



# **County Facilities Energy Conservation Measures Program**

# Background



- RFQ in 2020
- Selection committee ranked Trane as best qualified
  - Solar as a part of the solution, not THE solution
  - Advanced energy options
  - Legislative insight
  - County facilities staff efforts to date
- Preliminary Audit / Preliminary Report
- Investment Grade Audit
- Project Development



# Interim Report on Energy Project Analysis for County of Lake

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# Agenda



- Introductions
- Guiding Principles for Project
- Interim Assessment: Traditional Energy Projects
- Interim Assessment: Advanced Energy Projects
- Path Forward

# Guiding Principles



- Self-Funding
- Keep work local
- Science/reality-based
- Accomplish multiple goals at once
- Numerous County sites considered
  - County-owned/occupied Buildings
  - Water/Wastewater/Lighting Districts
  - Landfill
- Goal is to produce a Comprehensive Solution for the County

# Traditional Energy Measure Analysis

# Interim Assessment-Traditional



## Started with survey of County Facilities

- 74 Buildings
- 520k Sq ft
- \$3.1MM in Annual Energy Spending

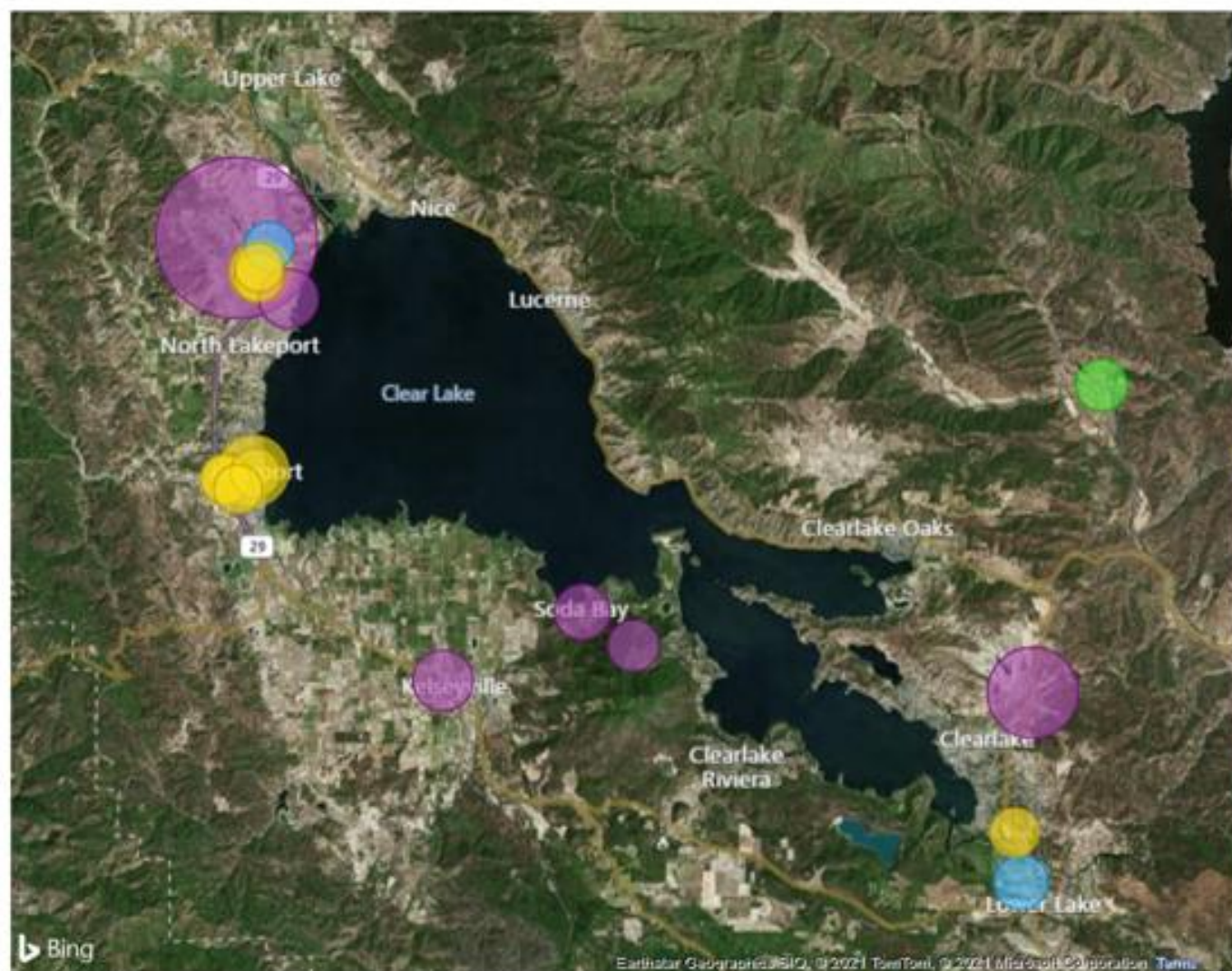
## Developed rank order of properties with Staff

