

Community Choice and Regional Geothermal Power

Lake County Board of Supervisors
April 15, 2025

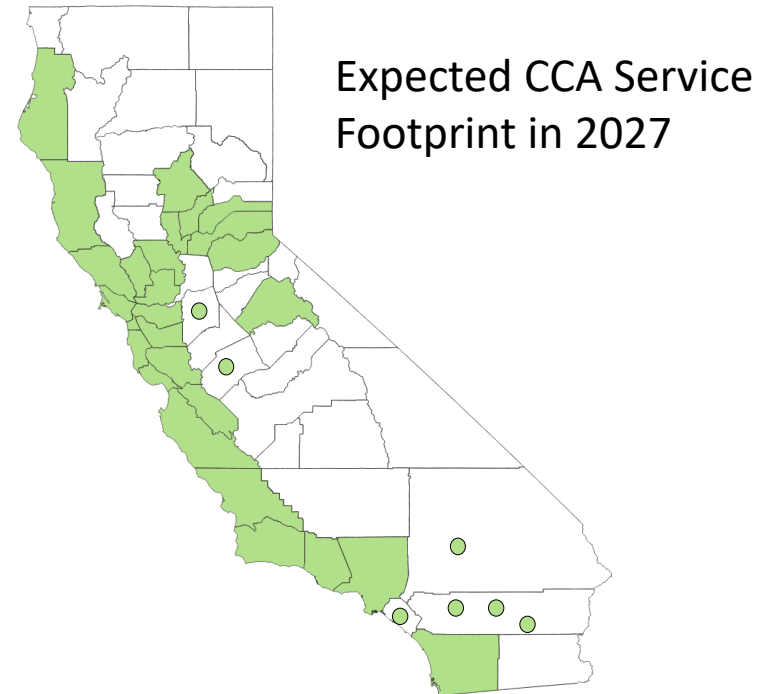
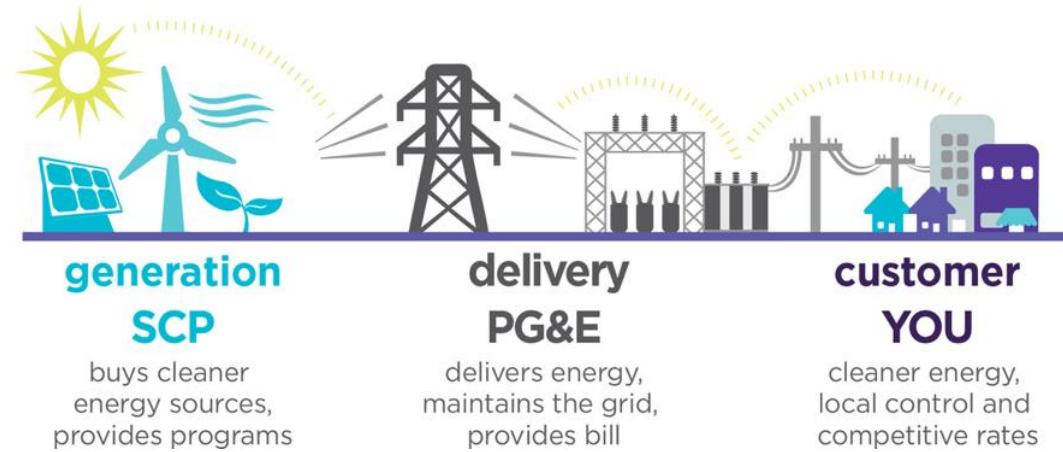
Community Choice

Following the Energy Crisis of 2000, the state encouraged cities and counties to become the default power generator for their region

