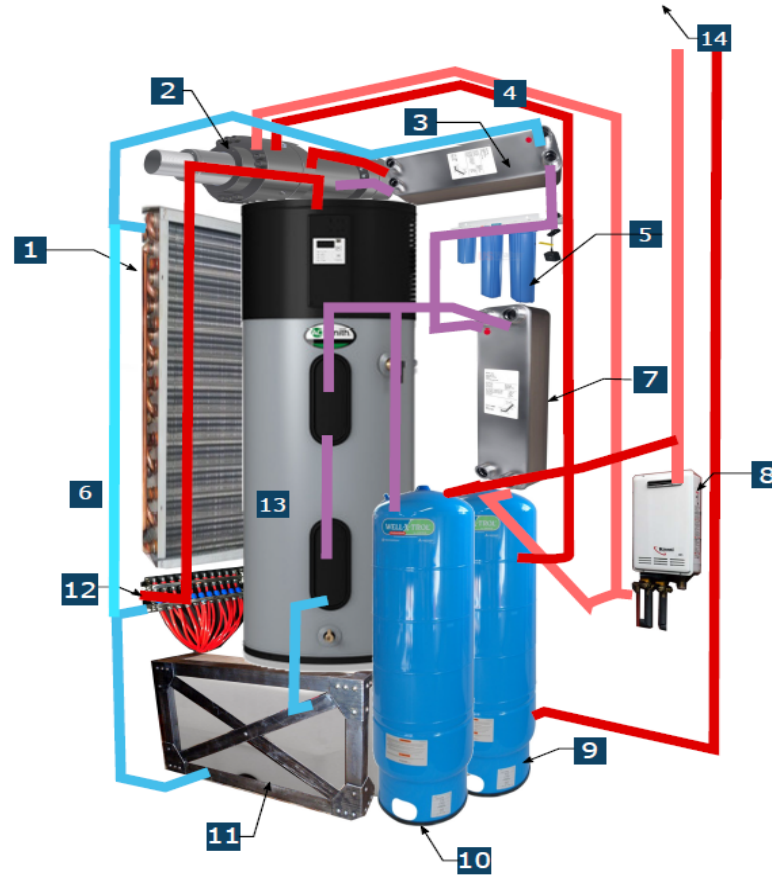
## • THERMAL



# Product Description



**Tryden One System Installed**  
(Conceptual Rendering)

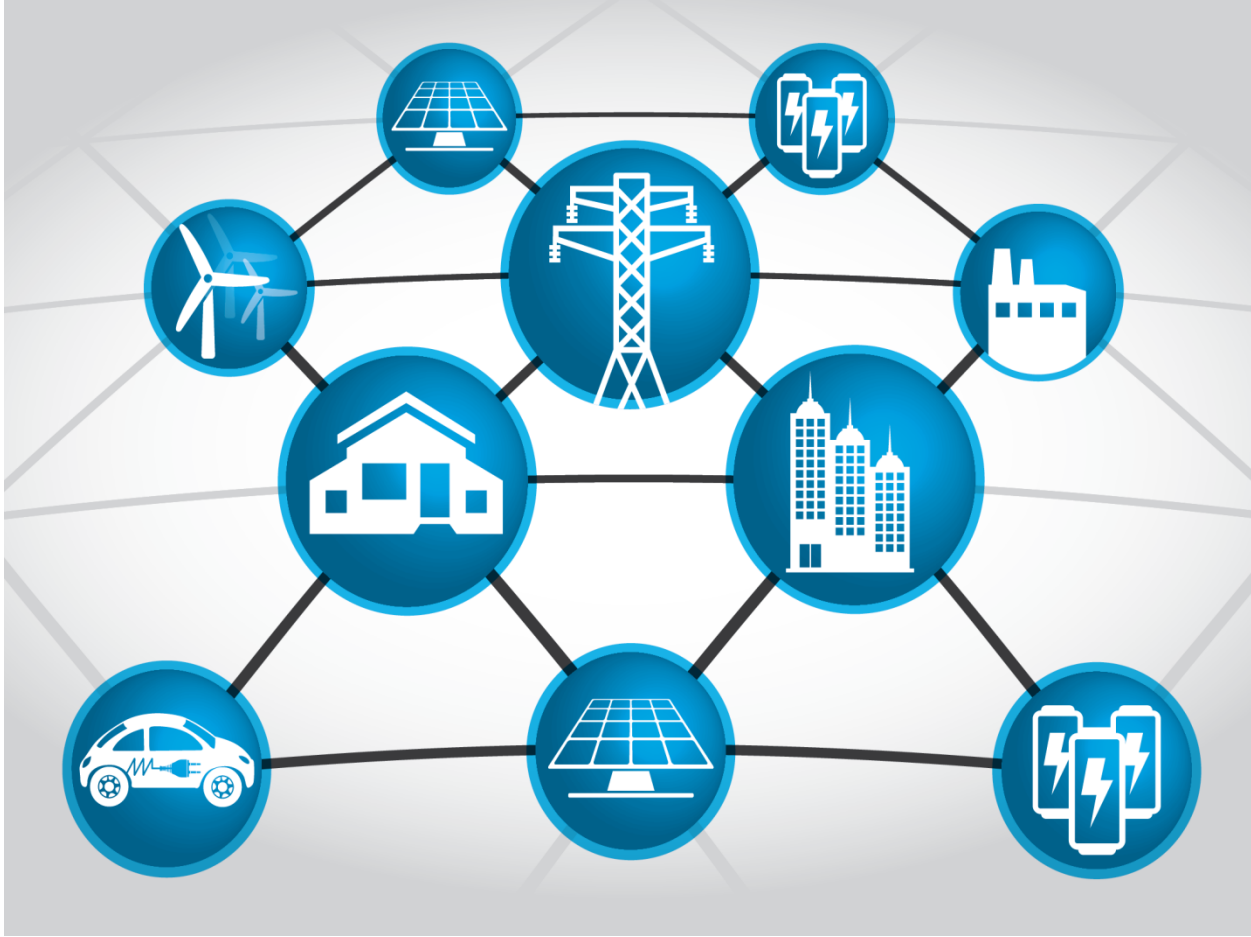


