



XCEL ENERGY & THE HEARTLAND HYDROGEN HUB

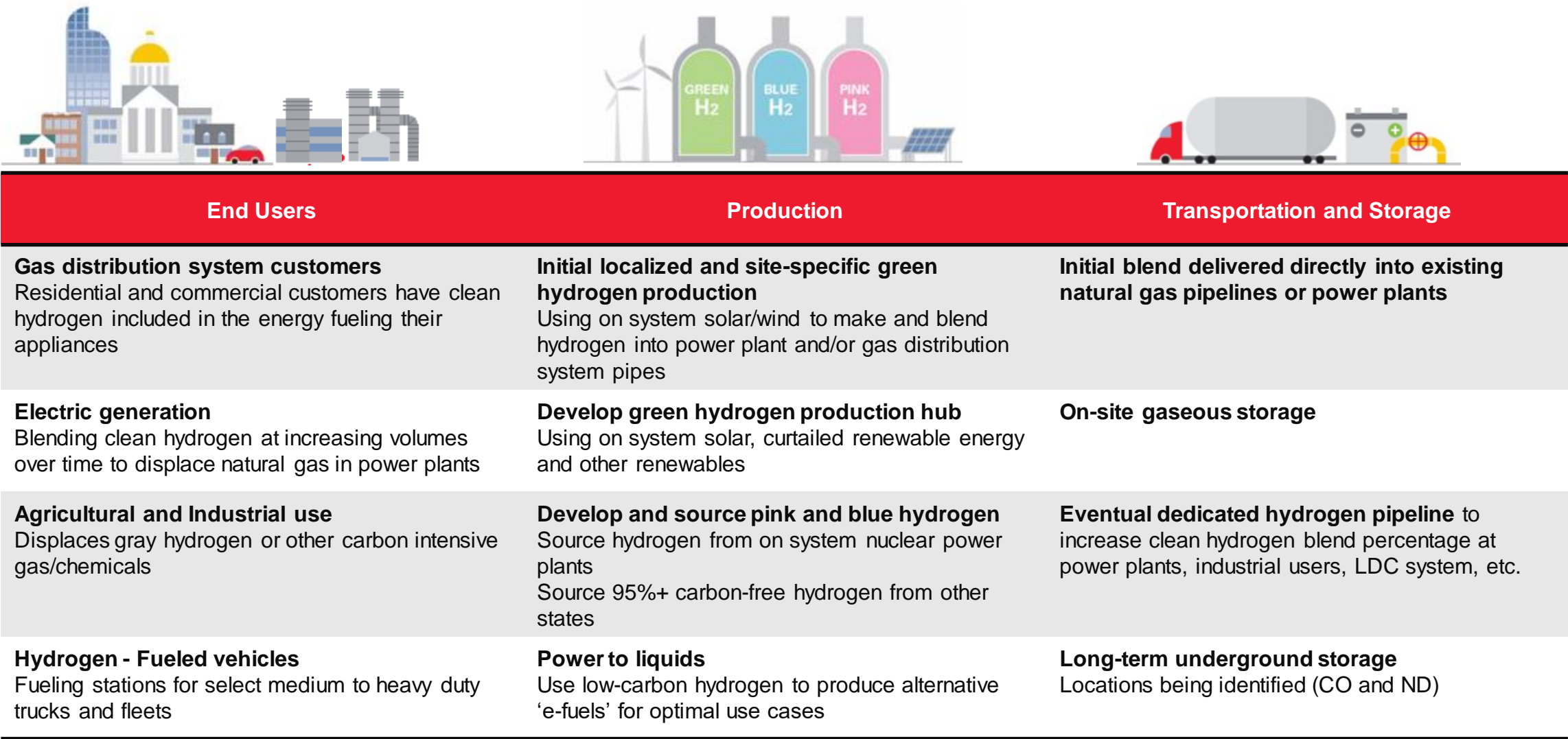
Kathryn Valdez | AVP, Corporate Planning & Carbon-Free Tech Strategy

