

# U.S. & International Overview

## Geothermal Energy: Heating Up

Benjamin Matek, Research Projects Manager

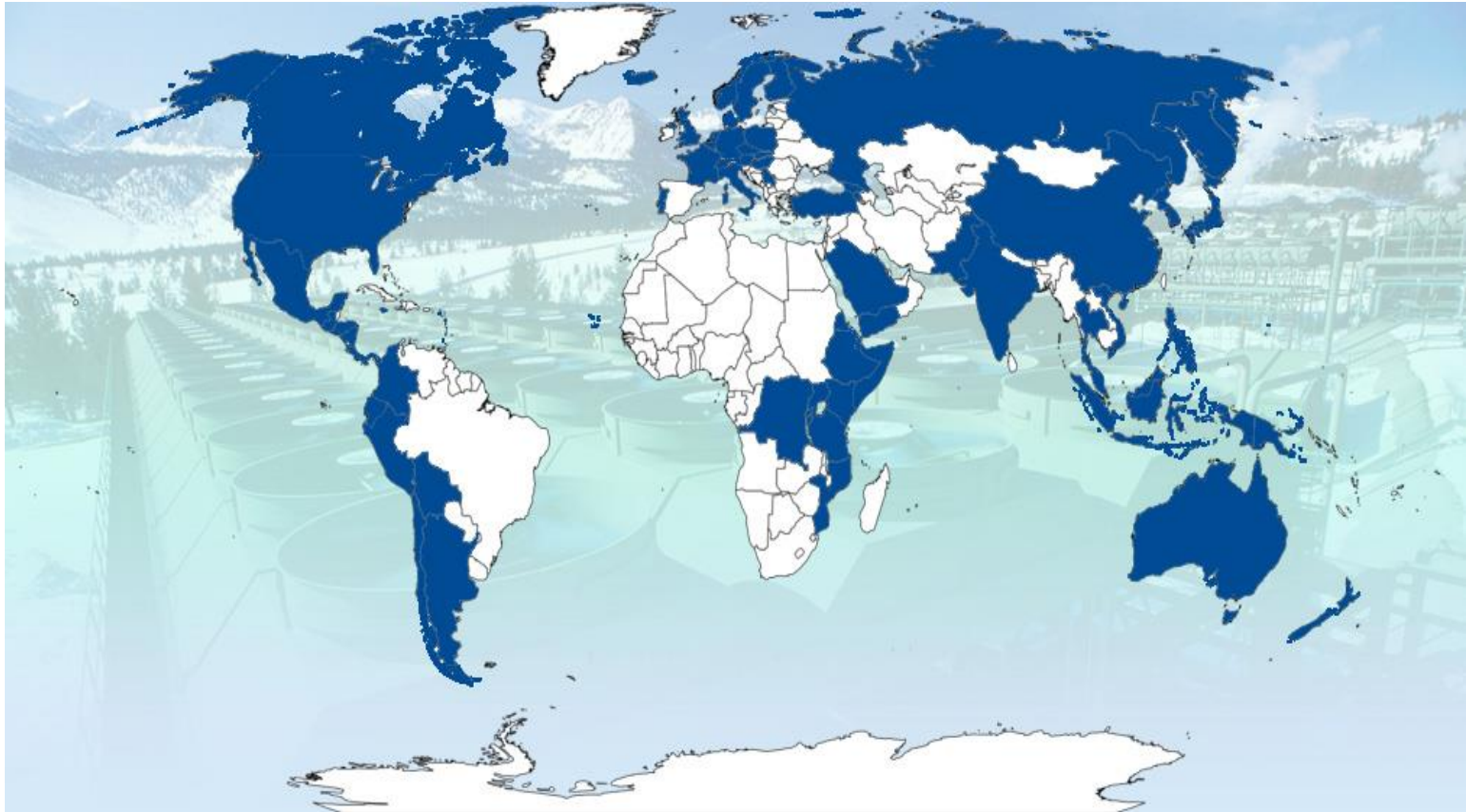
Washington DC

March 16<sup>th</sup>, 2016