**Tryden One System**  
**Beta Schematic**



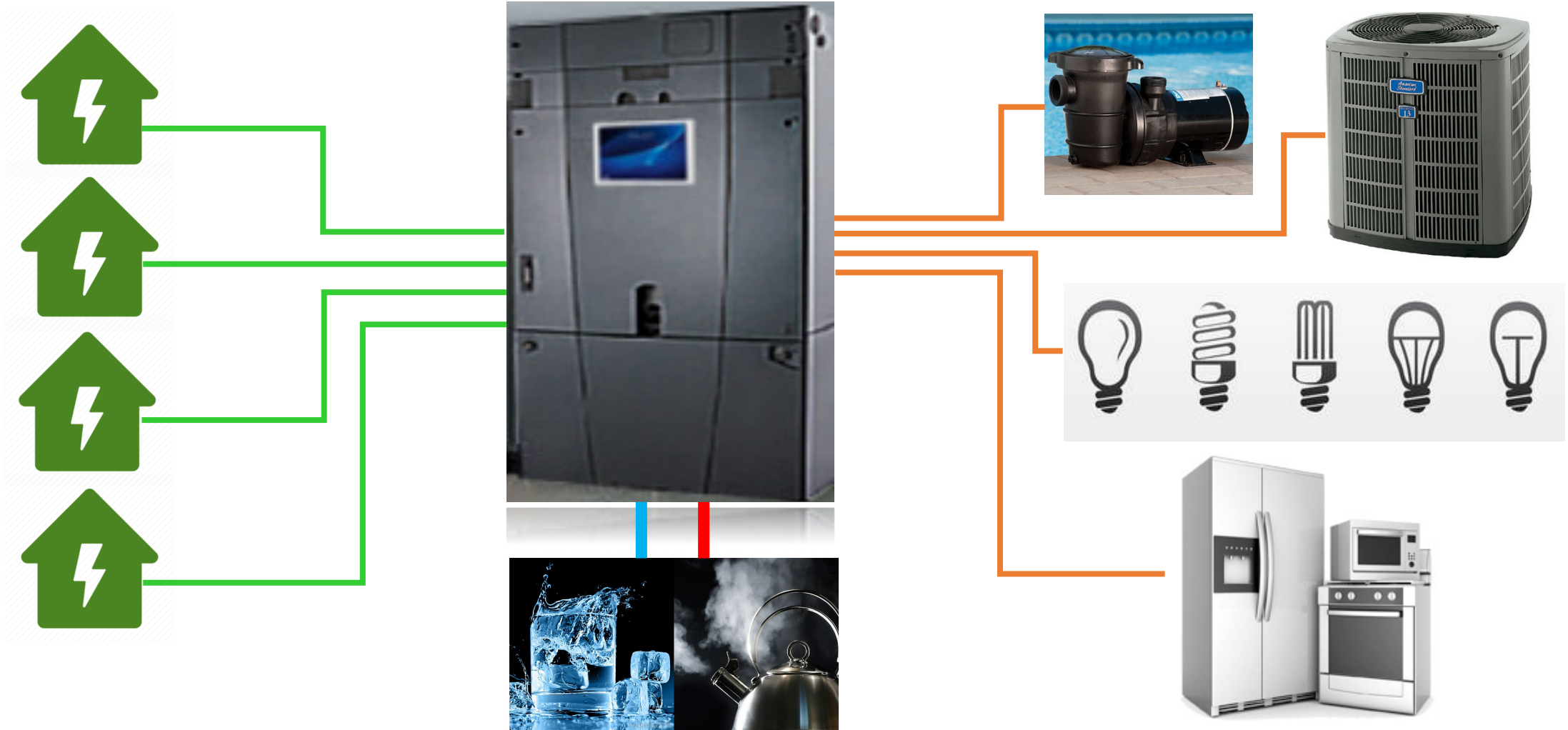
**Tryden One System**  
**Alpha Prototype w/ Scroll**  
**Expander**