Mike Jensen | Director, Clean Fuels PMO

November 13, 2023

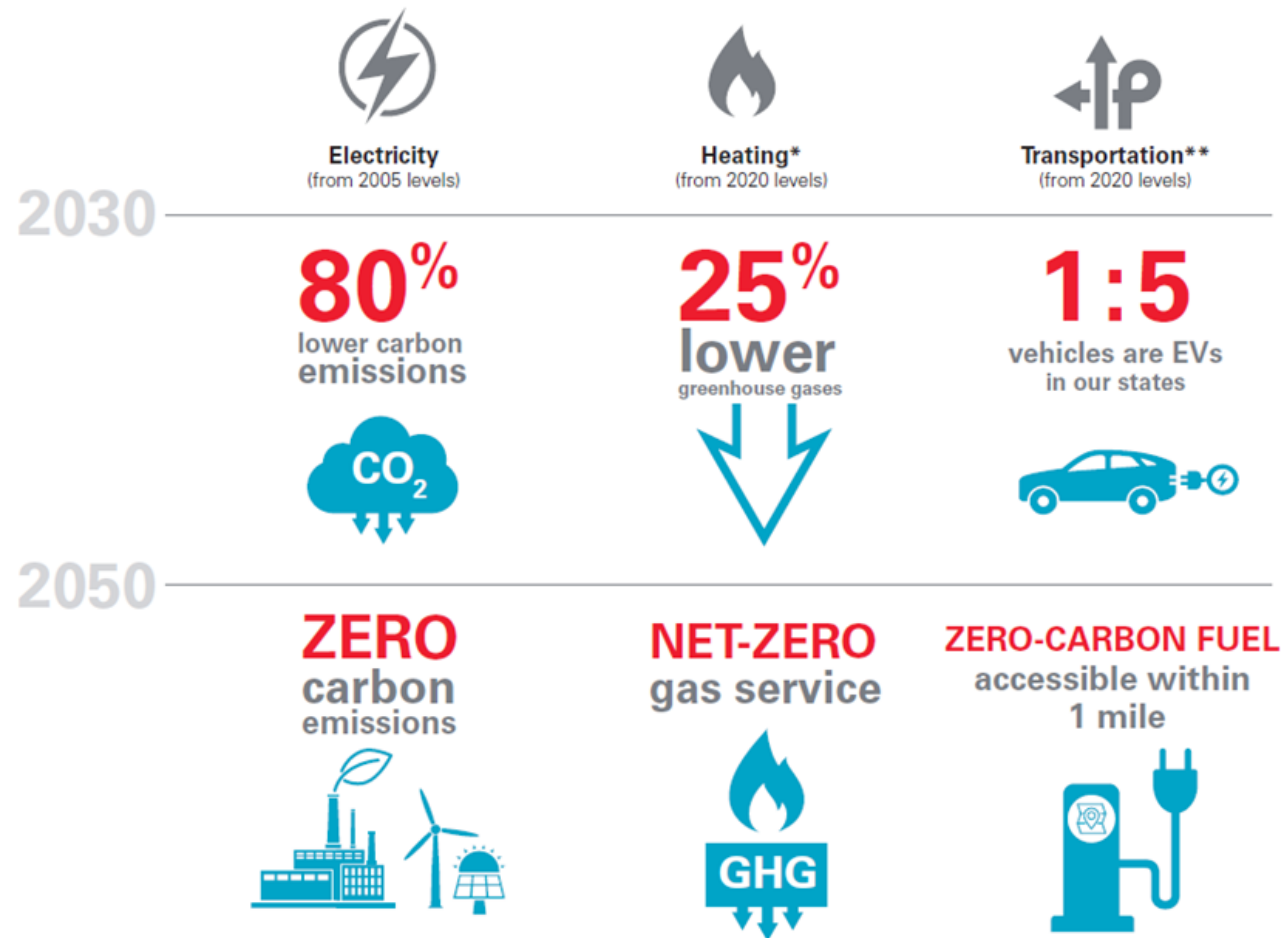
Hydrogen Strategy

Increasing use of low-carbon hydrogen to displace fossil fuel



Clean Fuels Policy Drivers

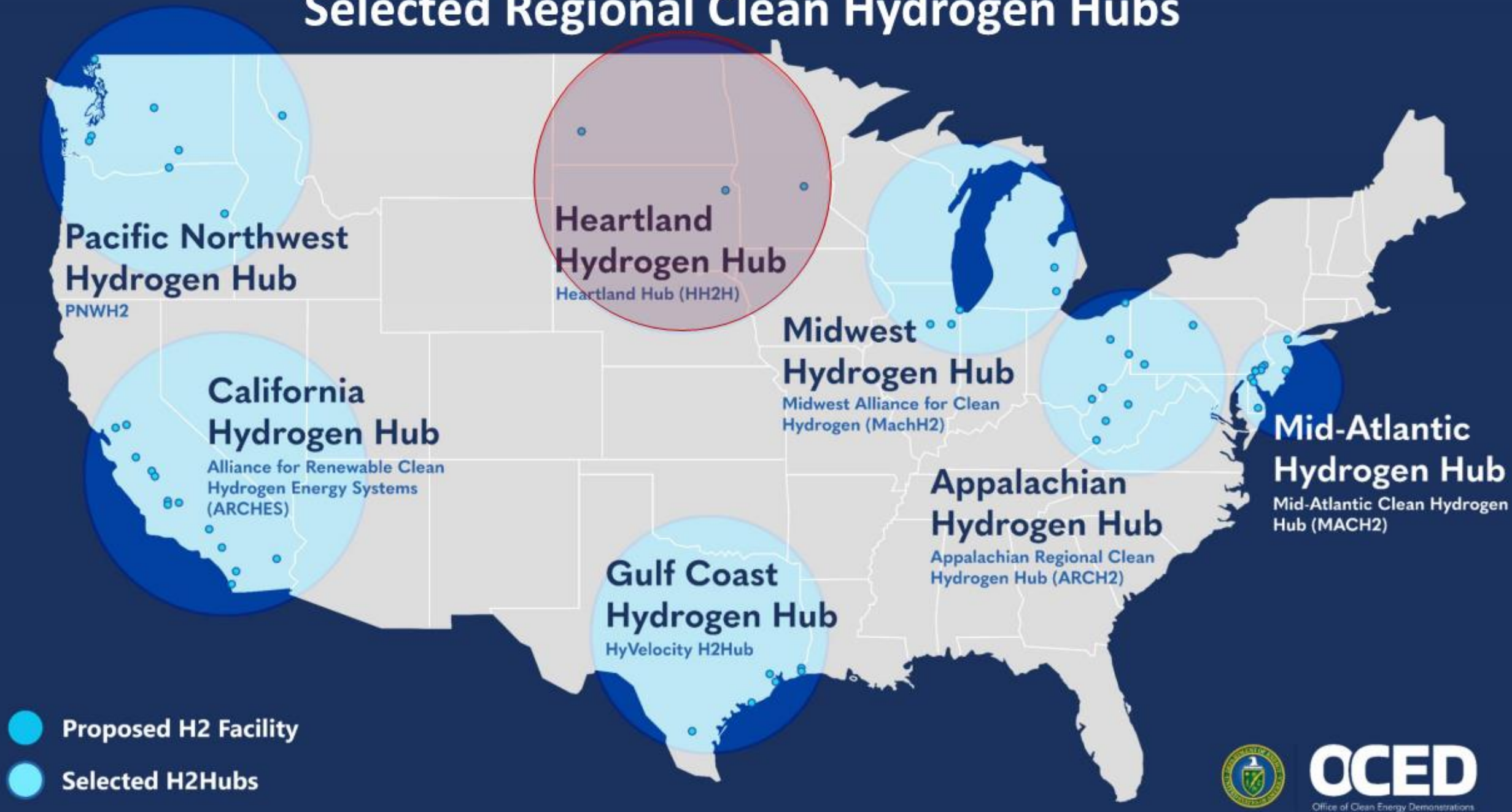
Critical to support 2050 Goals



*Spans natural gas supply, distribution and customer use

**Includes the Xcel Energy fleet; zero-carbon fuel is electricity or other clean energy

Selected Regional Clean Hydrogen Hubs