24 operating "CCAs" today

PG&E still owns the grid

Sonoma Clean Power is a CCA, operating since 2014



Sonoma Clean Power

Public power provider serving Sonoma and Mendocino Counties

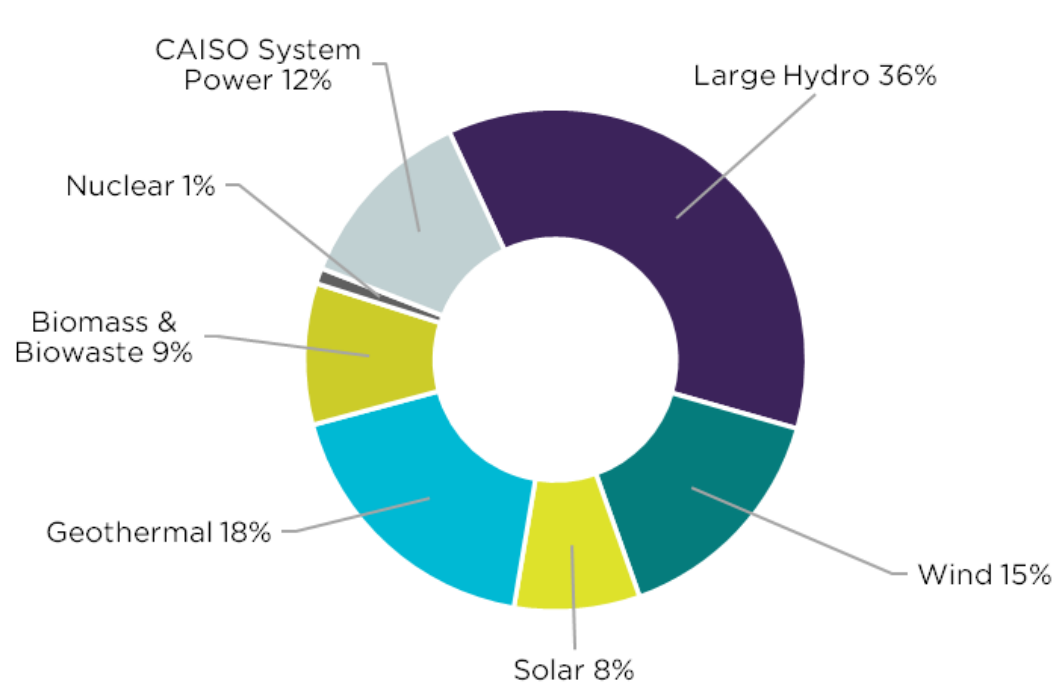
Self-funded through revenues, not taxes

11 Member Board of Directors

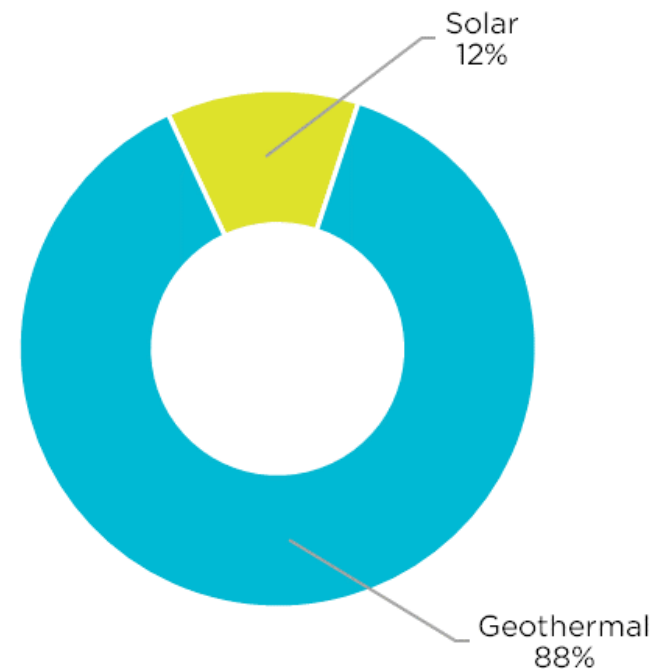
Serves 87% of all homes and businesses



Power Sources



SCP CleanStart



SCP EverGreen



Examples of Community Support

Help for customers trying to understand their power bill and cut their costs

Post wildfire rebuild one-on-one help for those working with a contractor

Advocate for critical grid repairs to reduce need for power shutoffs

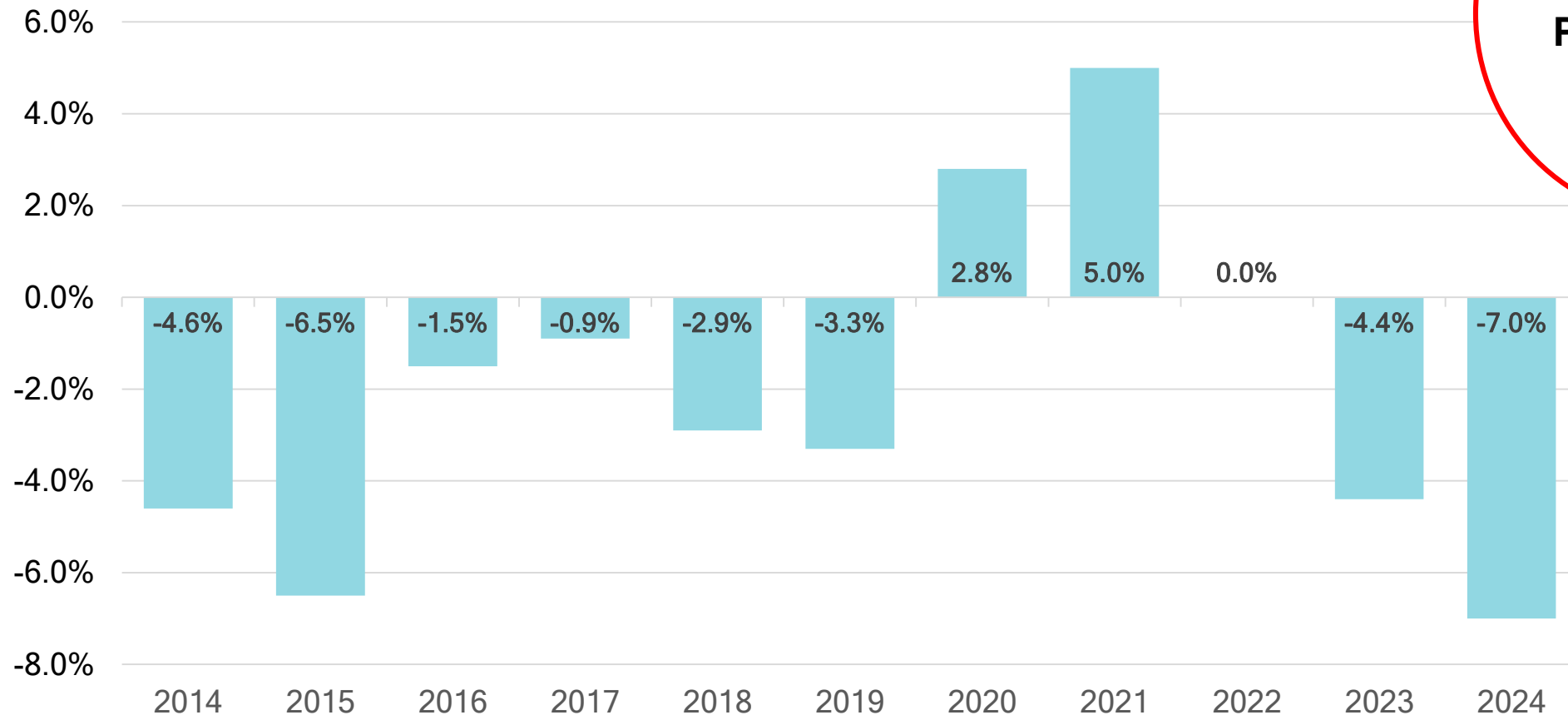
Scholarships and donations to trade schools



History of Cost Savings vs PG&E

PG&E is
cheaper

SCP is
cheaper



NOTE:
SCP Cannot
Promise Cost
Savings



Billing on One Statement



ENERGY STATEMENT

www.pge.com/MyEnergy

Account No: 1023456789-0

Statement Date: 12/28/2022

Due Date: 01/18/2023

Service For:

MICHAEL JOSEPH
281 GINO DR
SANTA ROSA, CA 95401

Questions about your bill?

Mon-Fri 7 a.m.-7 p.m.
Saturday 8 a.m.-5 p.m.