- 1 Creates 5kW per hour 24/7
- 2 ORC creates Hot Water
- 3 Space Heating
- 4 Monitors Plug Load
- 5 Integrates 6:1
- 6 Transfer Energy





# Future Implications of an ORC/Heat Pump - Interconnectivity



# Future Implications of an ORC/Heat Pump



# Small Scale Utility – Distributed Energy Resource



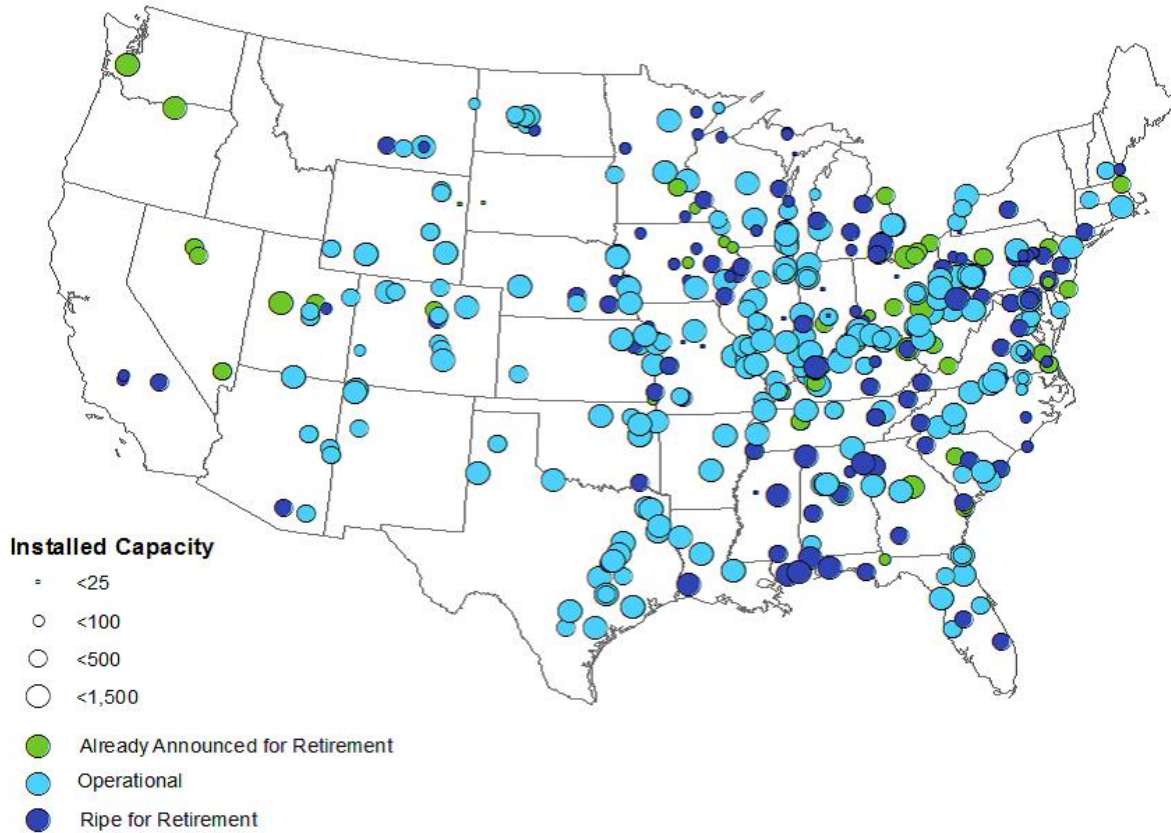
**200 Home Development**  
**2-7MW Annually**

