



Midwest Energy Policy Series

Renewables & Efficiency

August 20-21, 2024 | Columbia, MO



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**Greening the Economy - Impact, Role,
and Effort
Session 6**

Greening the Economy- Impact, Role, and Effort: Economic Impacts of Renewable Energy Projects



Strategic Economic Research, LLC



Lead Economic Impact Analyst

- Performed economic impact analysis for hundreds of projects
- Solar, Wind, Battery, Transmission, Hydrogen, Natural Gas
- Illinois State University
- SER established in 2010
- 400+ analyses
- 32+ states

SER's Missouri Projects

- 8 projects
- 1.95 GW
- \$2.3B nominal construction costs
- \$16.5M nominal operations costs

10.8 GW

current interconnection
requests

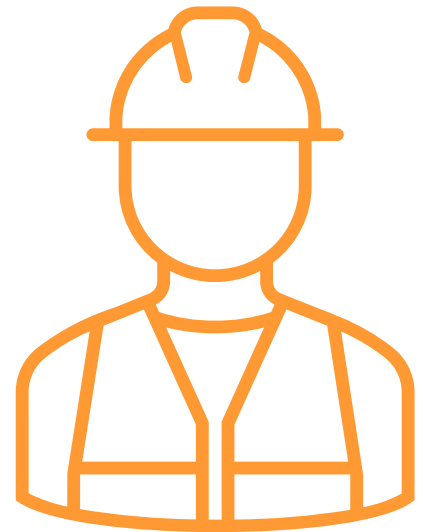
62 projects

31 counties

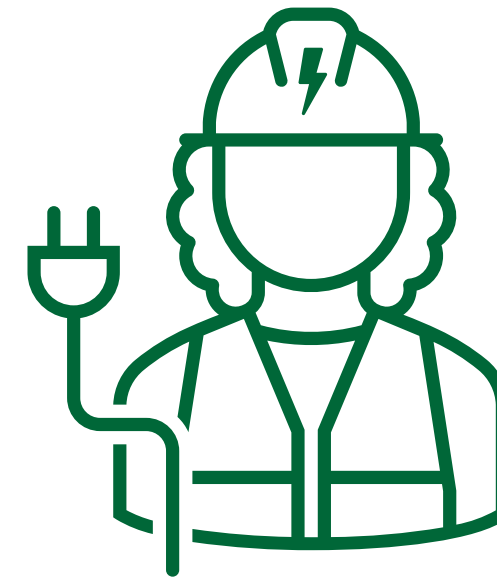
All renewables

Missouri Economic Impacts

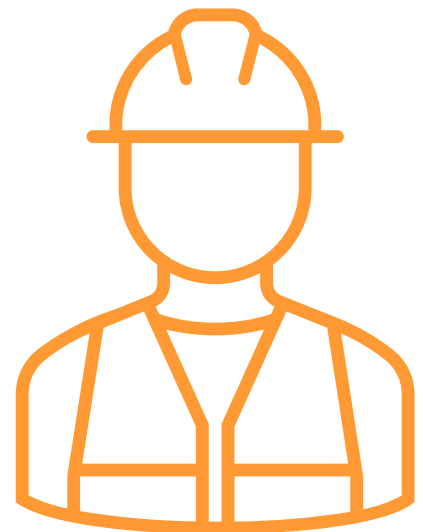
Employment Impacts



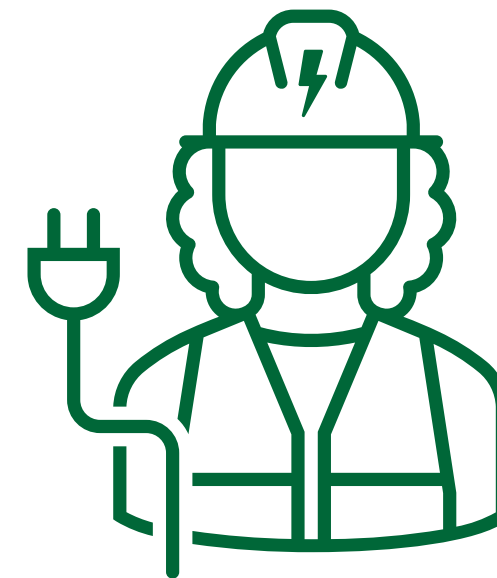
5,255 jobs
supported during
construction