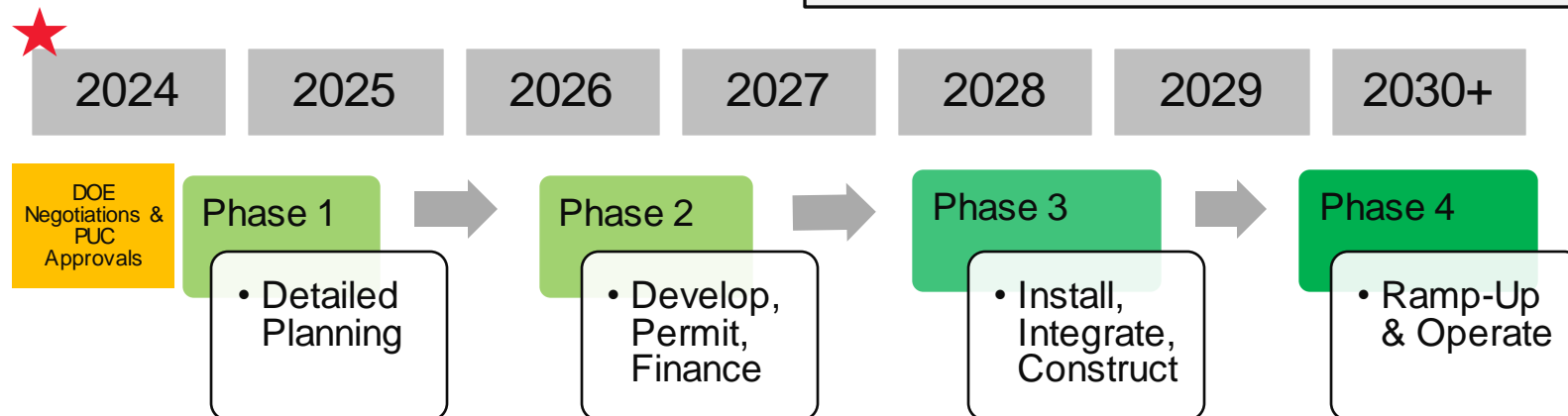
Regional Clean Hydrogen Hubs

Heartland Hydrogen Hub (NSPM) selected for \$925M DOE Award

- Hydrogen Hubs represent scale of business investment
- \$8B from 2021 Infrastructure Investment & Jobs Act (IIJA)
- Xcel Energy partner in two hub applications, one selected out of 7 awards and 26 full applications
 - Heartland Hub, NSPM
- Award negotiations to begin Nov. 2023