Phone: 1-800-743-5000
www.pge.com/MyEnergy

Ways To Pay

www.pge.com/waystopay

Your Account Summary

Amount Due on Previous Statement	Payment(s)	\$200.28
Payment(s) Received Since Last Statement		-200.28
Previous Unpaid Balance		0.00

Current PG&E Electric Delivery Charges	\$104.30
Sonoma Clean Power Electric Generation Charges	68.88
Current Gas Charges	162.66

Total Amount Due by 01/18/2023	\$335.84
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Customer Programs

Electrification rebates

GridSavvy Rewards

Energy Savings Box

Commercial Energy
Assistance

Workplace Charging

Behind-the-meter Solar

Call center



Driving Geothermal Expansion

State has already ordered 2,000 MW of new geothermal construction, and considering more.

New technologies expand envelope of viability beyond current geologic, land, and water constraints.

The Counties of Mendocino and Sonoma want to attract local investment and drive development that aligns with local values and creates well-paid, highly skilled local jobs.



Geothermal Opportunity Zone (GeoZone)

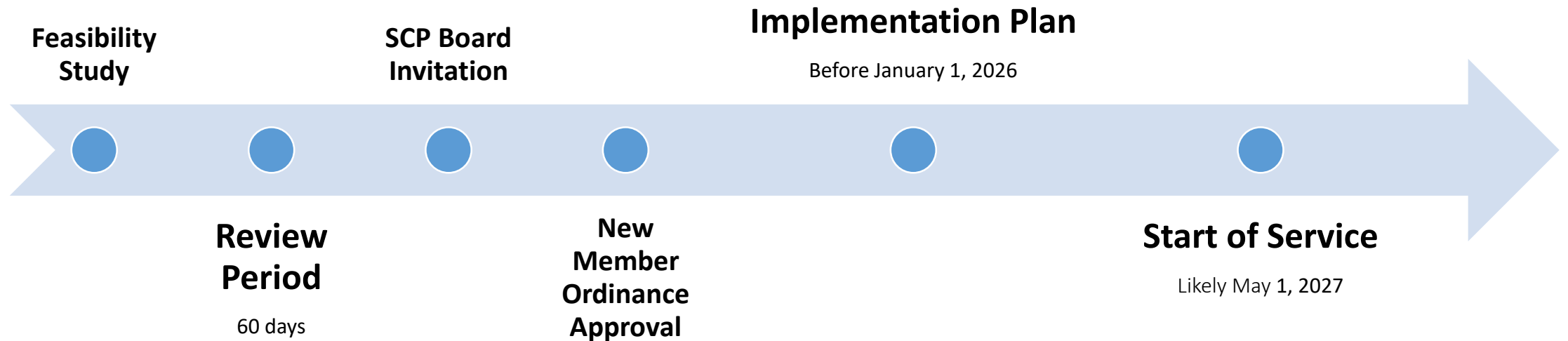
The Counties of Mendocino and Sonoma formed the “GeoZone” with SCP.

