

South-central Heat Pump Working Group



“What policy considerations there are to increase heat pump deployment in the region?”



Policy 1: Renewable Energy Certification

- ✓ US Federal Law recognizes Ground Source Heat Pumps as a source of Renewable Energy for heating and cooling.



Policy 2: Parity for Renewables

- ✓ US Federal Law now provides Ground Source Heat Pumps with the same level of tax support as wind and solar PV.

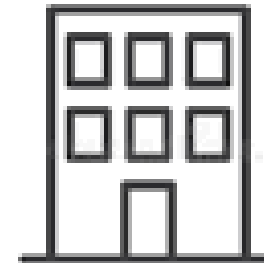


30%

Residential



&



30%

Commercial

Policy 3: Direct Payments

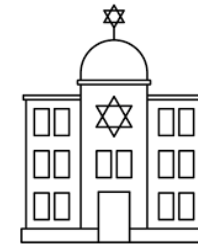
- ✓ US Federal Law now permits direct payments for GSHP projects to non-profits and government entities.



30%



©NRECA



Policy 4: Split Payments

- ✓ Developers and Home/Business Owners may now split tax benefits for GSHP projects.



**Developer:
30%
of Loop Cost**

Policies 5 & 6: What will Texas do?

? Will Texas participate in the IRA state level incentives for Heat Pumps?