- 19 Buildings
- 285k Sq ft
- \$2.56MM in Annual Energy Spending

## Reviewed

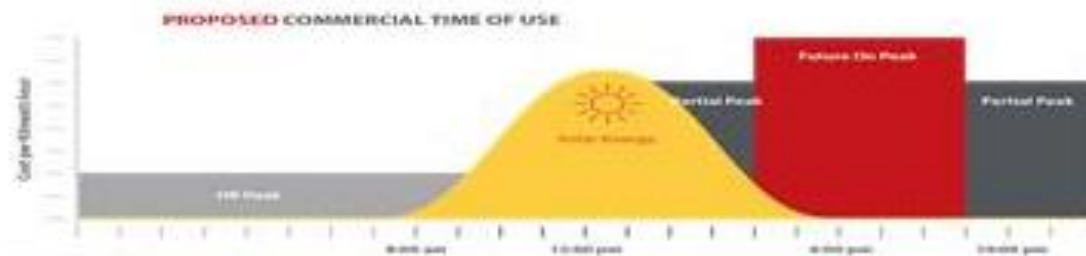
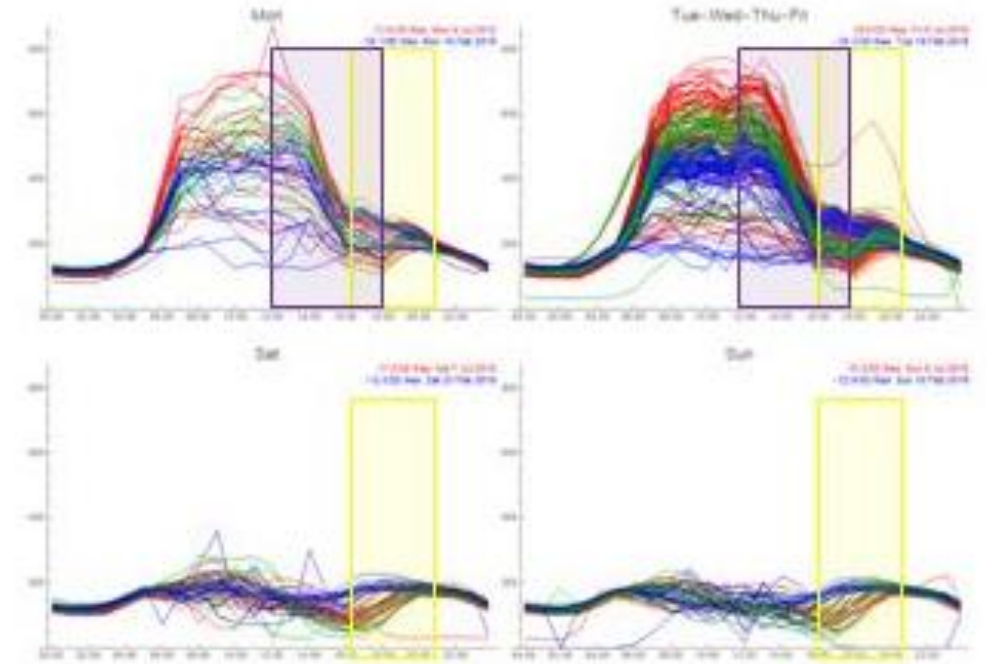
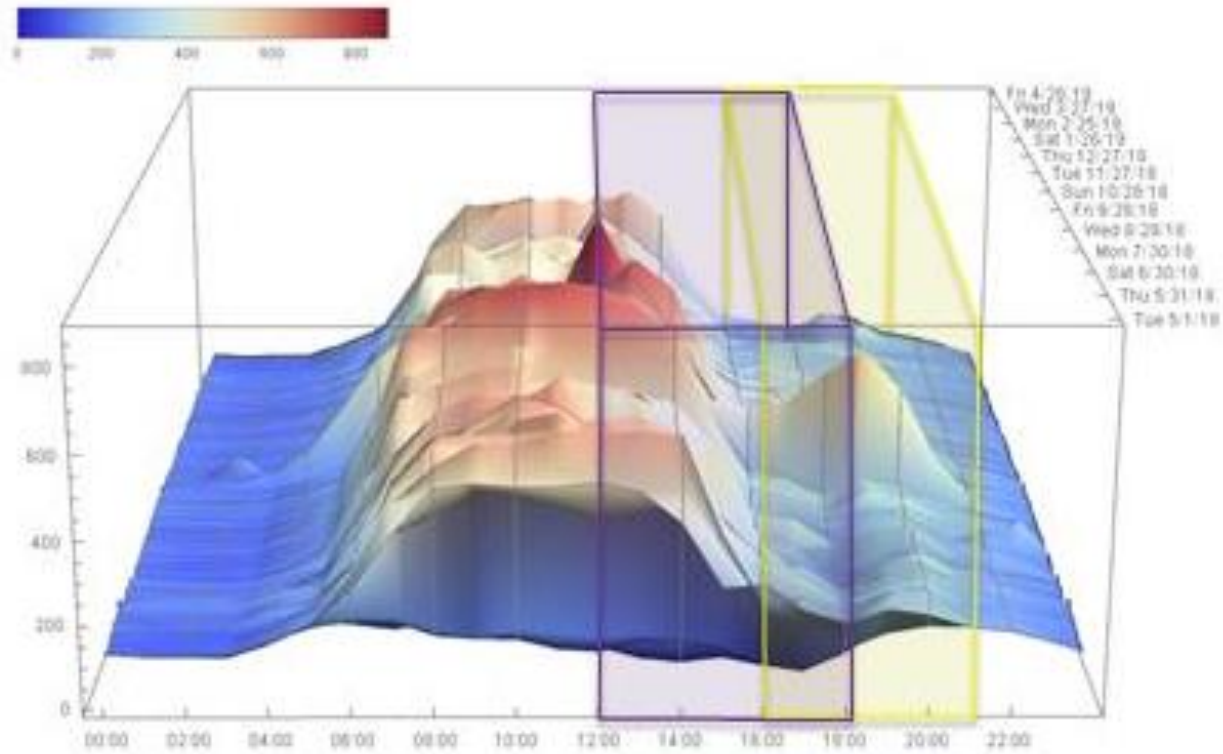
- Significant forward-thinking measures already taken by Buildings and Grounds staff
- Energy Use Intensity
- Renewable/storage opportunities