Goal is to offer to purchase 600 MW of power that meets established community criteria.

Industry partners offer SCP first right of refusal on output from GeoZone projects.



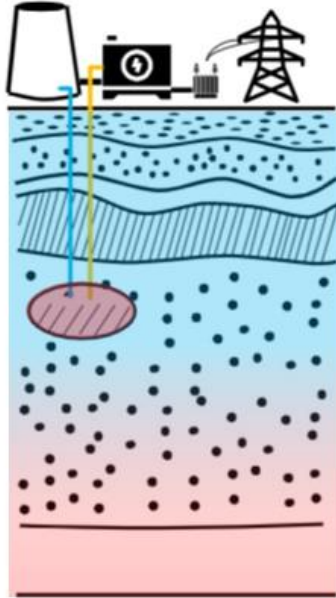
Timeline for Earliest Service



Geothermal Technology

Conventional

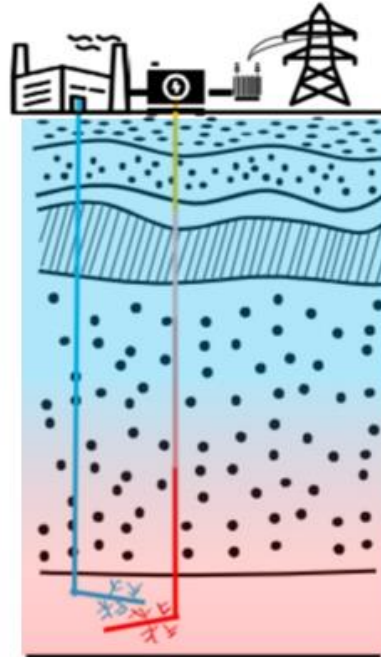
Hydrothermal



- Fluids circulate openly through naturally occurring fractures
- Limited estimated total resource (~40 GW)
- ~4 GW on the grid today

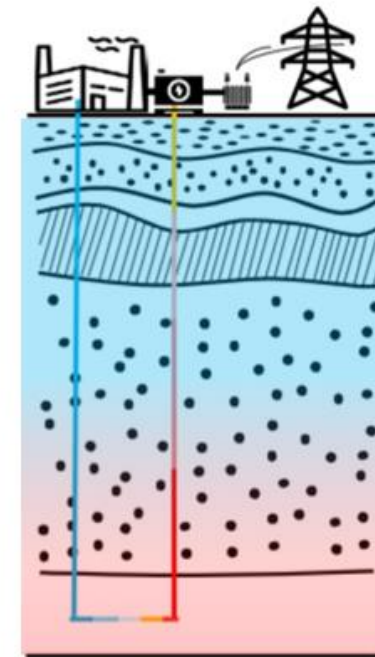
Next-Generation

Enhanced Geothermal Systems (EGS)



- Fluids circulate openly within a well pair connected by fractures engineered with hydraulic fracturing & horizontal drilling