280 jobs supported
during annual
operations



1,495 direct
construction
jobs



63 direct
annual operations
jobs

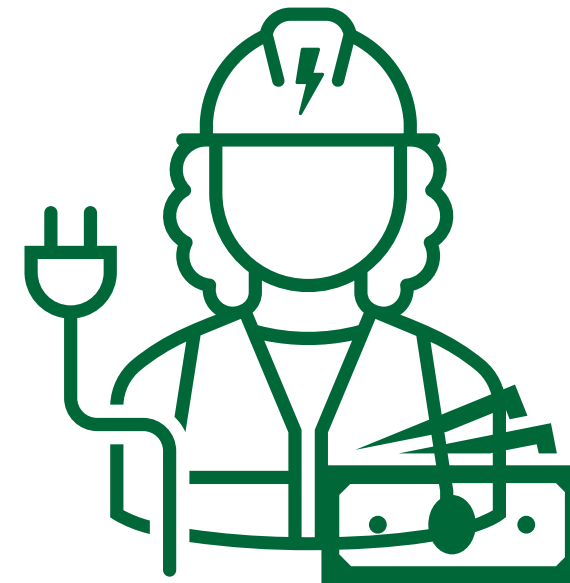
Nominal Earnings Impacts



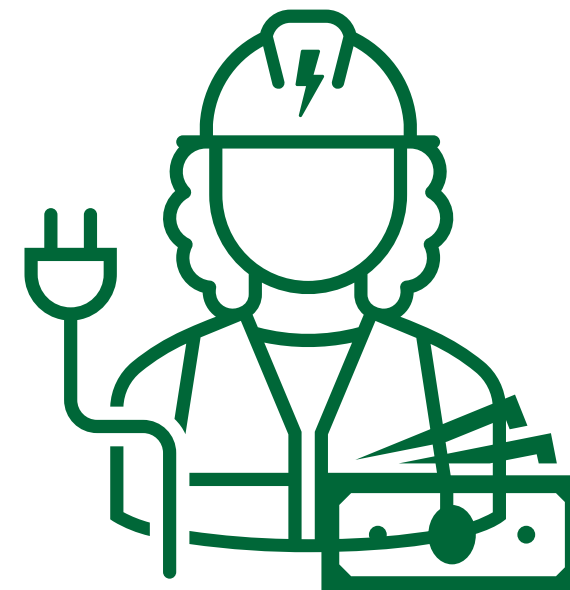
\$381M during
construction



\$162M to
construction
workers



\$16M during
annual
operations



\$4.4M to
operations
workers

Nominal Output Impacts



\$852M
during construction



\$62M
during annual
operations

*Output is the sum of employee compensation, proprietor income, other property income, taxes on production and imports, and intermediate inputs.
SER likens Output to additional Gross State Product (GSP).*

Nominal Landowner Payments

\$16.5M in annual
landowner payments

- Diversified revenue
- Keep land in family
- Retirement

Nominal Property Tax Impacts



\$270M

Over projects'
lifetime



\$8.9M

Total annual average

Other Impacts

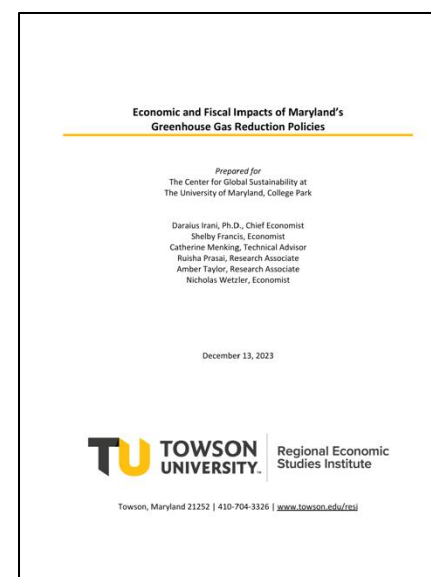
Monetary Health Benefits



- Reduced emissions of SO₂, NO_x, VOCs, & PM 2.5 lead to avoided adverse health incidences
- EPA's [COBRA](#) estimates reductions in health impacts and their monetary value