**GEOTHERMAL**  
**ENERGY**  
**ASSOCIATION**

# About GEA



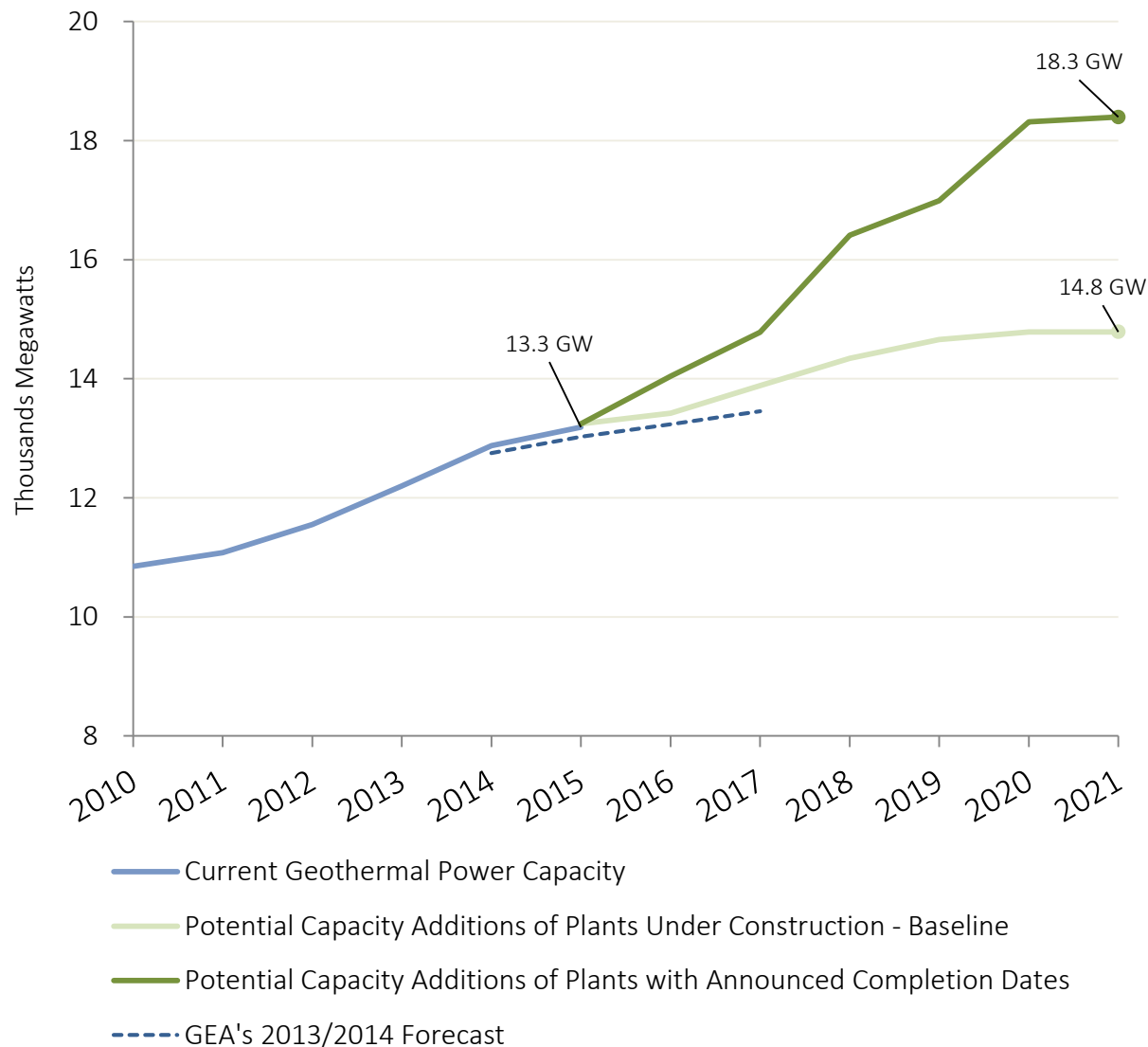
We are 150 companies that work 80% global geothermal market or about 60 countries