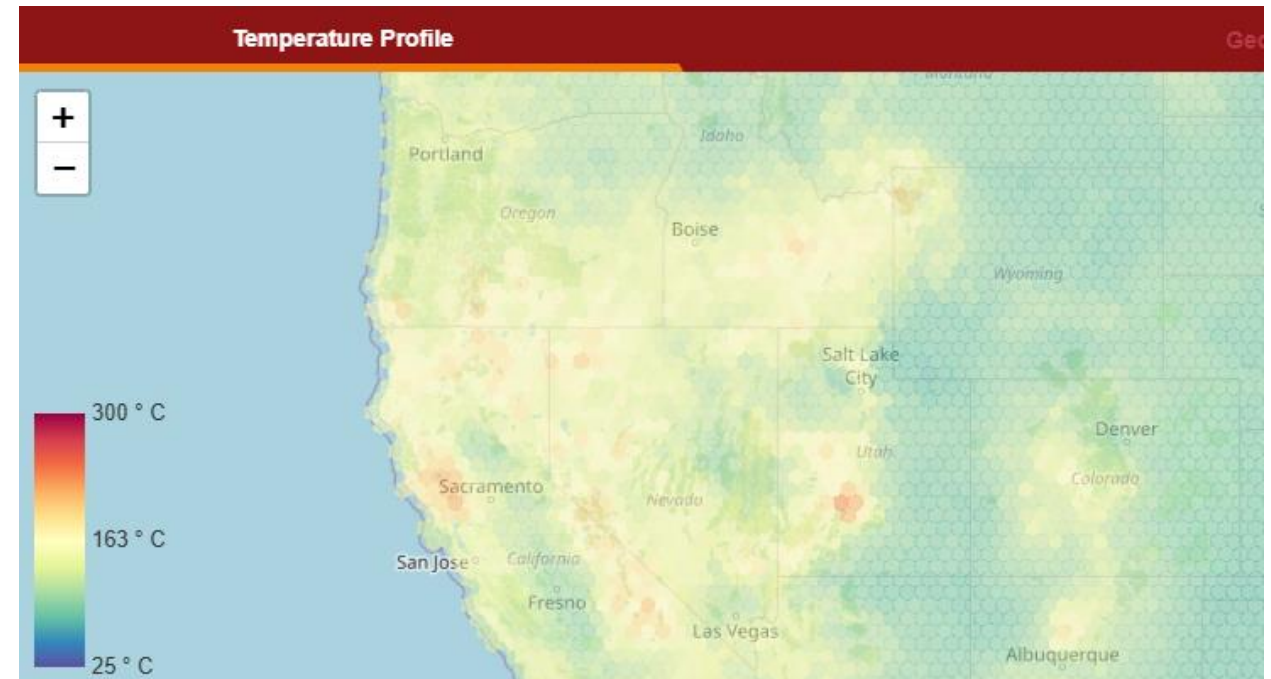
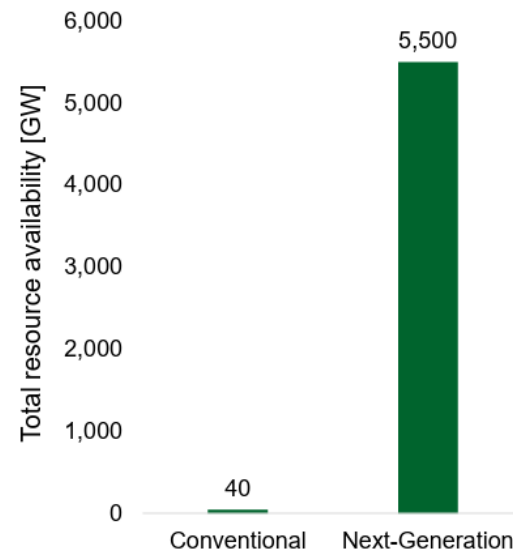
Closed Loop Geothermal Systems



- Fluids circulate through a long series of closed wellbore loops permeating the subsurface