\$140-\$335M in avoided health costs by 2045 in VA

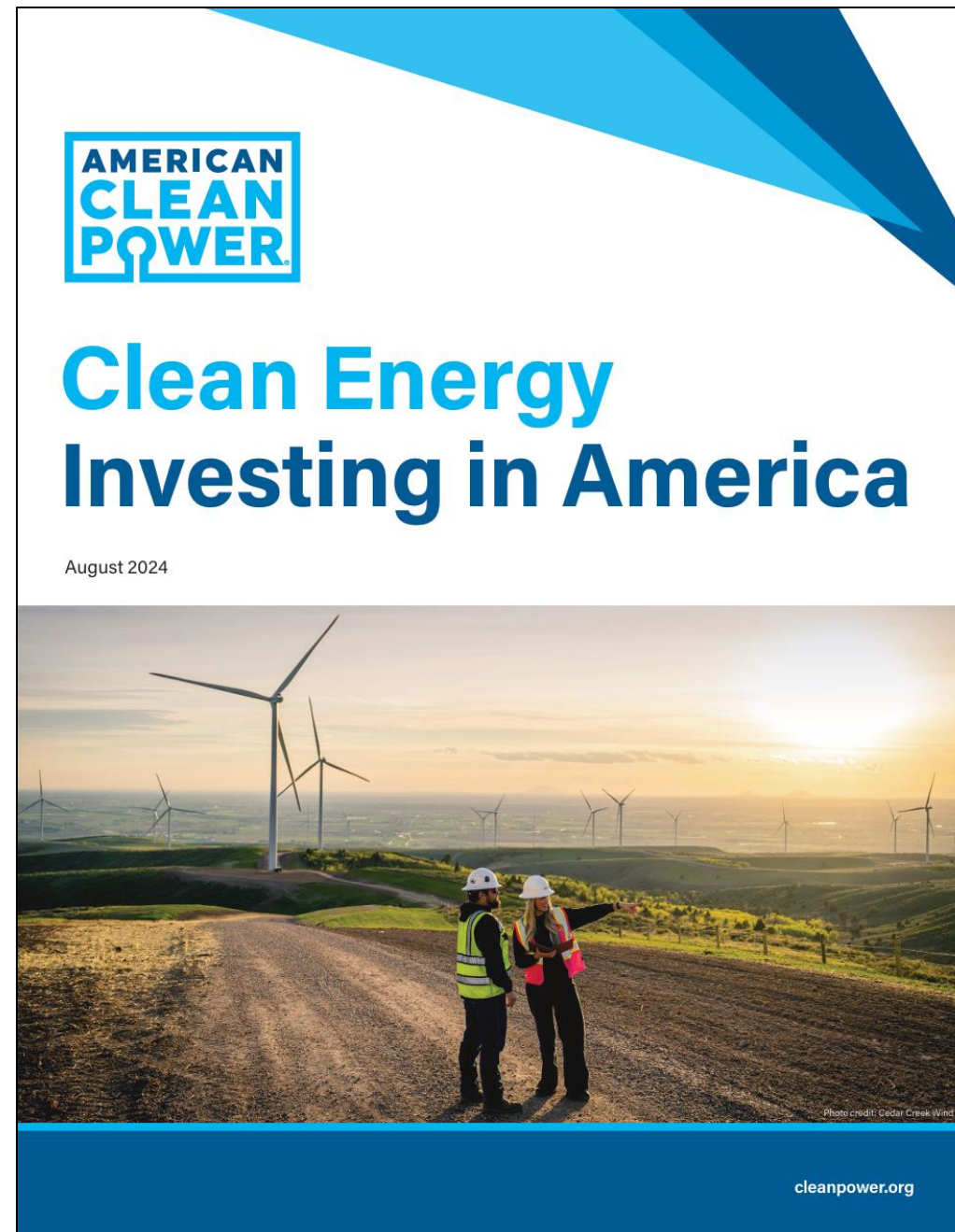


\$4B in avoided health costs through 2050 in MD



50k avoided deaths and \$600B in health benefits

Domestic Manufacturing



\$61B
in manufacturing

160+
Announcements

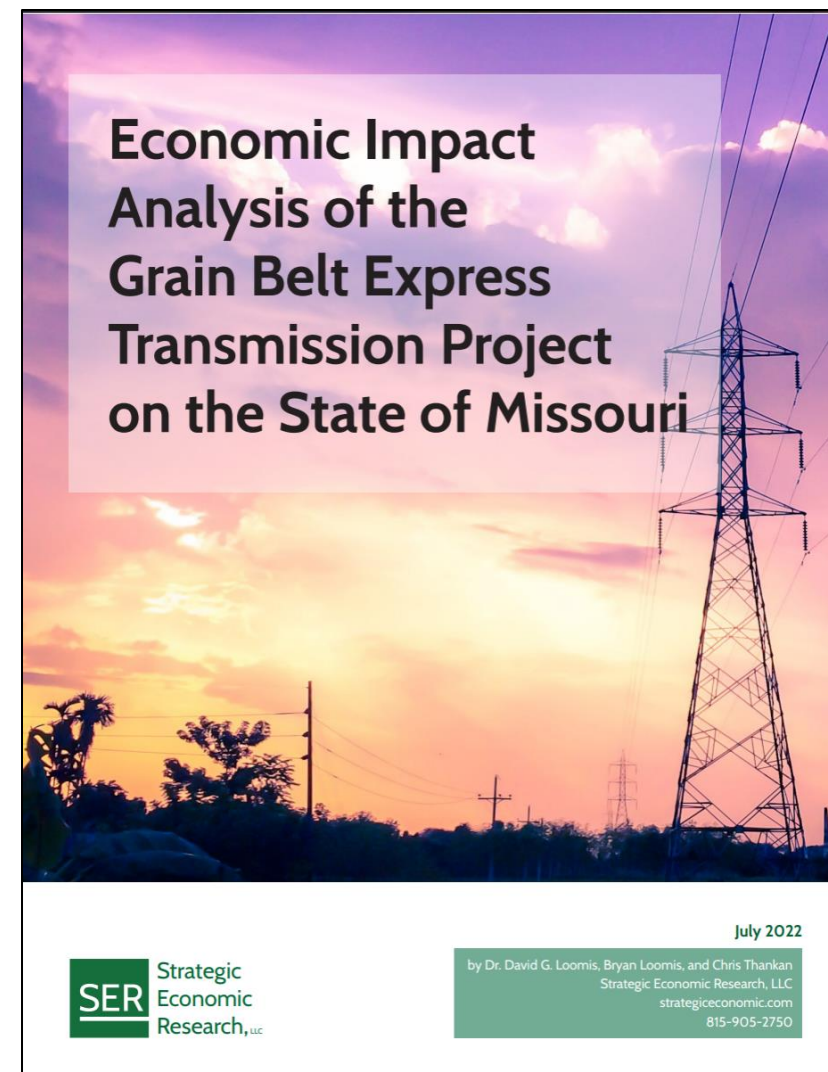
100k+
Jobs



1. [NewCo Manufacturing's \\$100M solar panel plant](#)
2. [ICL's \\$400M battery materials manufacturing plant](#)

Transmission Lines

“Capacity Expansion Studies Demonstrate That Significant Future Transmission Investments are Necessary to Address Anticipated Needs Under a Wide Variety of Future Scenarios”
- [DOE’s National Transmission Needs Study](#)



Grain Belt Express- MO impacts

- ⚡ 5700+ construction period jobs
- ⚡ 104+ annual operations jobs
- ⚡ \$586M+ in construction period earnings
- ⚡ \$8.1M+ in annual operations earnings
- ⚡ \$183.2M in lifetime property taxes
- ⚡ \$39.9M in landowner payments

National and Missouri Impacts



- ✓ 8.1M clean energy related jobs in 2022
- ✓ 883k jobs in electric power generation
- ✓ ~345GW
- ✓ \$500B new investments last 2 years

- ✓ 157k clean energy related jobs in 2022
- ✓ 10k jobs in electric power generation
- ✓ ~3GW
- ✓ \$5B total investment





ILLINOIS RENEWABLE ENERGY CONFERENCE

Oct. 1-2, 2024

Normal, IL

illinoisrenewable.com

40

Speakers

300+

Attendees



MEI Midwest Energy

Policy Series

August 20, 2024

Constellation: By the Numbers

Constellation is the
#1 zero-carbon energy
producer in the U.S with nearly
90% carbon-free output, backed by
more than
32,000 MW
of generating capacity.