# Outline

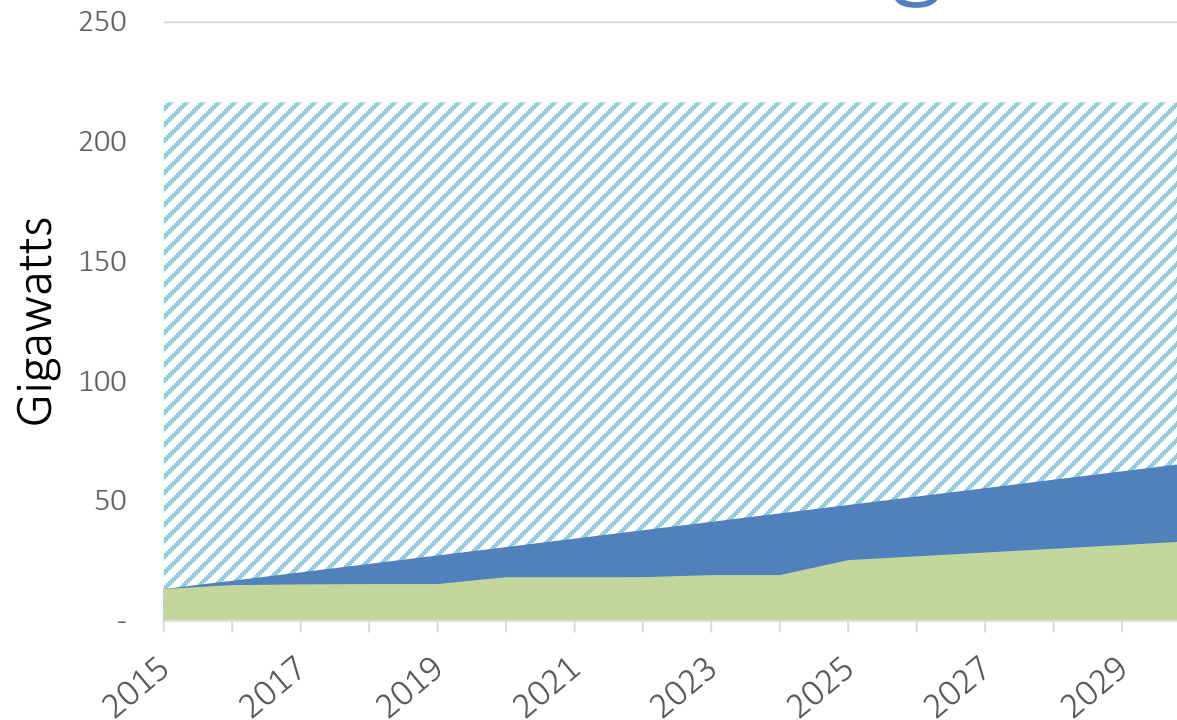
- Discussion of International Market Trends
- Focus attention on U.S.
- U.S. Policy Overview



# International Geothermal Power Nameplate Capacity (MW)



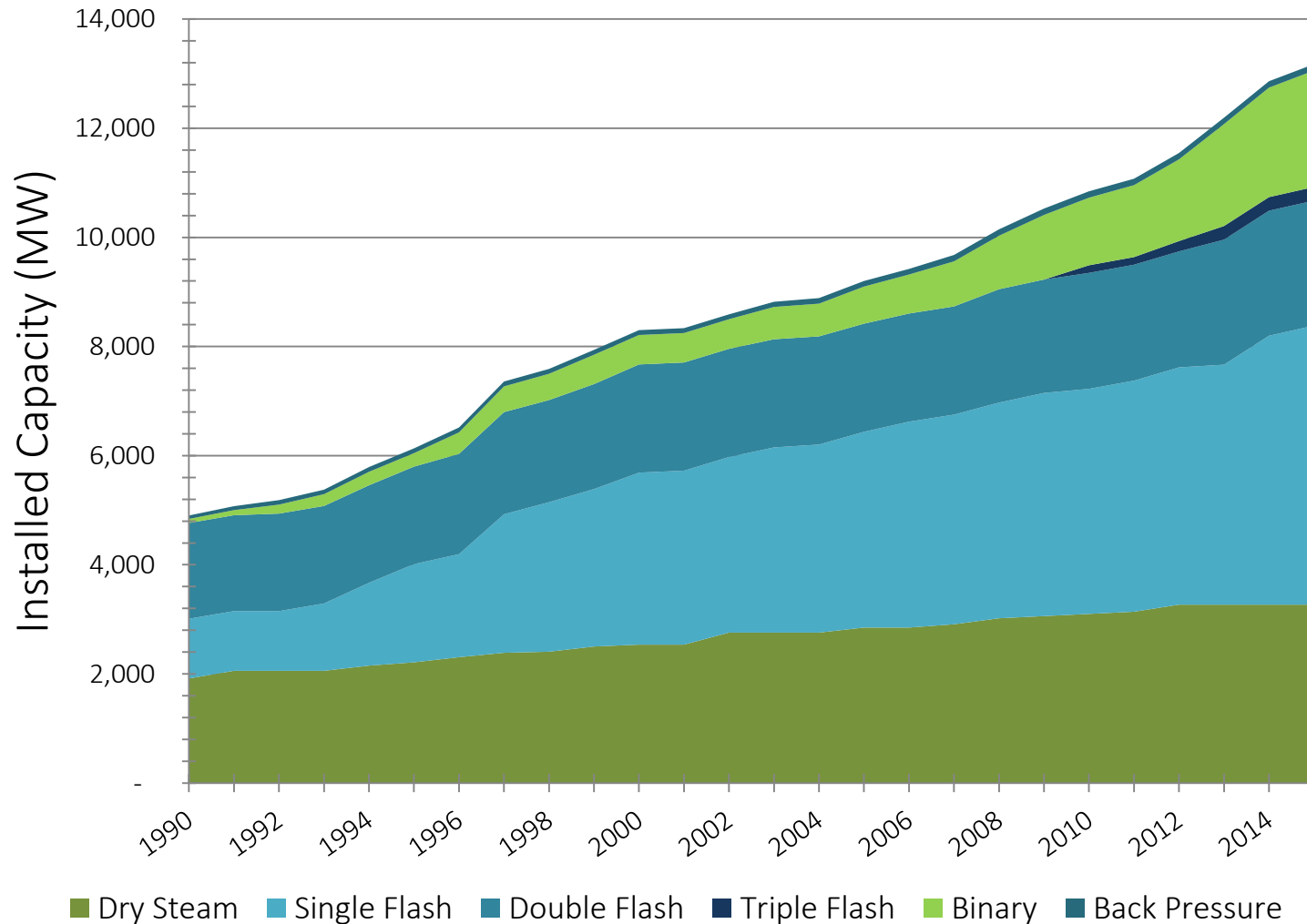
# Global Geothermal Development Goals and Pledges