**Located near Light  
Industrial**

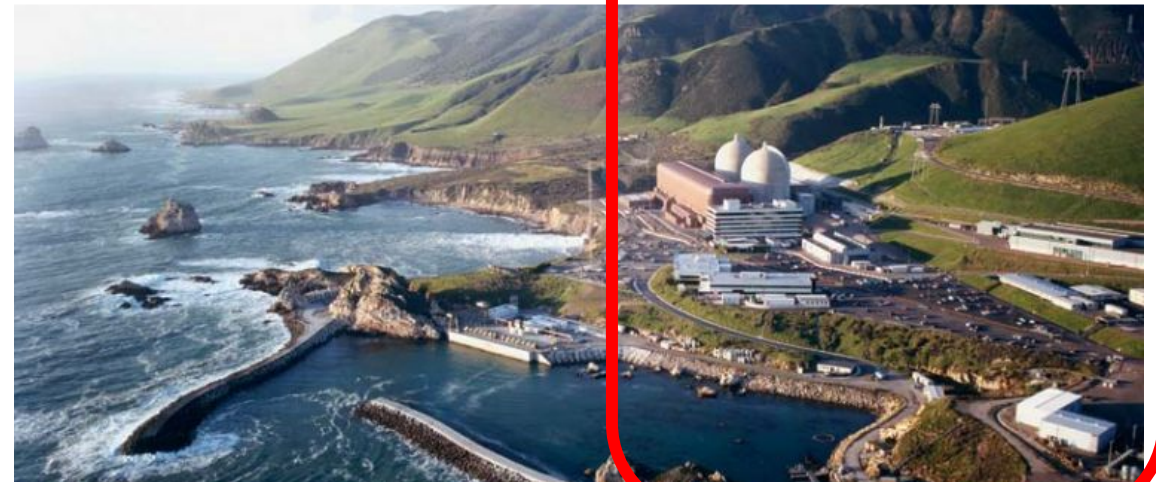
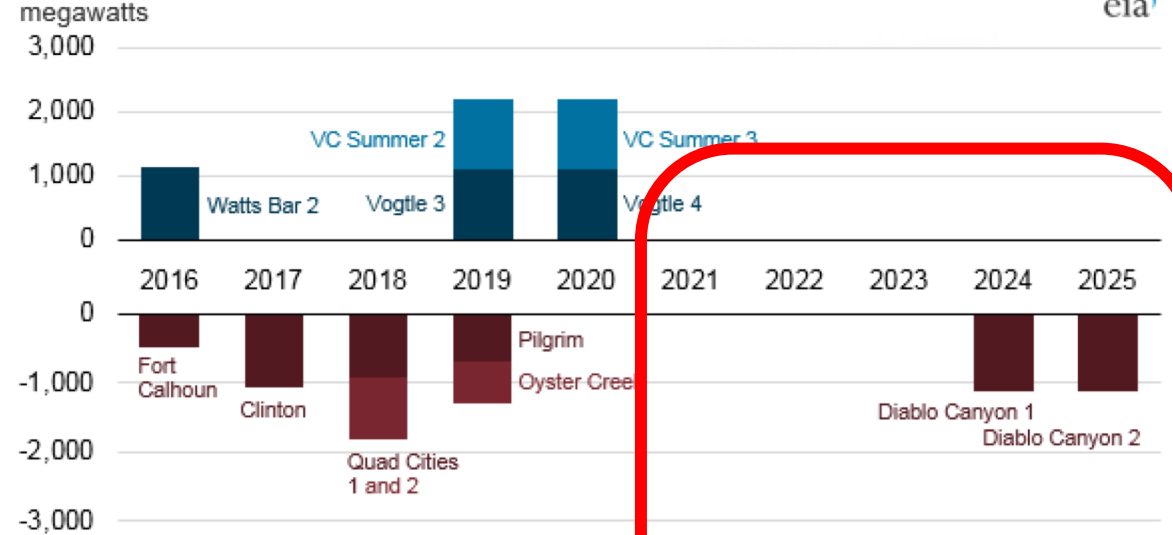
**Emphasizes Economic  
Development & Sustainable  
Communities**