Operates in
48 States & DC

Goal of Providing
100%
of business customers
with custom GHG data
by end of 2022

Scalable national
platform of over
2 million
residential, public sector
and business customers
served, offering
a diversity of
innovative products
and services, including
 $\frac{3}{4}$ of Fortune 100 companies

205 TWh
1.6 Tcf
Customer Load Served

13,000
Employees

Power Supply Mix	TWh
Nuclear	176
Conventional	20
Owned Renewable	7
Contracted Renewable	7
Purchased Power	73

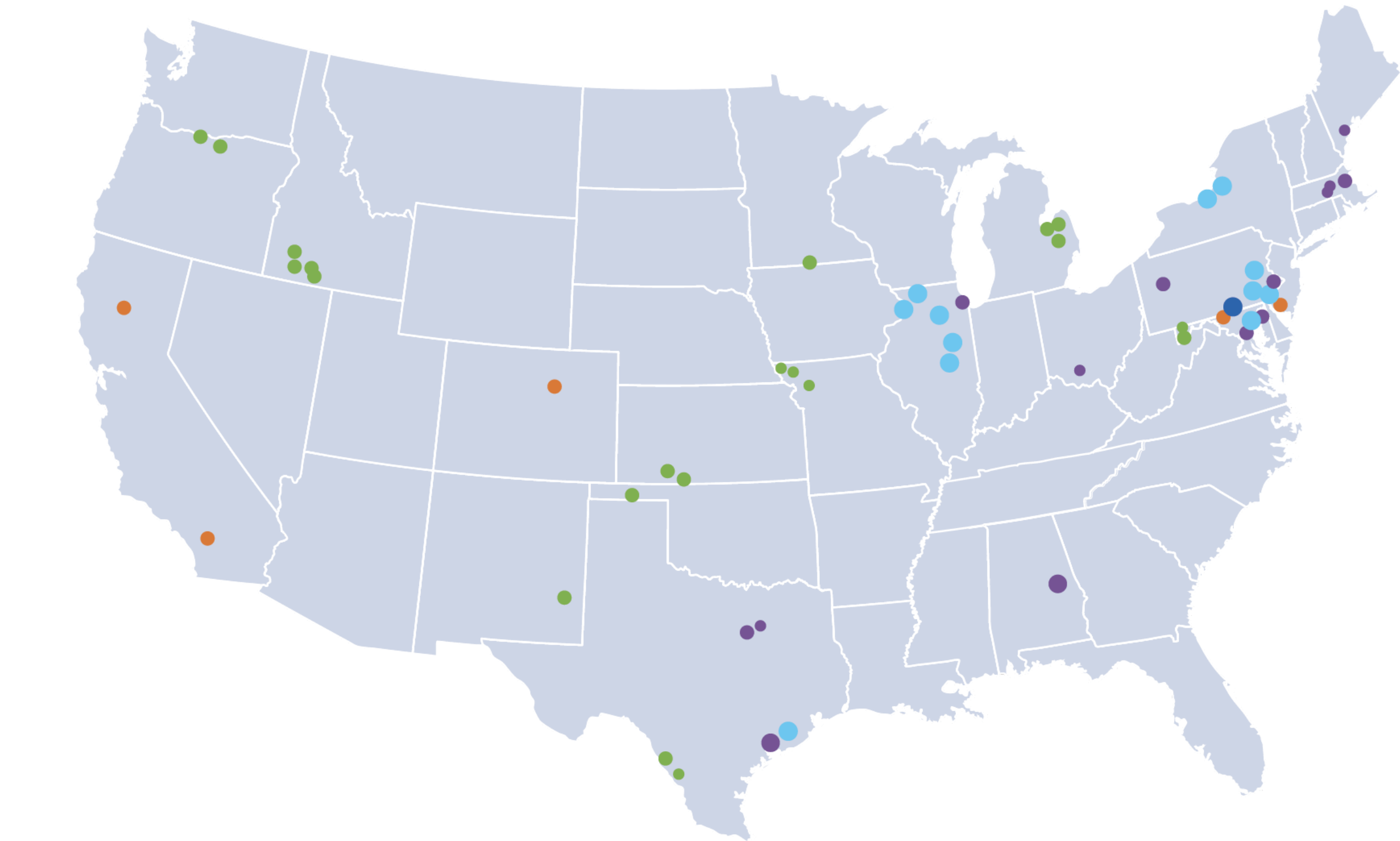
C&I
Market Share Ranking
#1

Generating Assets

Constellation produces around 10% of the nation's carbon-free energy

Constellation Owned Assets

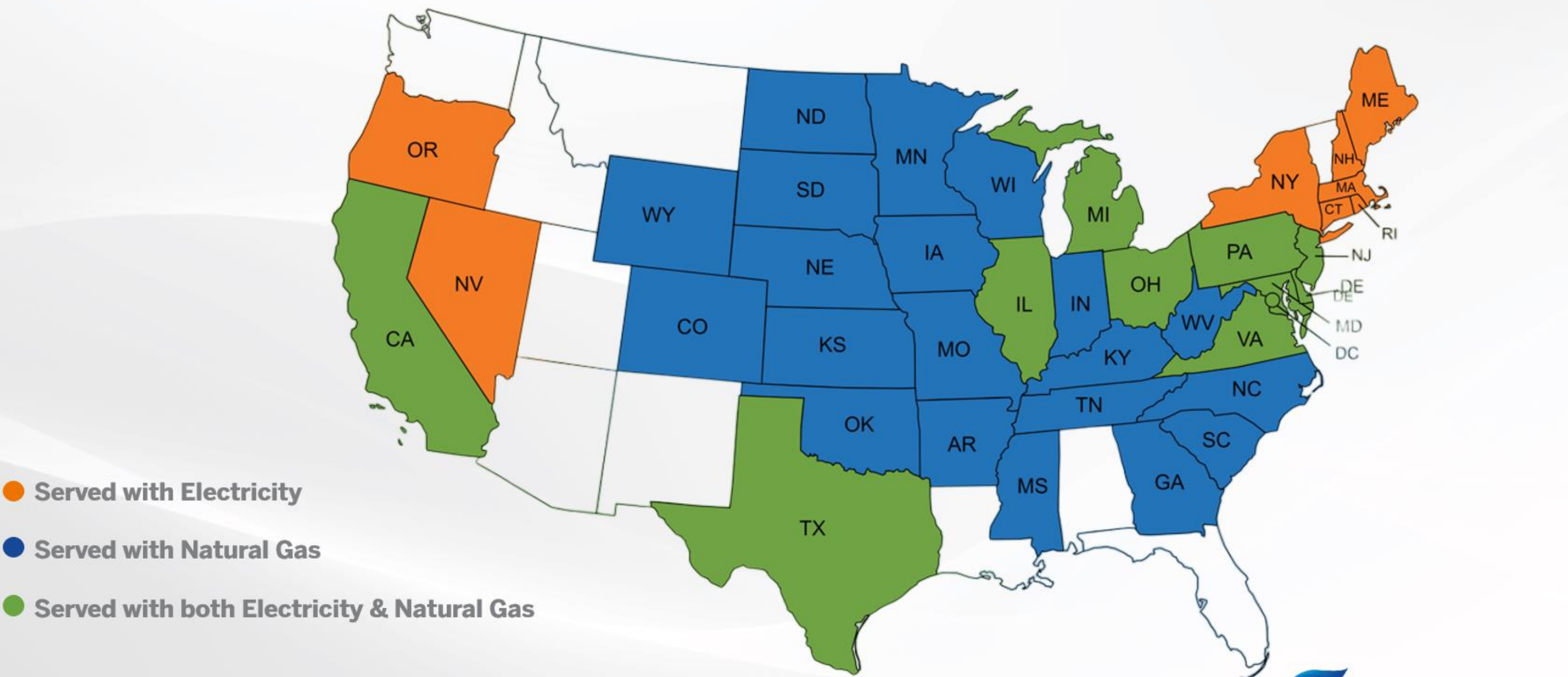
- Nuclear
- Gas/Other
- Hydro
- Wind
- Solar
- Other Renewables