## 2019 Electrical Spend



Group	Facility	Area	Total Electric Charges	Facility kWh
1	Courthouse and Annex	60,640	\$ 207,647	1,018,975
1	County Jail	77,555	\$ 152,166	1,021,977
1	Quonset Hut3A/DASStorage	11,923	\$ 28,519	119,183
1	Sheriff's Admin/Coroner	9,376	\$ 27,858	125,680
1	DPW Equip Bldg	20,800	\$ 27,673	107,865
1	Dispatch - Sheriff	3,100	\$ 26,236	111,963
1	Health & Human Services	11,402	\$ 24,041	99,814
1	Animal Control	8,208	\$ 22,398	92,853
1	Health Dept Annex	8,460	\$ 20,777	84,716
2	NW Treatment Plant	6,906	\$ 988,073	5,698,322
2	SE Treatment Plant	8,696	\$ 384,987	2,020,002
2	Kelseyville Trmt Plant	2,534	\$ 124,096	519,392
2	No. Lakeport Trmt Plant	7,962	\$ 114,961	535,421
2	Soda Bay Trmt Plant	4,746	\$ 76,481	327,412
2	MiddletownTreatment Plant	850	\$ 56,386	259,567
2	Mt KonoctiTower/BuckinghamPeak	800	\$ 43,719	232,249
3	Social Services	22,960	\$ 69,181	312,800
3	DRC/Probation	14,680	\$ 28,236	122,341
4	Spring Valley Clubhouse	3,900	\$ 44,091	203,725
5	Street Lights & Traffic Signal	0	\$ 98,444	208,055
		<b>285,498</b>	<b>\$ 2,565,979</b>	<b>13,222,312</b>

# Impact of TOU Time period change on Solar Economics



# Interim Assessment- Solar PV



- There is the technical capability to install substantial Solar PV generation at County facilities, but economic viability is questionable
- Electricity is sold on a “Time of Use” basis, with the same amount of energy having a different cost at different times of day
  - Not “average”, not “flat”
  - The Low-cost hours are morning to mid-day (Prime Solar)
  - The High-cost hours are late afternoon/early evening
- Without cost effective, long-lived storage (or major subsidies), it’s challenging for the cost of Solar to be by offset electricity bill reduction.
- Projects may be undertaken for other reasons-, but will not often be able to be Self-Financing
- Because of Changing Rate Structures Solar PV projects without storage entails local governments taking on possibly unknown financial risk

# Interim Assessment-Traditional



- Staff has done a very good job to date of capturing “low-hanging fruit”
- While some potential facilities upgrades remain, and it is certainly best practice to pursue a self-financing project, it is more challenging because the measures that typically pull a project along (fast payback) have already been completed
- Advanced Energy projects can provide cashflow to help pull Traditional measures into the black, but this means development of Traditional measures are sequenced behind Advanced measures

# Advanced Energy Project Analysis

# Market Changes



- California ISO/PG&E Transmission Interconnection challenges is pushing towards smaller projects connected to Distribution system
- Impact of Transmission to Distribution shift on what is possible economically
- Multiple new and upcoming grant funding opportunities
- Significantly increased focus on resilience

# Path Forward