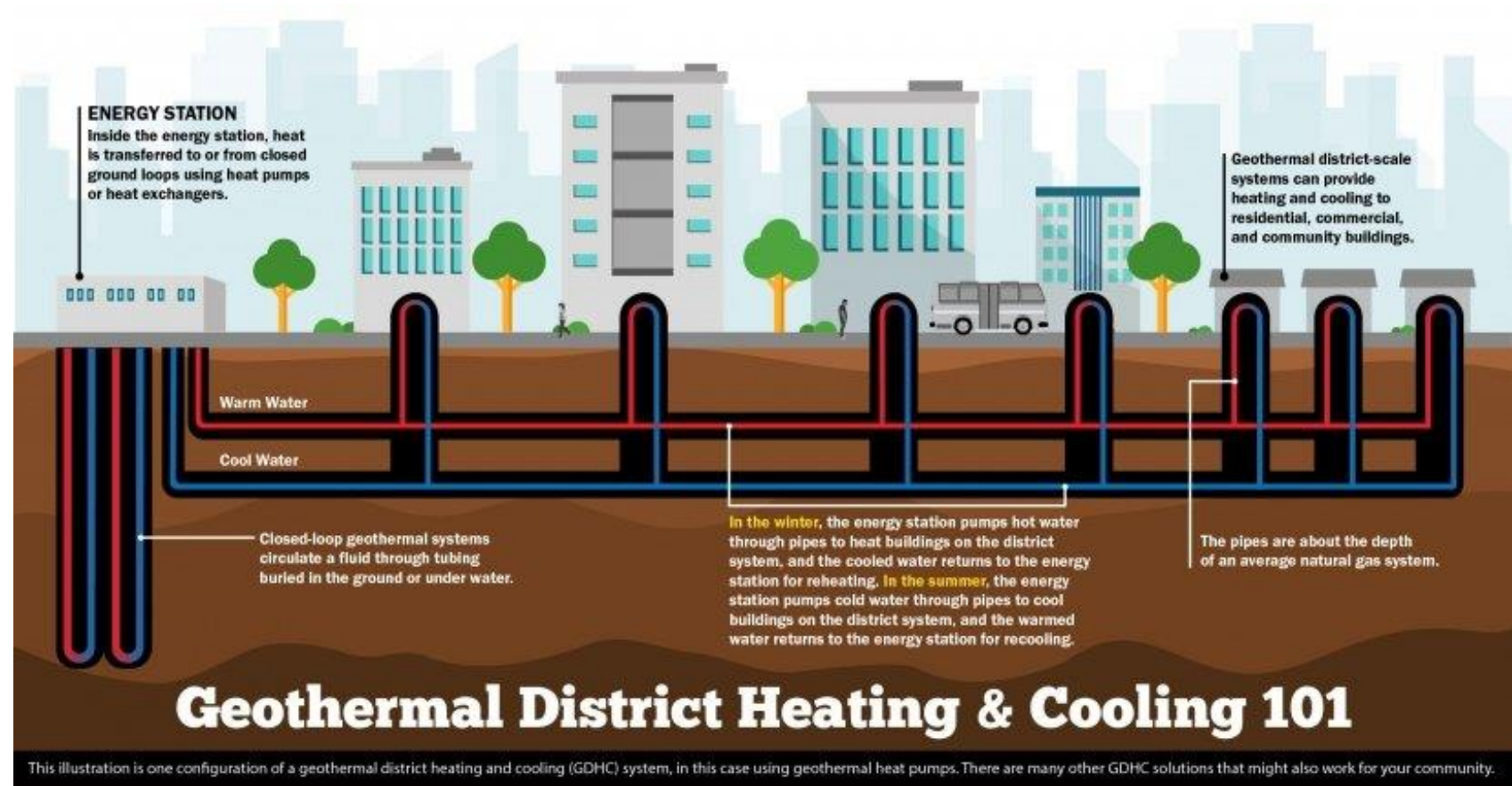


? Will Texas permit fuel switching?

Policy 7: Texas Utilities & District Energy