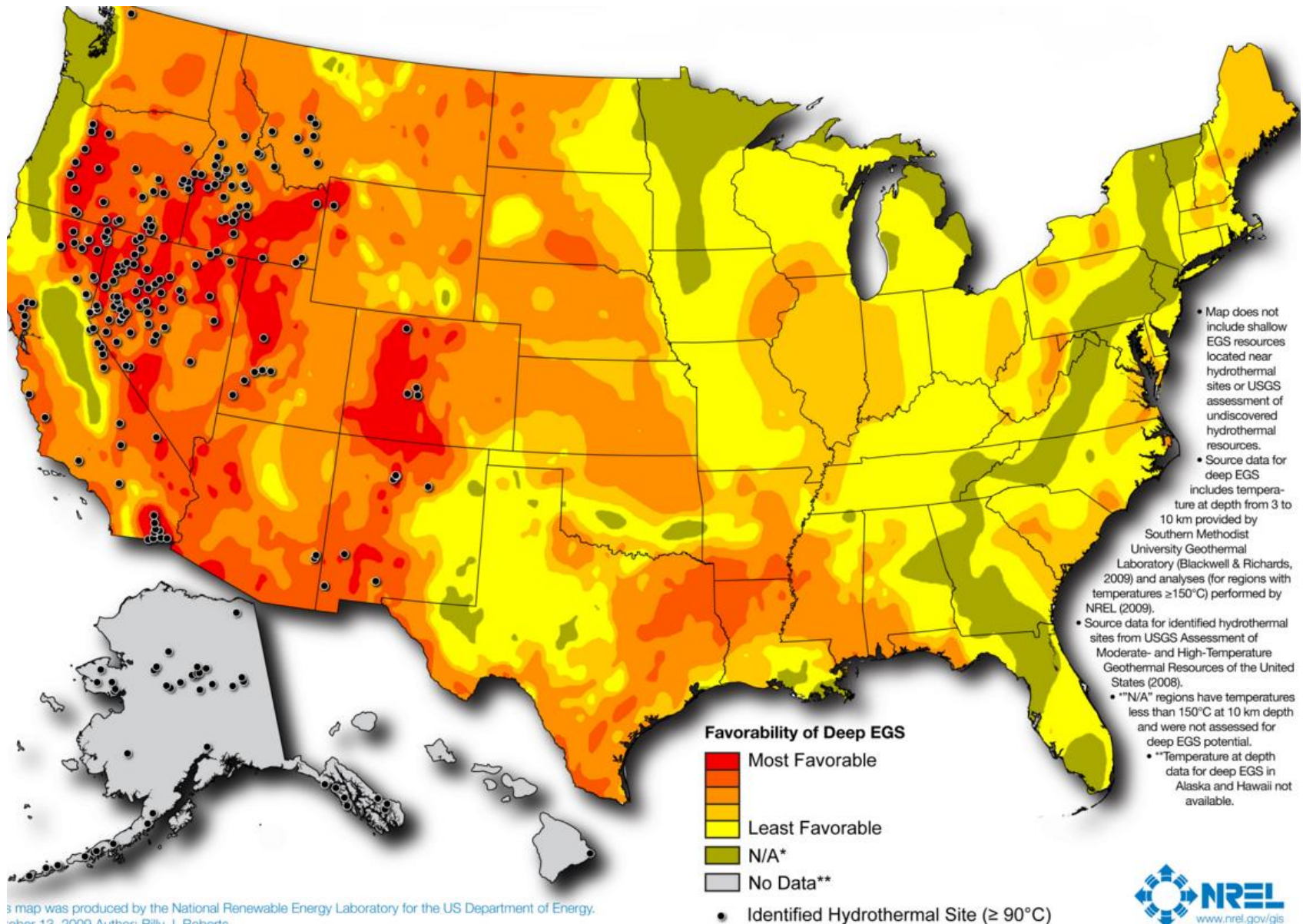
- World Hydrothermal Geo Potential
- IRENA/UNFCCC Global Geothermal Alliance Goal
- Announced Country Geothermal Development Goals