Heartland Hydrogen Hub Snapshot

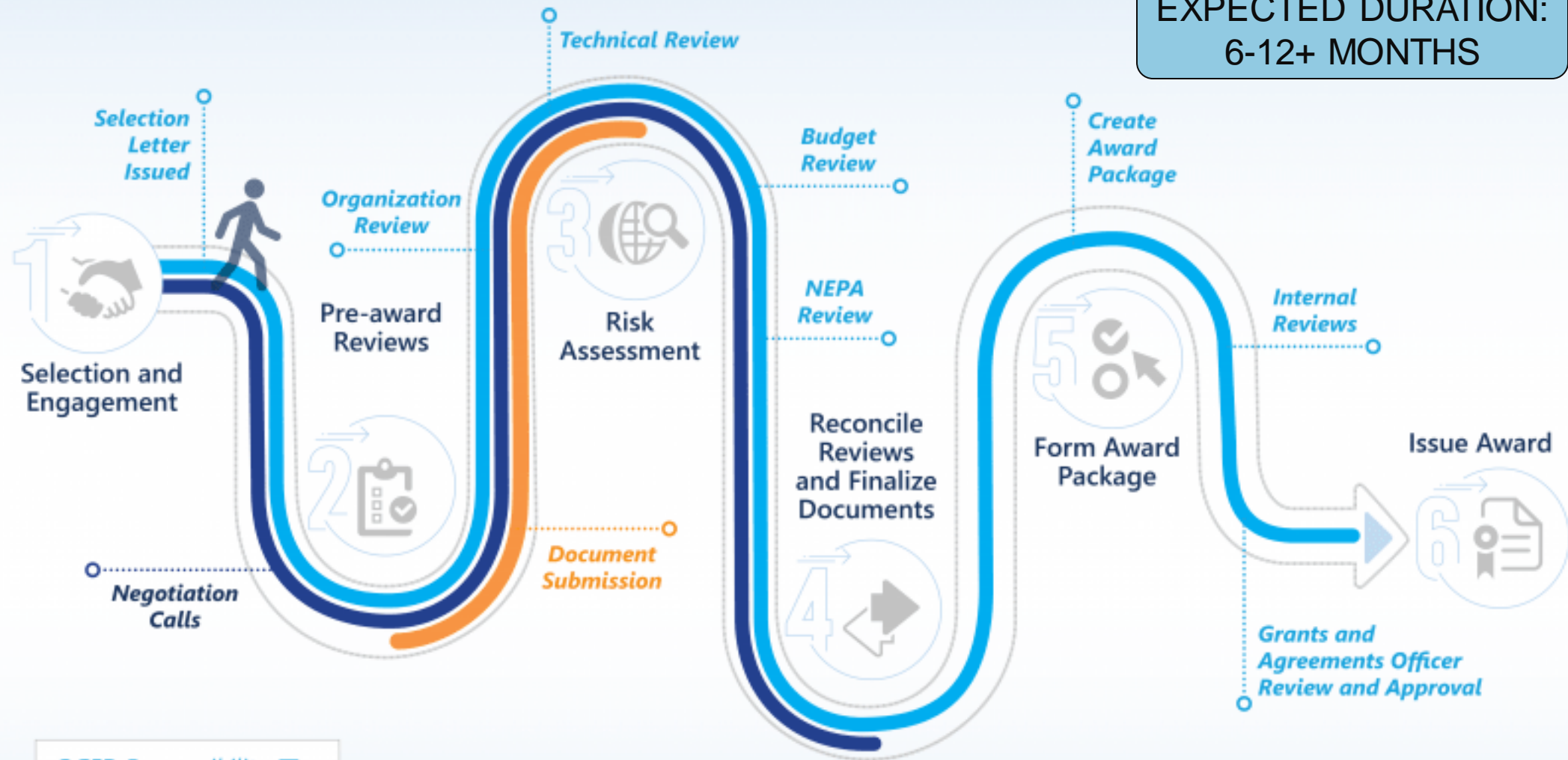
- Utilizes carbon-free Wind, Solar & Nuclear generation in the Upper Midwest to produce hydrogen
- Uses include blending into power generation, existing natural gas distribution systems, and other agricultural and industrial applications.
- HH2H Cost of \$5B with \$925M DOE
- Xcel Energy investment of \$1.5 to \$2.5B with DOE cost share of up to \$565M
- Provides opportunity for incremental renewables buildout, along with significant jobs and other community benefits
- Partners include Marathon Petroleum, TC Energy and the University of North Dakota Energy and Environmental Resource Center (EERC)