? Will utilities own networked ambient water grids in Texas?

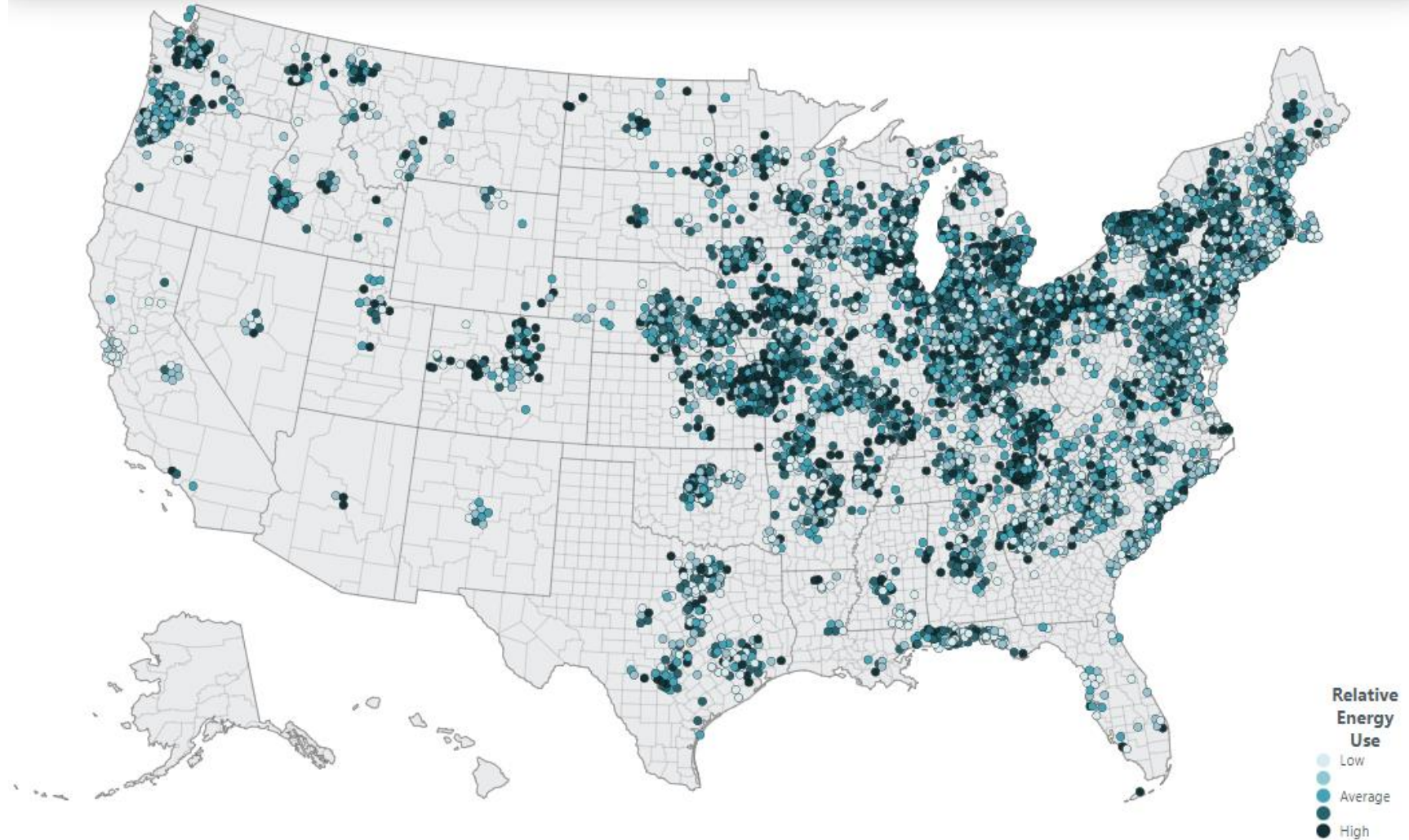
What with the PUC determine?