# Operating Capacity by Technology Type



# Geothermal Resources of the United States

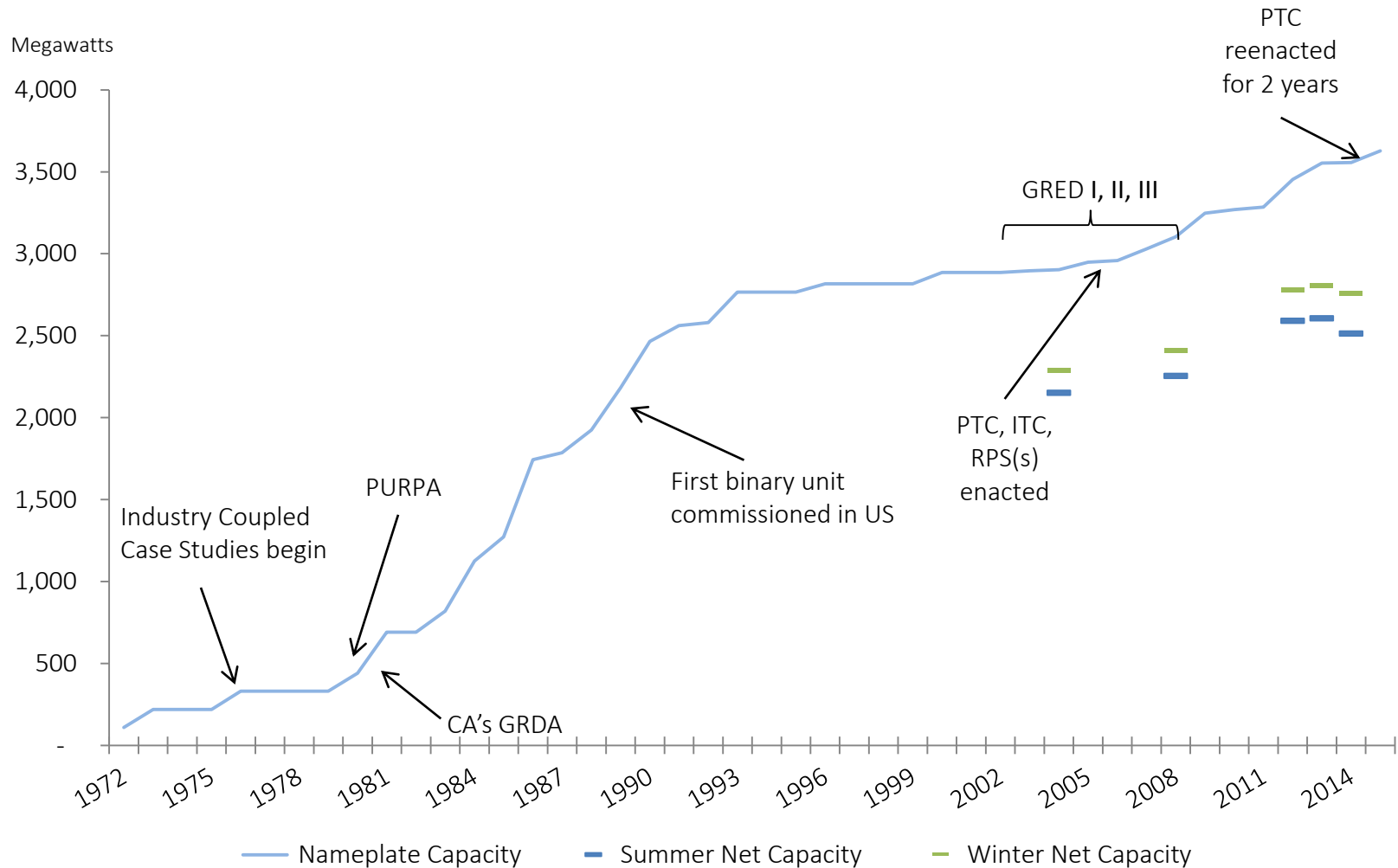


This map was produced by the National Renewable Energy Laboratory