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Constellation Commercial: Who, What and Where We Serve

We serve Electricity & Natural Gas across all competitive markets:



- Served with Electricity
- Served with Natural Gas
- Served with both Electricity & Natural Gas

Types of Greenhouse Gas (GHG) Emissions

Greenhouse gas emissions are classified as Scope 1, 2 or 3 based on their source.

Scope 1 Emissions

Direct

Emissions from onsite generation and fleet fuel consumption.



Scope 2 Emissions

Indirect

Emissions from fossil fuel consumption for power, such as power plants providing purchased electricity.



Scope 3 Emissions

Supplemental

Emissions from indirect sources, such as company travel and supply chain management.



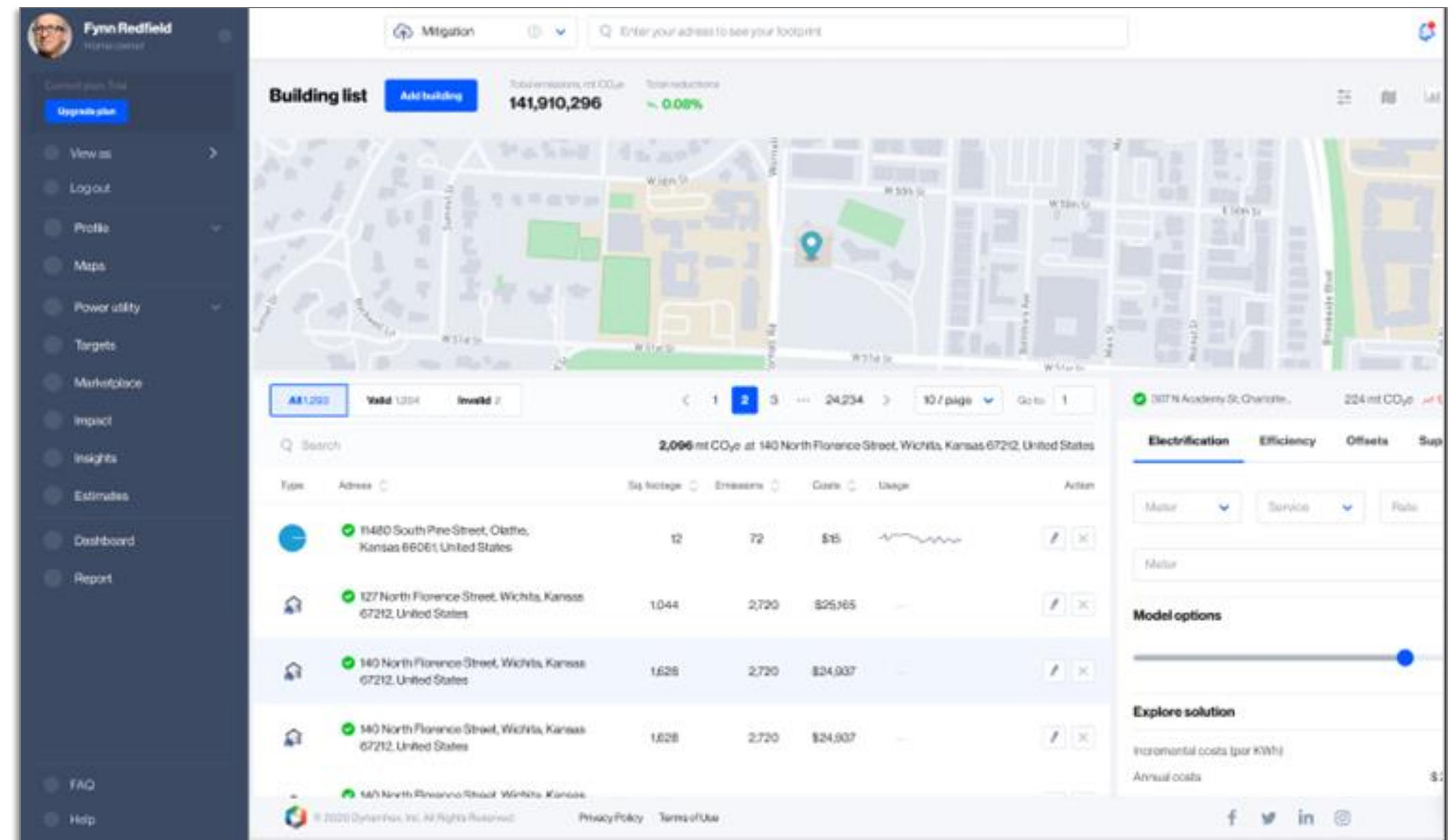
The GHG Emissions Platform

A subscription-based, online platform that helps commercial and with emissions reporting, sustainability target-setting, and planning. industrial customers

1 Establish a Baseline Footprint.

2 Set Climate Targets.

3 Build a Roadmap.



Solve key challenges

with the right tools to successfully navigate your sustainability journey



Evolving Regulatory Requirements

- Define an actionable strategy to help ensure **compliance is complete and on time.**
- Export data into multiple third-party reporting frameworks to more easily **adapt to changing requirements.**



Growing Industry Pressure

- **Strengthen supply chain relationships** by supporting their Scope 3 goals.
- **Differentiate your business** from competitors by demonstrating commitments to your customers.



Road-mapping challenges

- Strategize with dynamic scenario planning tools to **maximize impact while staying in budget.**



Time, Knowledge & Resources

- Leverage a cost-effective alternative to hiring or outsourcing in a way that **lets you get started sooner.**
- Implement a comprehensive strategy without needing to **complete the process to research, gather solutions options, and prioritize on your own.**

What to Expect: Onboarding

Constellation's Team of Experts will be with you every step of the way to help you make the most of the Platform.



Step 1

Preliminary Information Gathering (1-2 weeks)

Complete a Questionnaire - Building Address(es), Equipment and Vehicle Information, Number of Commodities