11,000+ Heat Pumps On-Line

- 8,760 Data (Rolling-12)
- 10 Second Samples
- Component Submetering
- Performance Monitoring
- Remote Diagnostics
- Mobile Device Access
- Total System Control

Utility Data Access



Total Annual Averages Area: United States Installs: 11354 **Operating Cost Distribution** ↗



HEATING COST
\$425



COOLING COST
\$209

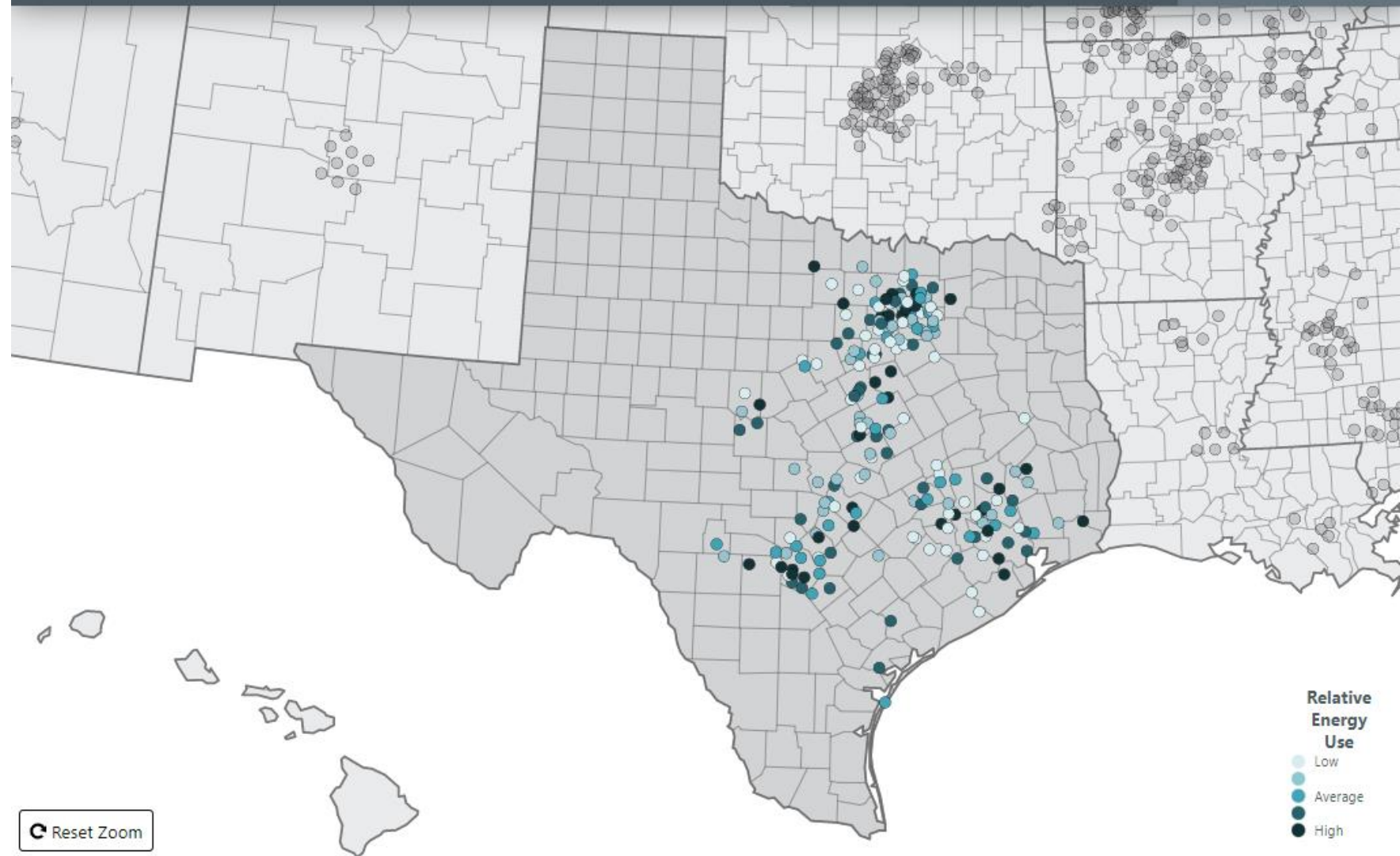
TOTAL COST
\$642

MONTHLY COST
\$53



Texas is On-Line

- 208 Metered Heat Pumps
- Growing Install Base
- Demand Response Capability
- Coincident Peak Data
- Usage Patterns
- Machine Performance
- Predictive Maintenance...