for the US Department of Energy. October 13, 2009. Author: Billy J. Roberts



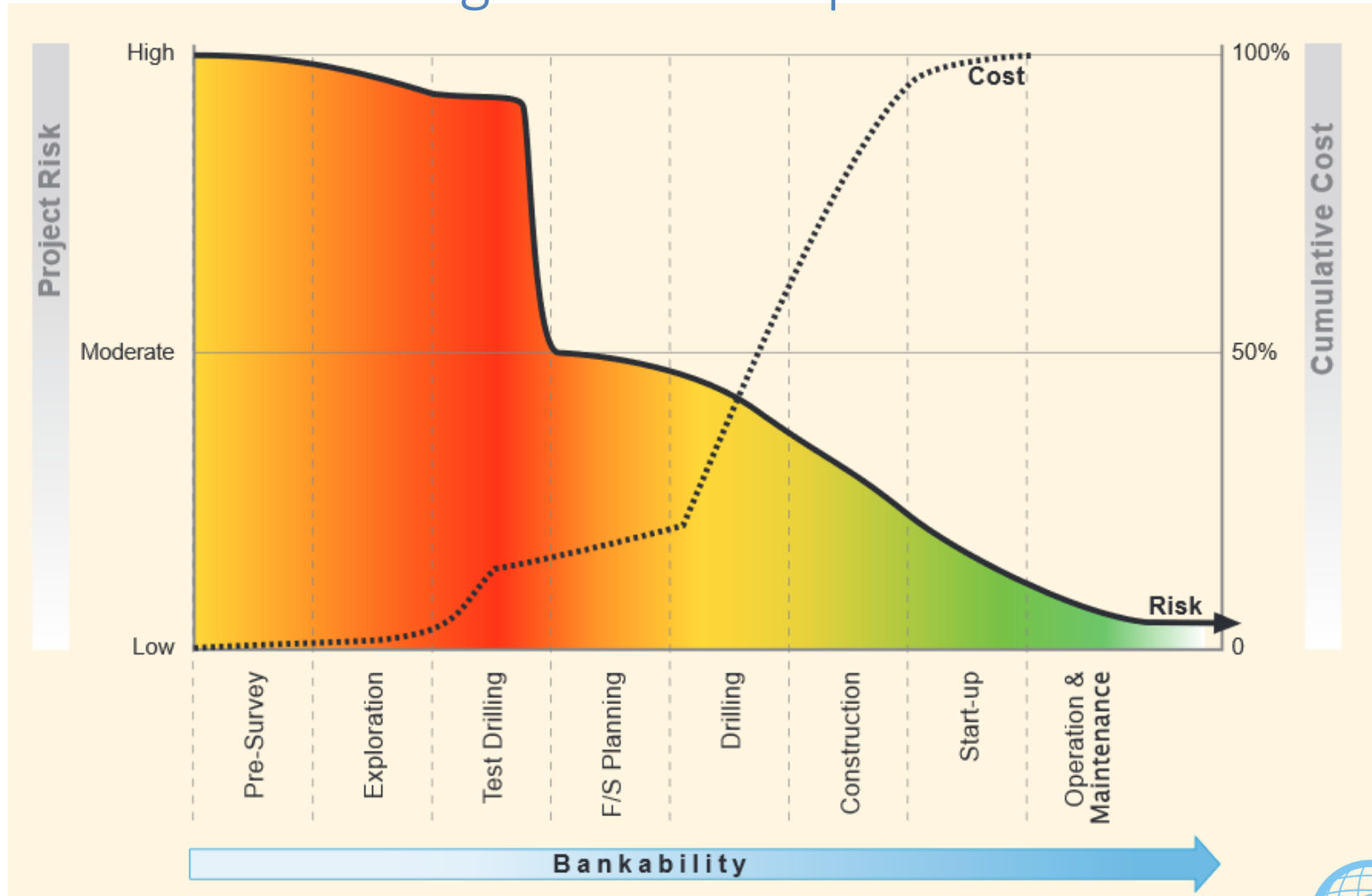
Source: [National Renewable Energy Laboratory](http://www.nrel.gov/gis)