Geothermal Availability

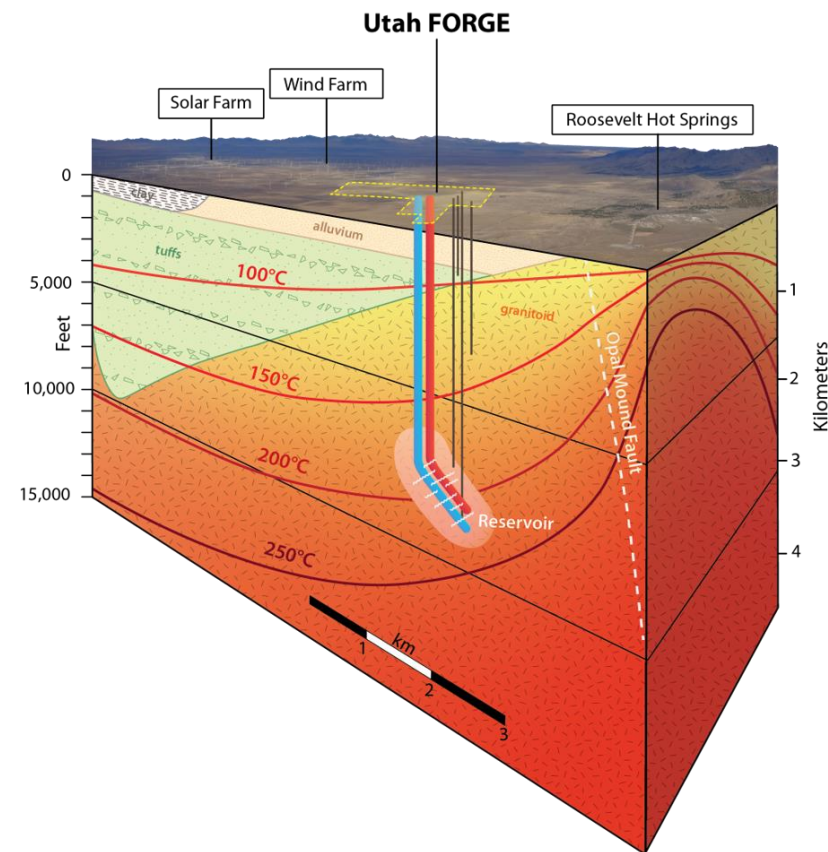
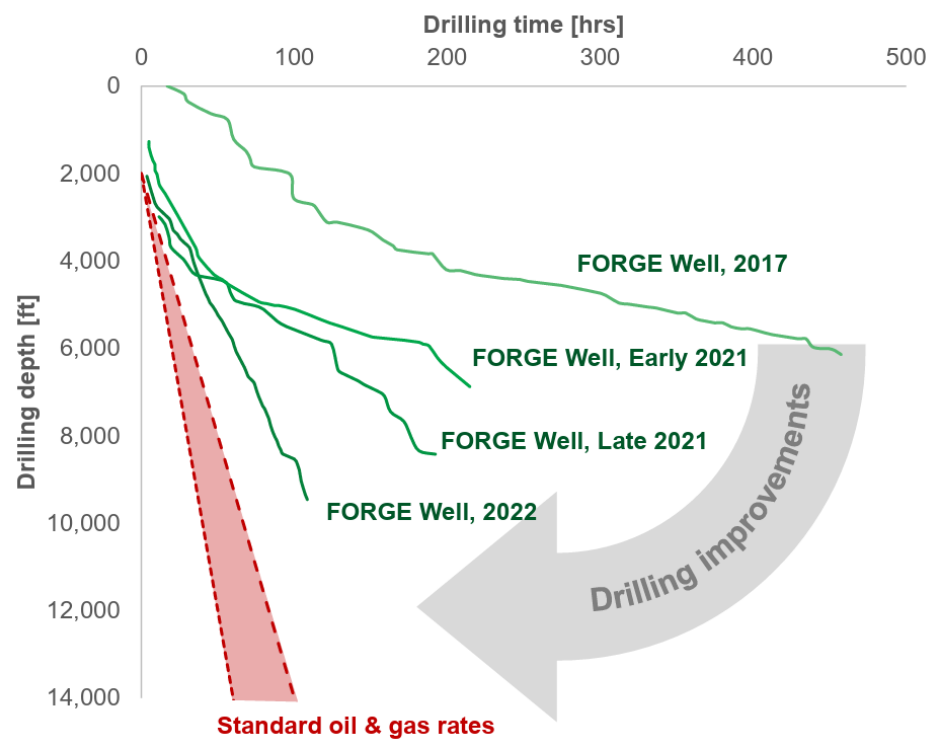
Stanford Geothermal Availability Map at 9,800 Feet







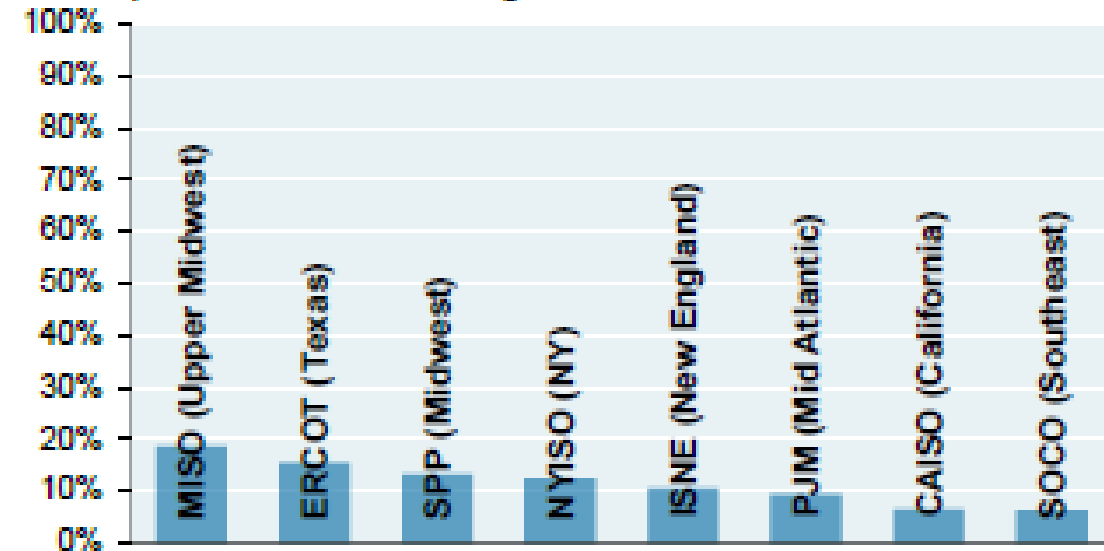
Drilling timelines at DOE FORGE demonstration site