# CA Planned Power Plant Retirement

Ripe for Retirement Generators compared to Existing NGCC (MW)



Nuclear retirements and additions (2016-25)

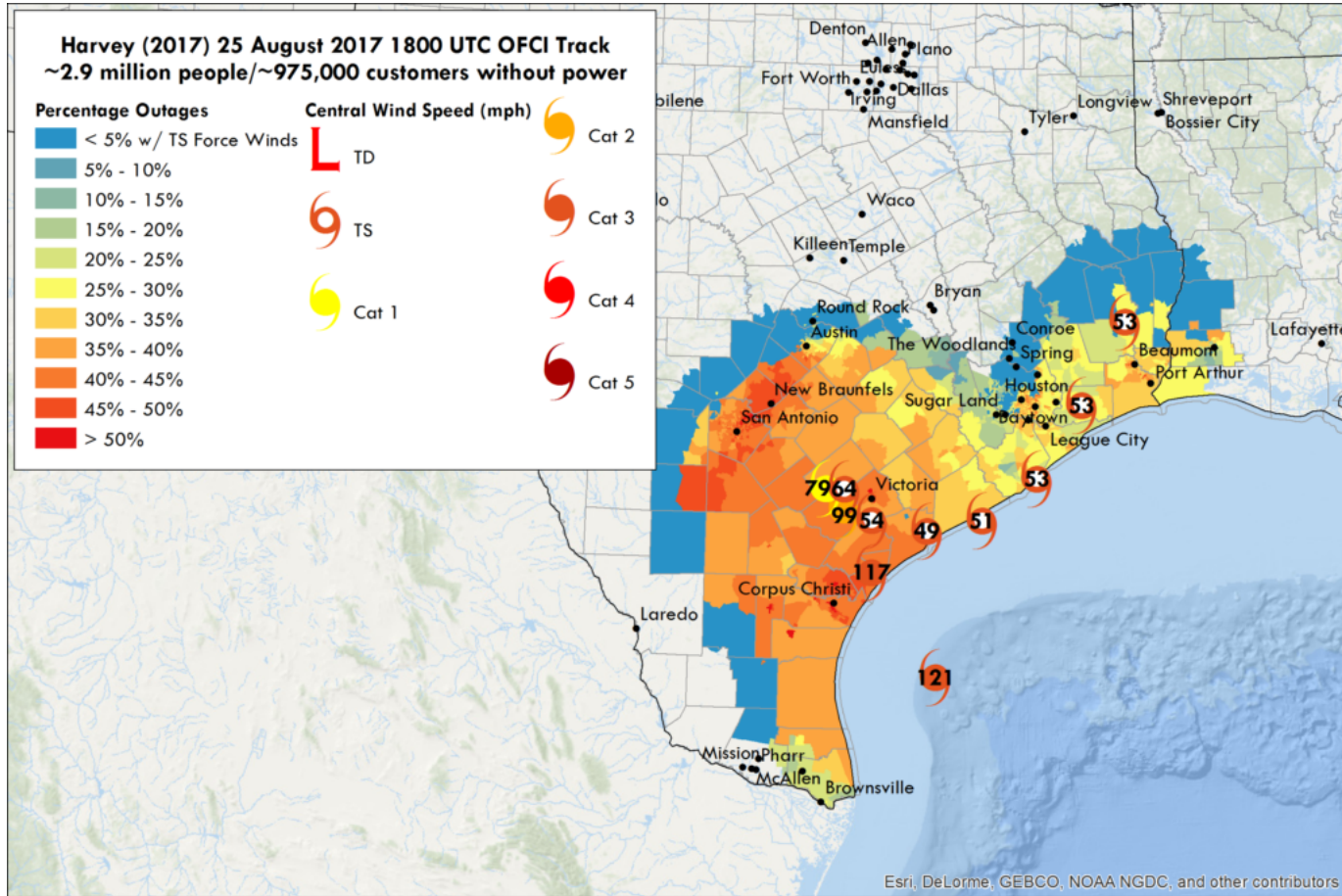


# This isn't your grandmothers water heater



**Bell Telephone or Apple iPhone?**

# Emergencies - Preventable



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