Step 2

Kick-off Call (1-2 weeks)

Complete Introductions, Review Questionnaire, Define plan for gathering data



Step 3

Detailed Facility Data Gathering (5-6 weeks)

Gather usage and facility data - Send us PDF Invoices, Upload via CSV or Excel, OR Automate Ingestion



Step 4

GHG Platform Training and Access (1-2 weeks)

Ensure users have access, Walk through the platform with hands-on training

Bringing Data & Map to Life with Alaska Municipal League

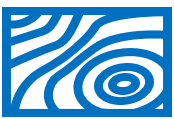


“The Alaska Municipal League (AML) is a voluntary, nonprofit, nonpartisan, statewide organization of 165 cities, boroughs, and unified municipalities, **representing over 97 percent of Alaska’s residents.**”

-akml.org/about/

Supporting a Carbon-free Future for the State of Alaska

This unique strategy provides state-level data standardization and decarbonization analysis tools while also providing each unique community with a dynamic online geospatial dashboard to help them engage with community members and assess strategies that may directly reduce emissions within their own towns, cities, and tribal lands.



The GHG Software Platform

- EPA Methodology compliant, state-wide **GHG Emissions Calculator**
- An online geospatial dashboard and modeling tool – **one custom map for each of 229 cities, towns, and tribal lands**



Baseline GHG Emissions Inventory

- Uses a combination of estimated and actual data to provide a complete view
- **Calculate GHG and criteria air pollutant inventories:**
 - Simplified: stationary combustion and transportation emissions
 - Robust: industrial processes, wastewater, solid waste, agriculture, forestry, and fishing activities.



Reporting and Scenarios

- **State-wide summaries and detailed, by-community breakdowns**
- Community reports will be accessible and available for download on each map
- Scenarios for addressing emissions **specific to residential, commercial, industrial, and transportation sectors.**



Implementation and support

- **Consultative support** to explain reports and underlying assumptions
- Support in comprehending the data and reporting to **aid decision-making for the state**



Thank You

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