Relative Energy Use

- Low
- Average
- High

Total Annual Averages

Area: Texas Installs: 208

Operating Cost Distribution

HEATING COST

\$113



COOLING COST

\$446

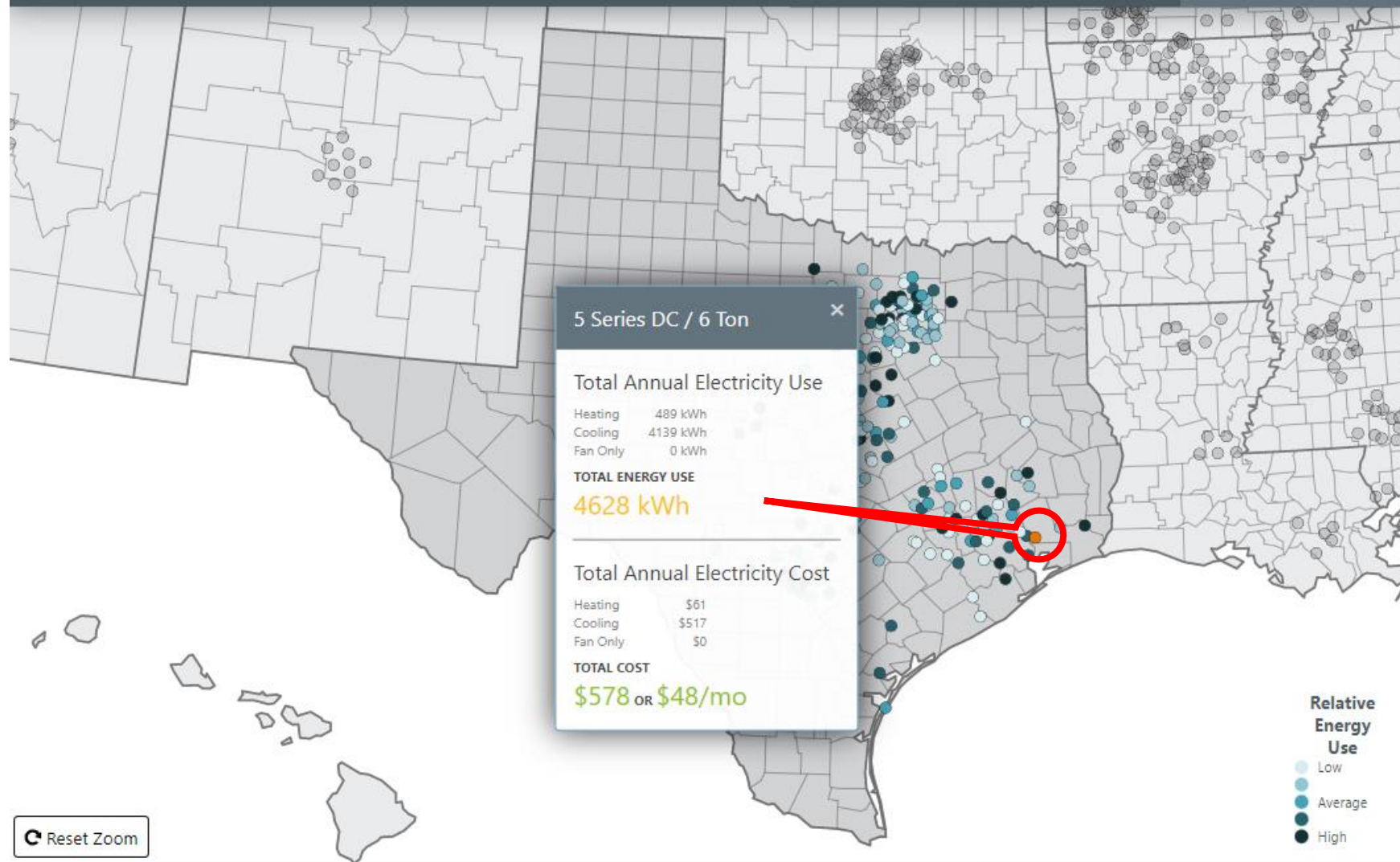
TOTAL COST

\$568

MONTHLY COST

\$47





Reset Zoom

Total Annual Averages Area: Texas Installs: 208 Operating Cost Distribution

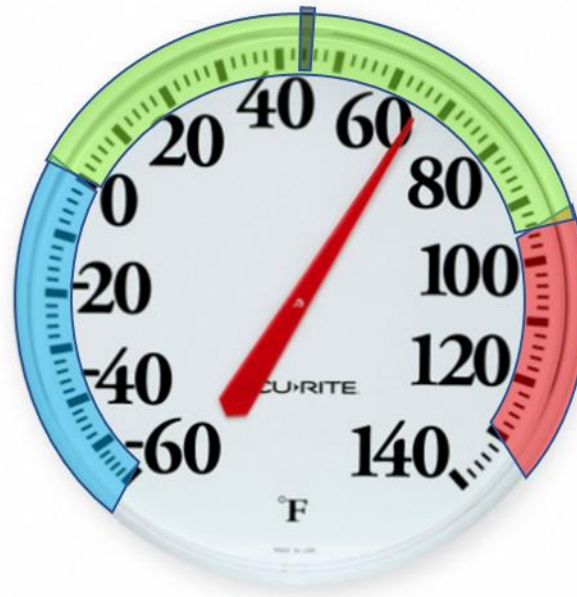


- Coincident Customer Data
- 6-Ton System
- 8.5:1 Cooling:Heating Ratio
- 15 RECs!

“You’re Only as Good as Your Last Peak Load”

All heat pumps deliver Beneficial Electrification

- Economical
- Safe
- Lower Operating Costs
- Environmentally Friendly



GSHP extra value at peak

- Maintain Efficiency
- Maintain Capacity
- Reduce peak demand

Ground Source Heat Pumps



**Peak Load
Management**

Reduce peak cooling grid loads by 0.6kW/ton



**Seasonal Load
Variation**

Eliminate major seasonal swings in energy sourcing

Provide Beneficial Electrification to all stakeholders



**Beneficial
Electrification**



**Long Term
Fuel Certainty**

Eliminate unpredictable customer fuel switching

The Most Powerful Utility Consideration

- ✓ 30% Tax Credits or Direct Payments to Co-ops
- ✓ Geothermal Districts
- ✓ Individual Loop Ownership
- ✓ On-Bill Financing
- ✓ 0% Capital for Renewable & Clean Energy Projects
- ✓ Portfolio Diversification
- ✓ Multi Generational, Zero Maintenance Asset



**Durable Recurring
Revenue**



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