Geothermal Value Proposition

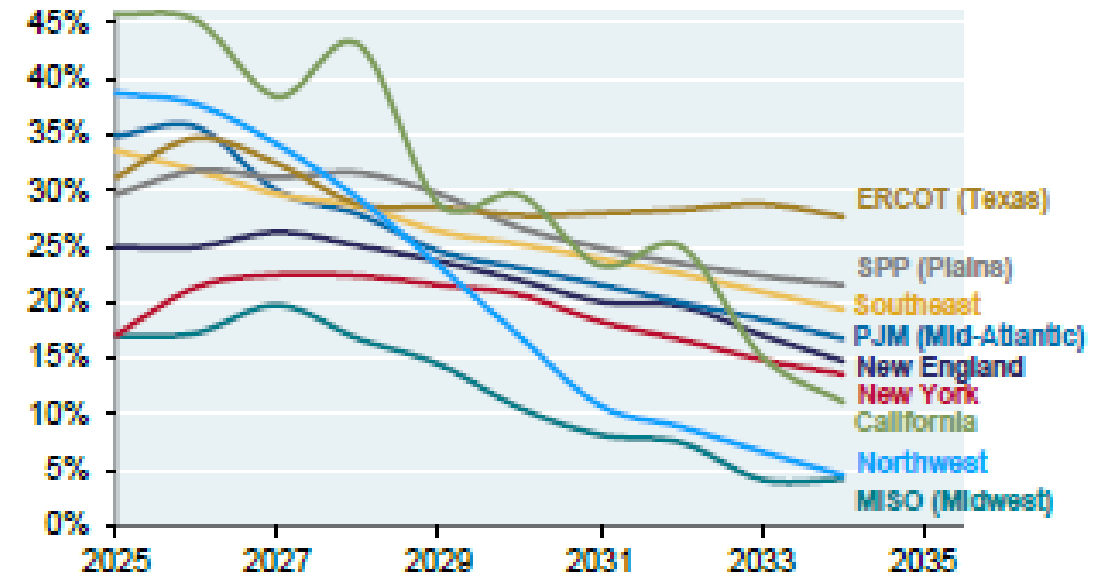
How much natural gas capacity can be reduced per MW of new wind and solar power?

%, computed for 2023, assuming new wind and solar = 10% of demand



Source: EIA data, JPMAM computations, 2023

Generation capacity buffer during peak summer demand
Anticipated reserve margin



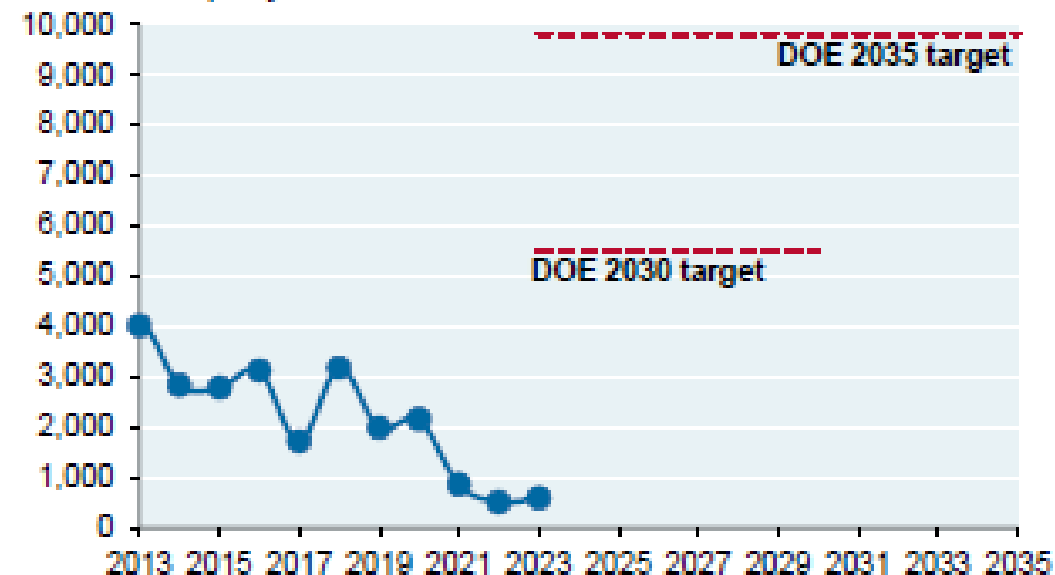
Source: "2024 Long-Term Reliability Assessment", NERC, December 2024