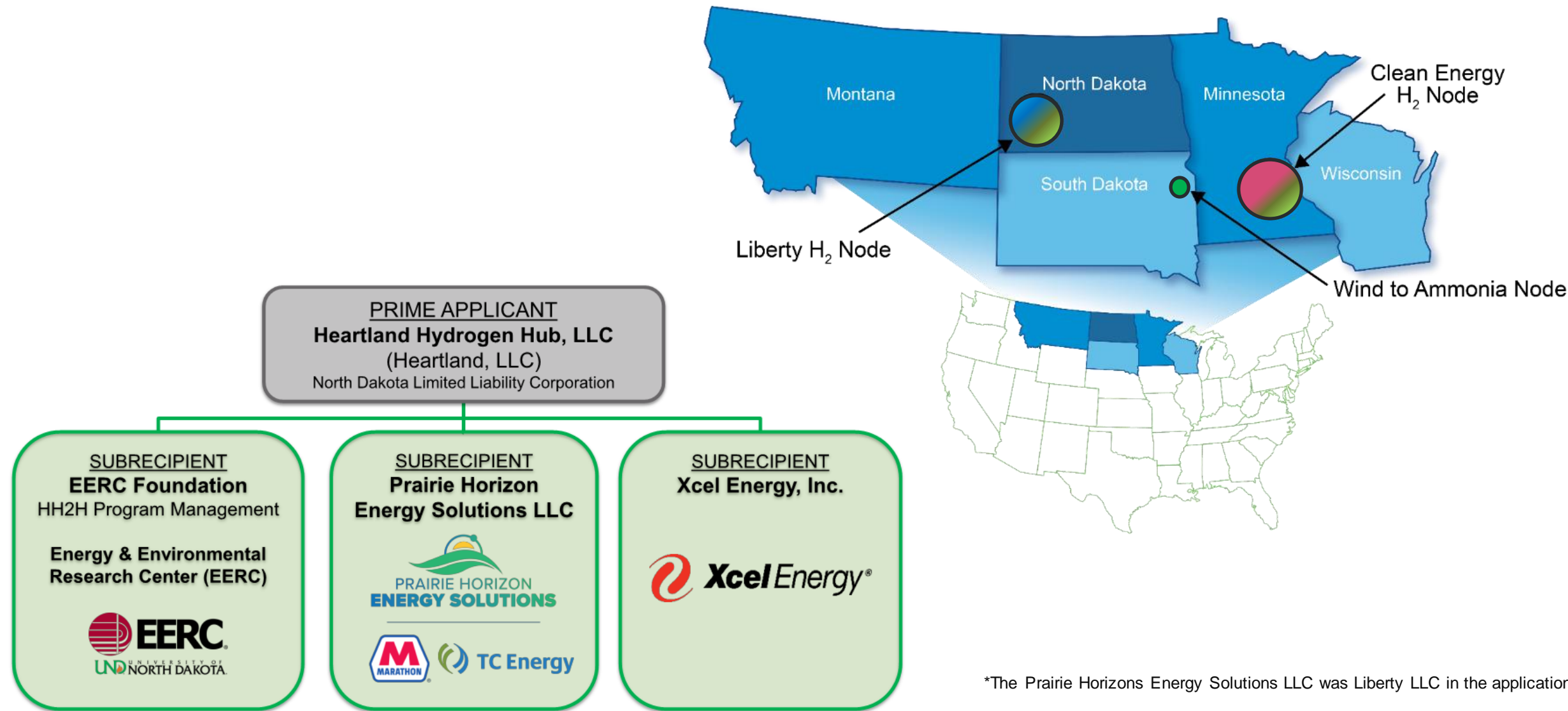
Award Negotiation Map

EXPECTED DURATION:
6-12+ MONTHS



OCED Responsibility ■
Selectee Responsibility ■
Joint Responsibility ■