# Policy Impact on U.S. Industry



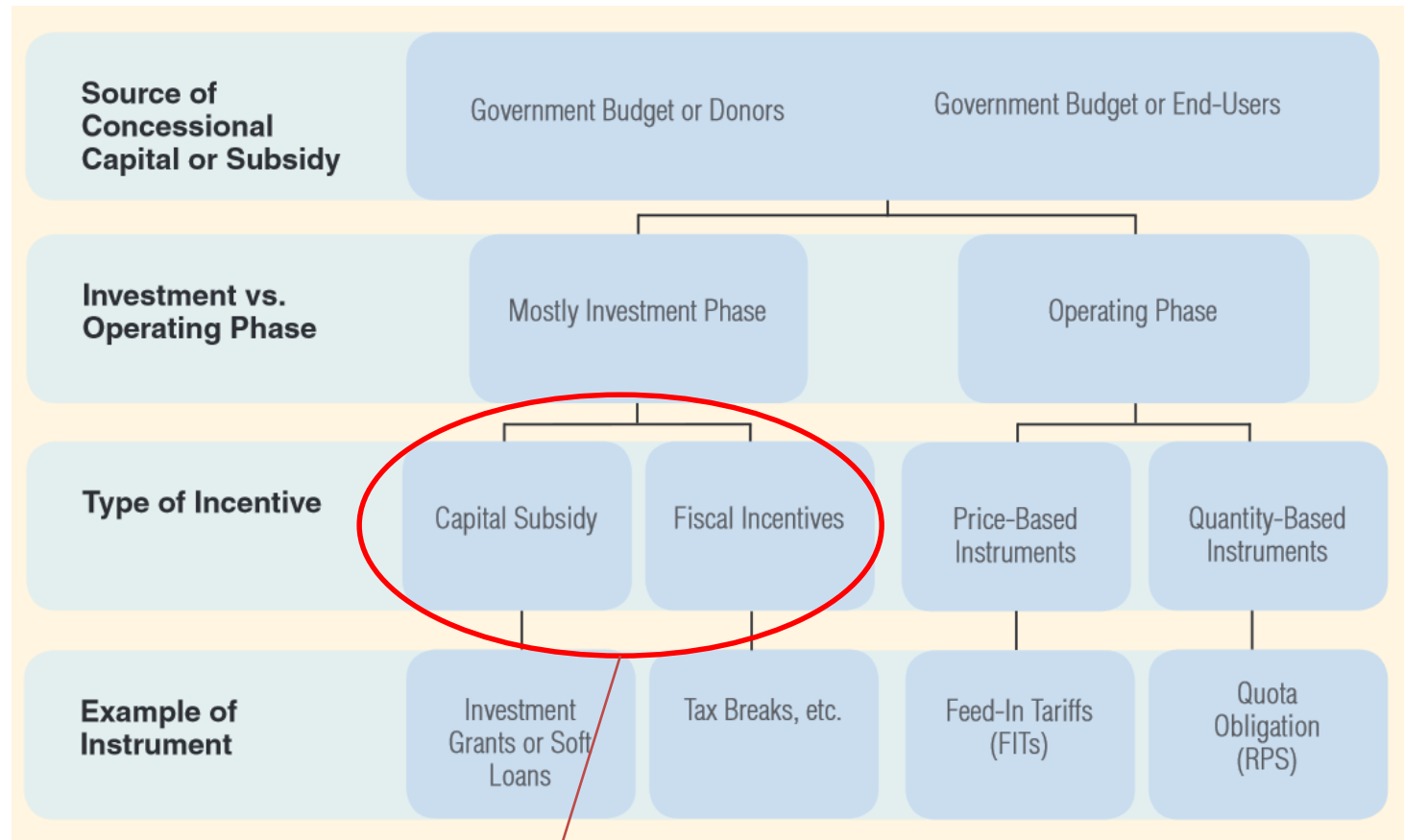


# Geothermal Project Cost and Risk Profile at Various Stages of Development



Source: [World Bank, 2012](#)

# Policy and Regulatory Instruments Supporting Deployment of Renewable Electricity



Source: [World Bank, 2012](#)



‘Investment Phase incentives’ are the most helpful in the U.S. for constructing new projects *with high upfront risk* when tailored fairly to geothermal power’s unique needs