J.P.Morgan

Existing Transmission Capacity Critical

US transmission line growth

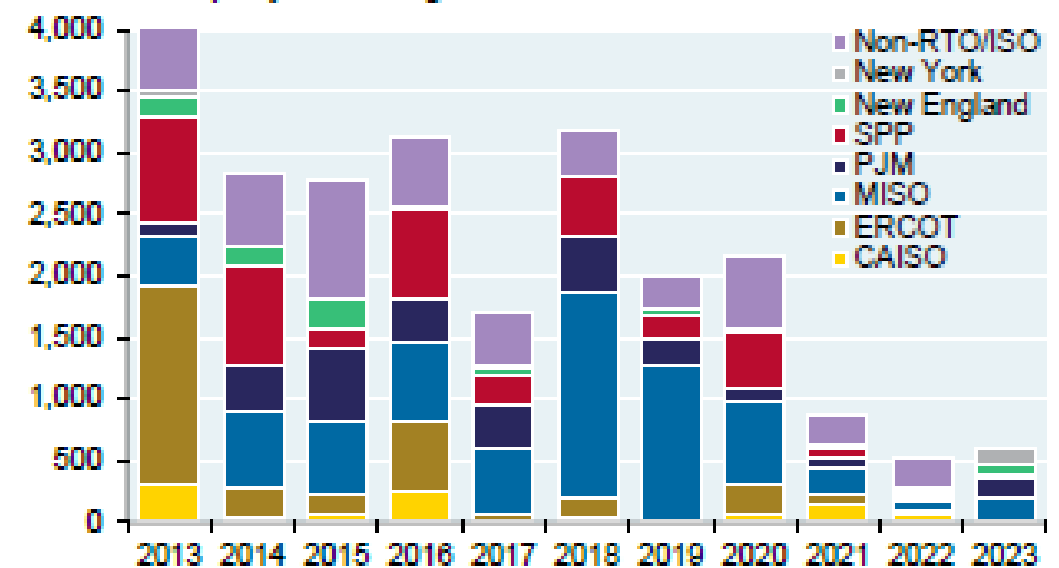
Miles added per year



Source: S&P Global, JPMAM, 2024. Note: Transmission lines > 100 kV.

US transmission line growth by ISO

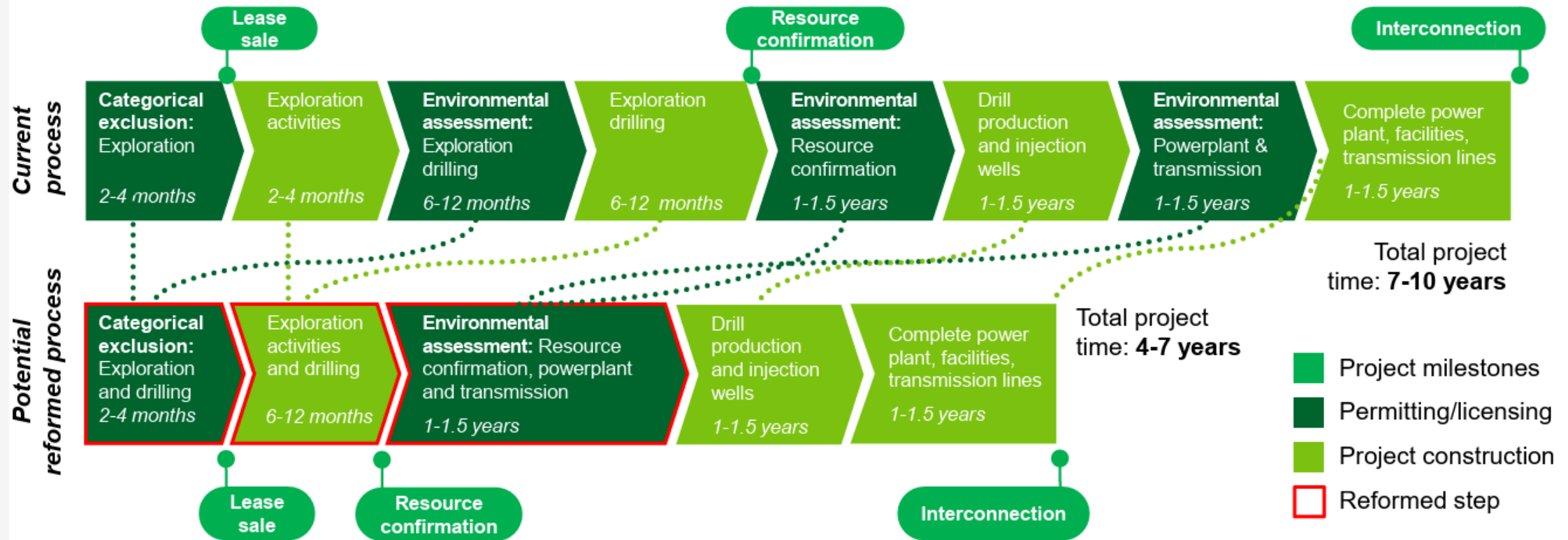
Miles added per year, total grid size = ~200,000 GW-miles



Source: S&P Global, JPMAM, 2024. Note: Transmission lines > 100 kV.

J.P.Morgan

Federal Geothermal Permitting



DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE



Potential Next Generation Geothermal Economic Development Benefits for Lake County

- High Capital Expenditure - Significant Property and Sales Tax Revenue
- High wages for both temporary and permanent jobs
- Significant amount of construction jobs and moderate amount of permanent jobs

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