HEARTLAND, LLC, AWARD STRUCTURE



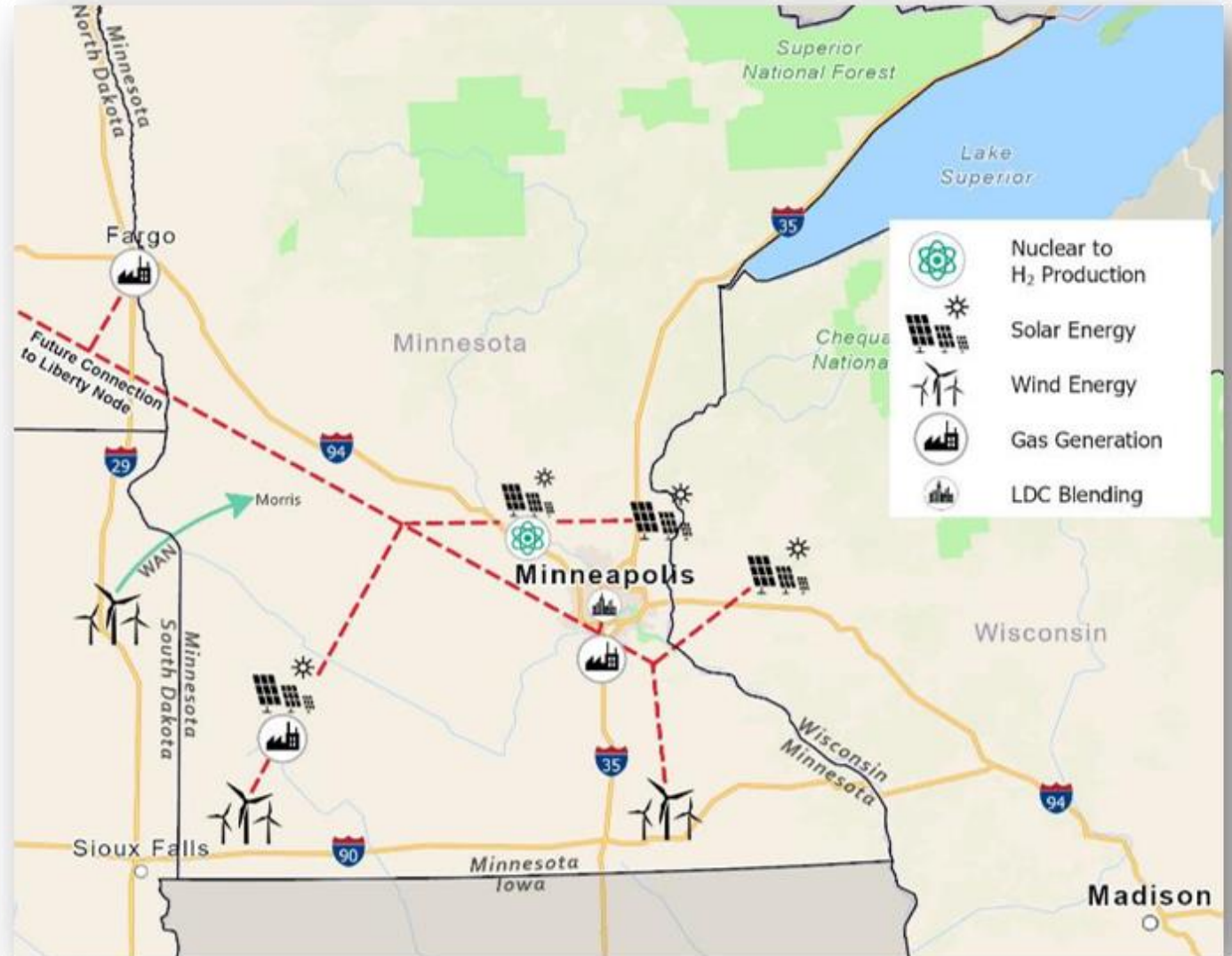
*The Prairie Horizons Energy Solutions LLC was Liberty LLC in the application