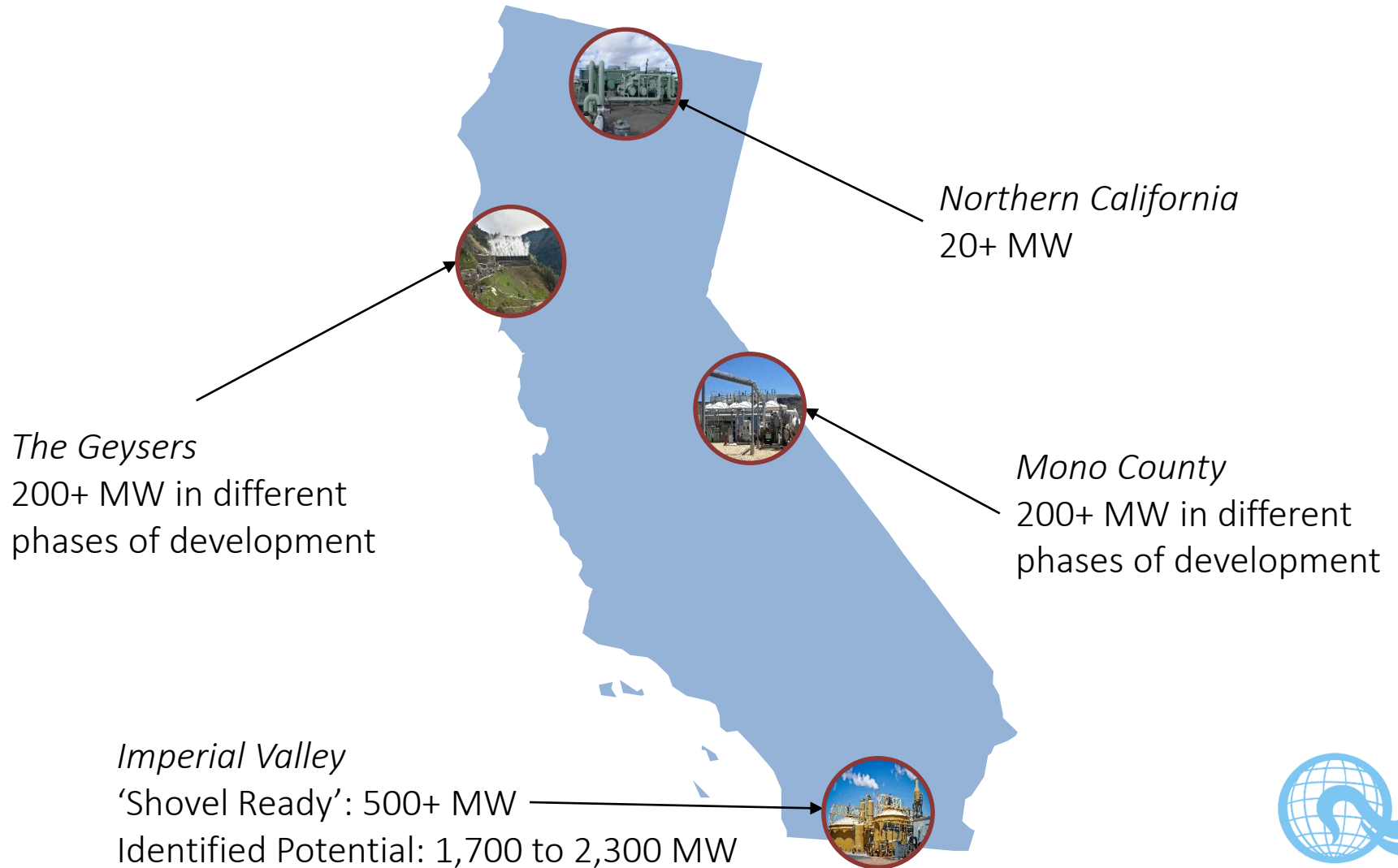
# Asymmetrical Incentives

*For Example,*

<i>California Incentive</i>	<i>Solar</i>	<i>Geothermal Power</i>
Federal PTC or ITC	Yes 30% ITC	Yes PTC/30% ITC
Expires	Begin construction by 12/31/2019 Phased out by 12/31/2022	Begin construction by 12/31/2016
Clean Power Plan CEIP	Yes	No
State tax credit/rebate	Yes	No
Property tax exemption	Yes	No
Special rates/net metering	Yes	No
Renewable energy credits	Yes SRECS	Only RECS



# Stalled Project Development in California



# Thank You

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