DOE Hydrogen Hub Program Award: Heartland Hydrogen Hub

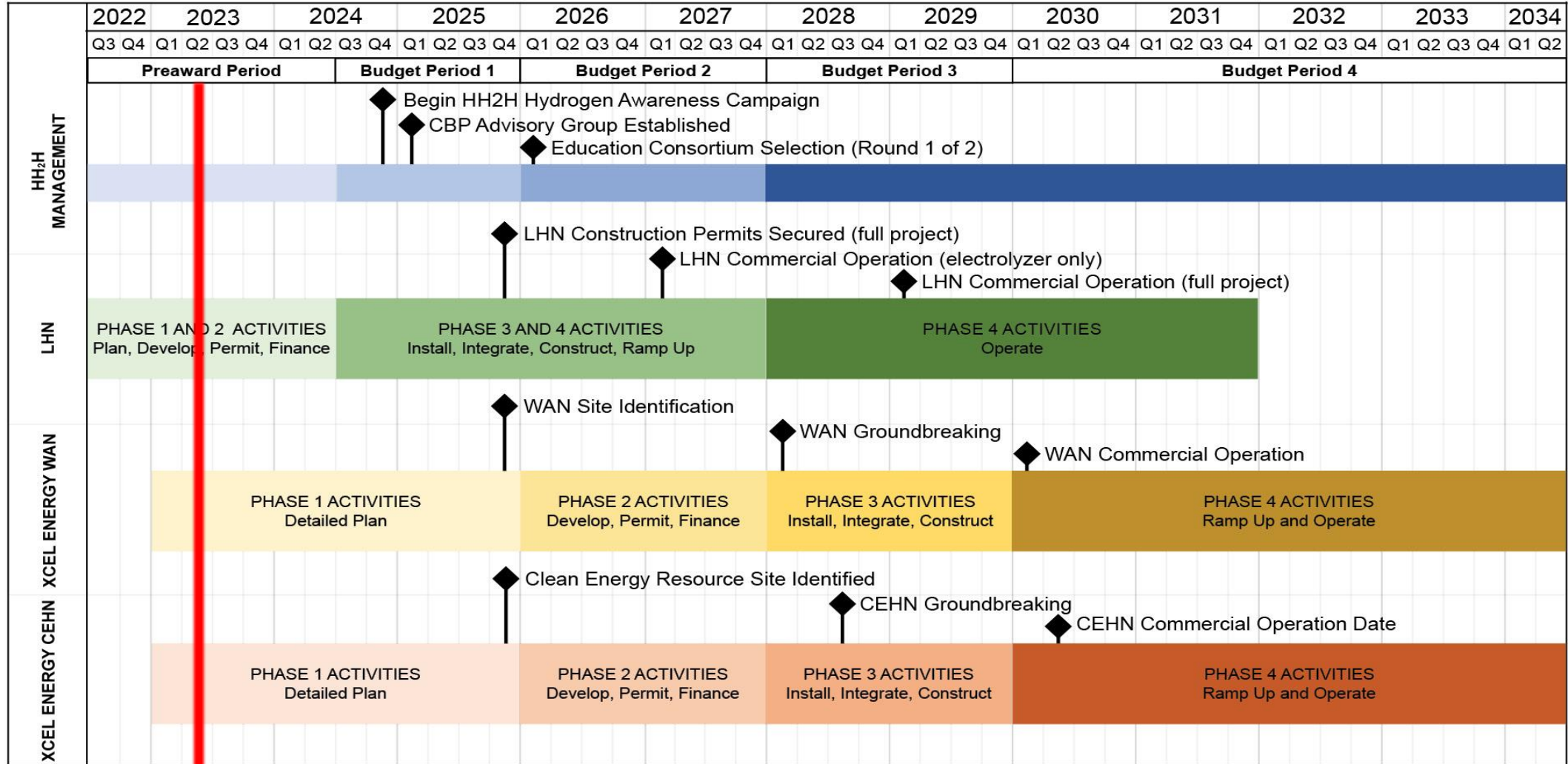
DOE funds advancing through negotiation: \$925 million

Application Strengths and Community Benefits Plan

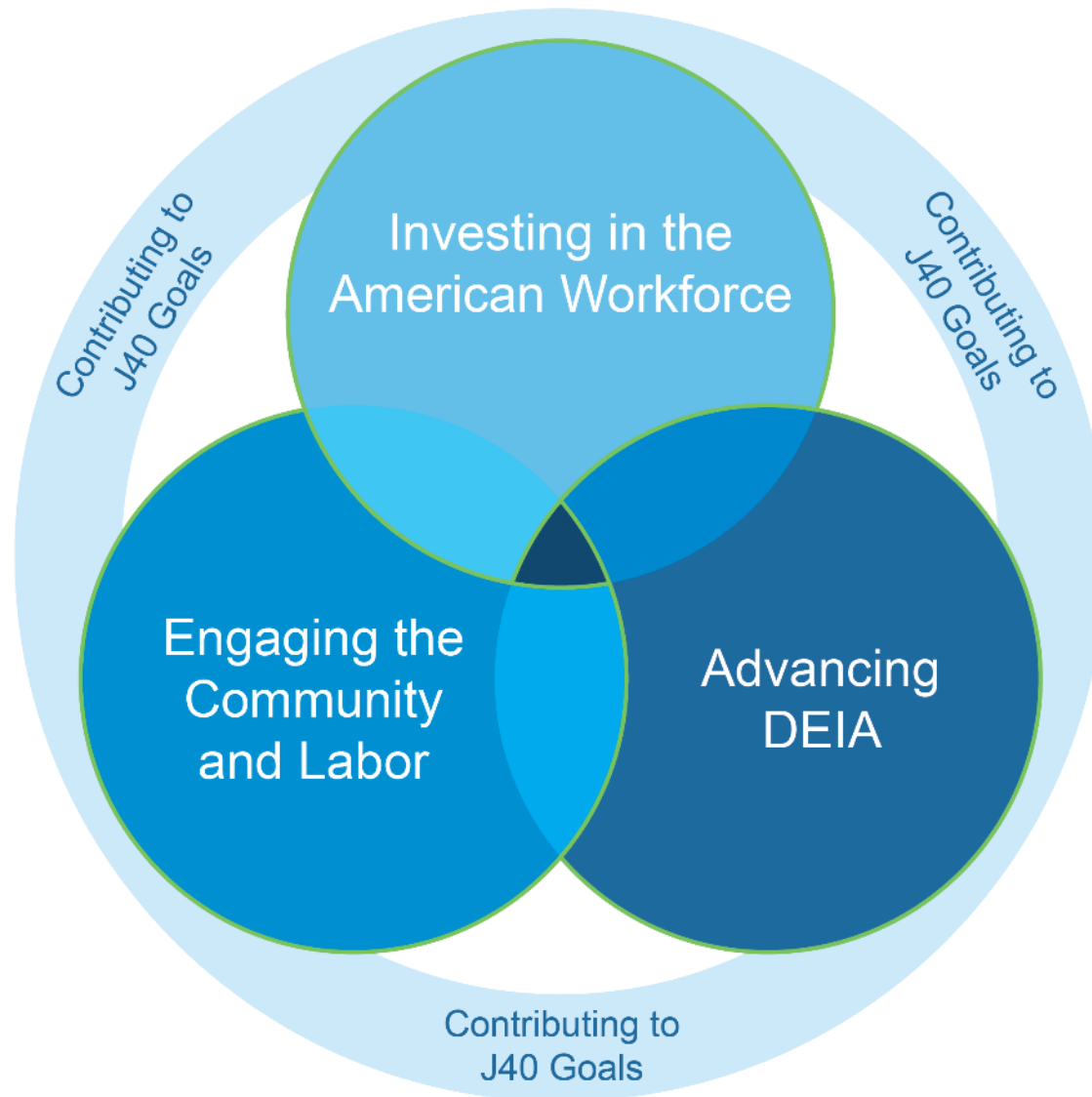
- Diversity of H₂ supply: Green, Blue and Pink; use in agricultural sector (hard to decarbonize)
- IBEW, MN Building Trades, NREL (for leak detection and monitoring) and Tribal engagement commitments



HH₂H PROJECT SCHEDULE



COMMUNITY BENEFITS PLAN



Strategic Partners (examples)

Community and Labor Engagement

Host communities (CAPs), **Tribal communities** (MHA, SWO), **Marginalized Communities, Labor Organizations** (IBEW, ND+MN Buildings and Trades)

American Workforce

Education Consortium (UW, MTU, UTTC) **Labor** (IBEW, TrainND), **Workforce Development** (Energy Careers Academy), **Just Transition** (CAEL, CEWD)

DEIA

Supplier Diversity (NMSDC), **Minority-Serving Institutions** (UMM), **Tribal Colleges** (UTTC), **Economic Development Councils** (Stark County Development)

J40

Disadvantaged Communities (MHA, SWO, rural, urban)

Nearly 60 letters of support signed by strategic partners

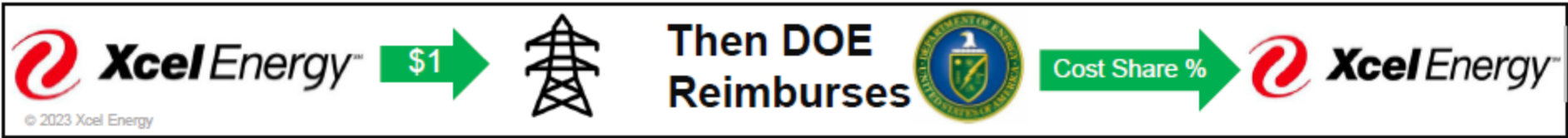
Hub Execution & Financing

DOE funding is reimbursement based and approved by Phase

Hub progress is assessed at the end of each Phase

Hub partners and DOE negotiate milestones and Go/No-Go for each Phase

Application proposed 78% cost share



Successful DOE Grant Applications 2023

Topic	Submitted	DOE Funds Requested	DOE Funds Awarded (pending negotiations)	NSPM Amount (pending negotiations)
LDES: Form Energy Demonstration- NSPM and PSCo	March 3	\$70 million	\$70 million	\$45M
GRIP: Wildfire Mitigation & Extreme Weather Resilience (Grid Resiliency) - All Xcel Energy Operating Companies	April 6	\$100 million	\$100 million	\$27.7M
GRIP: Joint Transmission Interconnection Queue Projects and Portfolios, JTIQ (prime: MN Dept. of Commerce)	May 19	\$225 million	\$114 million	\$114 M
H2 Hub: Heartland Hydrogen Hub (prime: Heartland LLC)	April 7	\$560 million	up to \$560 million	Up to \$560M
Total		\$955 million	Up to \$845 million	Up to \$746.7M

