Welcome from CSG South Chairman Craig Blair

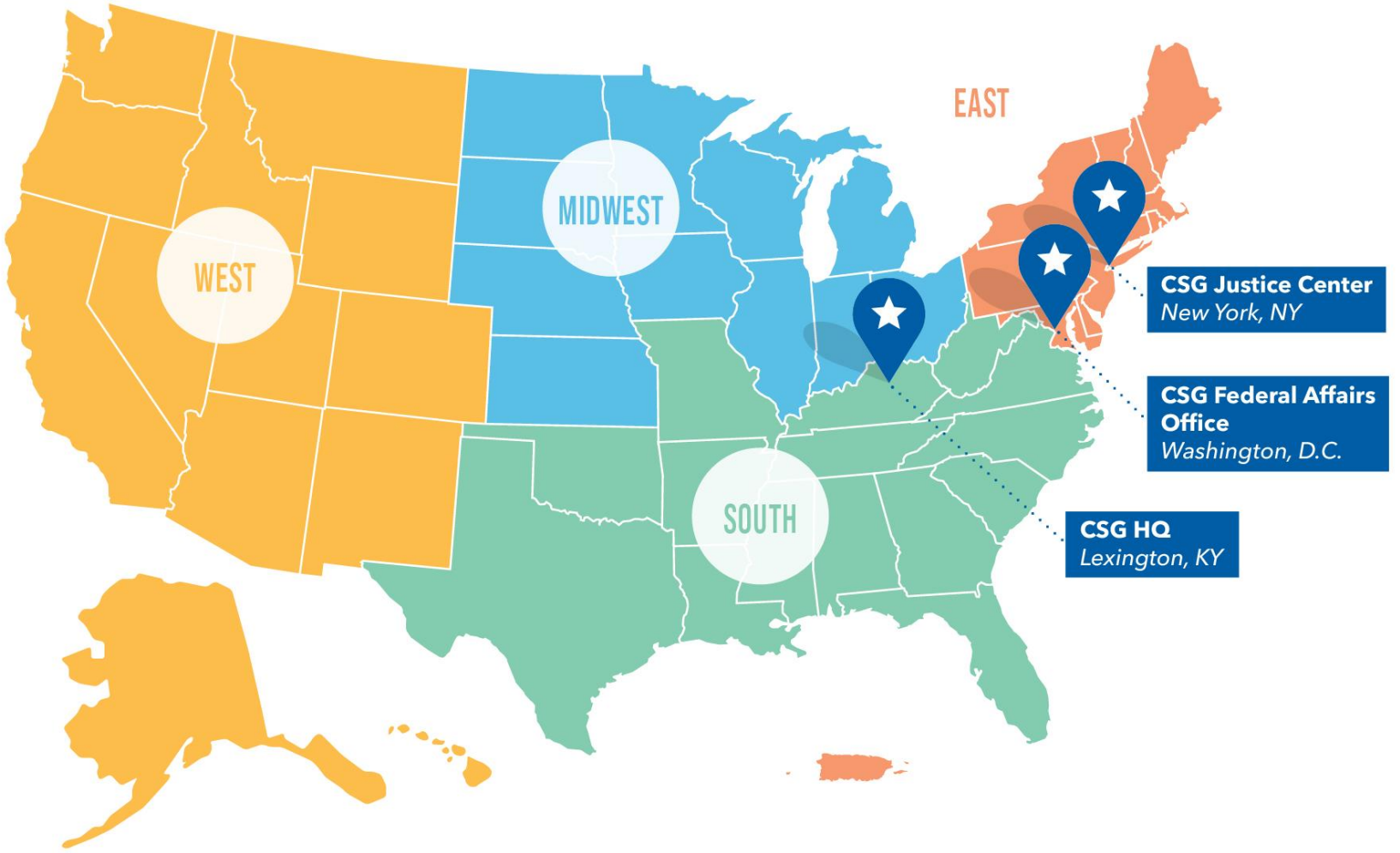
CSG SOUTH

CSG | SOUTH

THE COUNCIL OF STATE GOVERNMENTS **SOUTHERN OFFICE**

CSG 101:

- Founded in 1933 by Colorado Senator Henry Wolcott Toll
- Serves all three Branches of State Government
- Nonpartisan/Not for Profit 501(c)(3)
- $58 Million Budget
- 300+ Employees
- Four Strong Regions
  - CSG South
  - CSG East
  - CSG Midwest
  - CSG West
- 56 Member States & Territories
- Justice Center
- 11 Affiliated Organizations


EAST
MIDWEST
WEST
SOUTH
CSG Justice Center
New York, NY
CSG Federal Affairs Office
Washington, D.C.
CSG HQ
Lexington, KY

CSG 101:
CSG JUSTICE CENTER

- Focus on Public Safety and Criminal Justice Issues
- Technical Assistance
- Part of CSG National

- We bring people together

  With our singular ability to reach federal, state and local leaders from all three branches of government, we gather people from both sides of the aisle and across the country to foster collaboration.

- We build momentum for policy change

  We synthesize and contextualize data to help policymakers enact and implement major reforms that address criminal justice challenges, many of which intersect with other systems, such as health, education and housing.

- We drive criminal justice forward with original research

  Our in-depth data analyses, coupled with extensive interviews of people on the front lines of the criminal justice system, inform improvements and spur national initiatives.

- We provide expert assistance

  Our unrivaled on-the-ground training and assistance helps state and local agencies translate the latest research into policy and practice.

CSG 101:
NATIONAL HEADQUARTERS, LEXINGTON, KY

- Advancement
- Accounting
- Communications
- Executive Management
- Human Resources
- Information Technology
- Legal
- CSG Center of Innovation

CSG SOUTH:
OUR CORE FOCUS AND VALUES

Our Core Focus:

- The most trusted and nonpartisan capacitor dedicated to Southern state governments.

Our Core Values:

- Ambitious
- Adaptable
- Servants Heart
- Accountable
- Credible

Our Team

Regional Director
Lindsey Gray
lgray@csg.org

Executive Administrative Associate
Yolanda Donaldson
ydonaldson@csg.org

Finance and Events Coordinator
Susan Lanter
slanter@csg.org

Office Coordinator
Kayleigh Strech
kstretch@csg.org

Senior Event Coordinator
Paula Tavares
ptavares@csg.org

Director of Policy and Research
Anne Brody
abrody@csg.org

Director of Development
Jill Clark
jclark@csg.org

Director of Marketing and Programs
Angel Touwsma
atouwsma@csg.org

Sr. Policy Analyst
Now Hiring

Sr. Policy Analyst
Cody Allen
callen@csg.org

Policy Analyst
Eric Harrison
eharrison@csg.org

Policy Analyst
To Be Filled by Jan. 2024

Programs Associate
Ryan Shacklette
rshacklette@csg.org

Design and Marketing Associate
Jack Williams
jwilliams@csg.org
July 17, 2023 start

Communications Coordinator
To Be Filled by Jan. 2024

CSG SOUTH 101:

- Established in 1947
- Executive Committee
- 15 Southern States
- 12 Staff Members
  - Policy & Research
  - Programs & Marketing
  - Events & Admin
- Funding
  - State Appropriations – 60/40
  - Private Sector
  - Grants & Foundations
  - Pay for Services

CSG SOUTH: POLICY RESEARCH AND ANALYSIS

- Six Standing Policy Committees
  - Education
  - Economic Development and Transportation
  - Fiscal Affairs & Government Operations
  - Human Services and Public Safety
  - Energy and Environment
  - Agriculture and Rural Development
- Policy Information Requests
- Policy Publications
- State Session Visits
- Policy Masterclasses
- Domestic & International Delegations

CSG SOUTH: LEADERSHIP DEVELOPMENT

- Center for the Advancement of Leadership Skills (CALS)
- Staff Academy for Governmental Excellence (SAGE)

CSG SOUTH: LEGISLATIVE STAFF RESOURCES

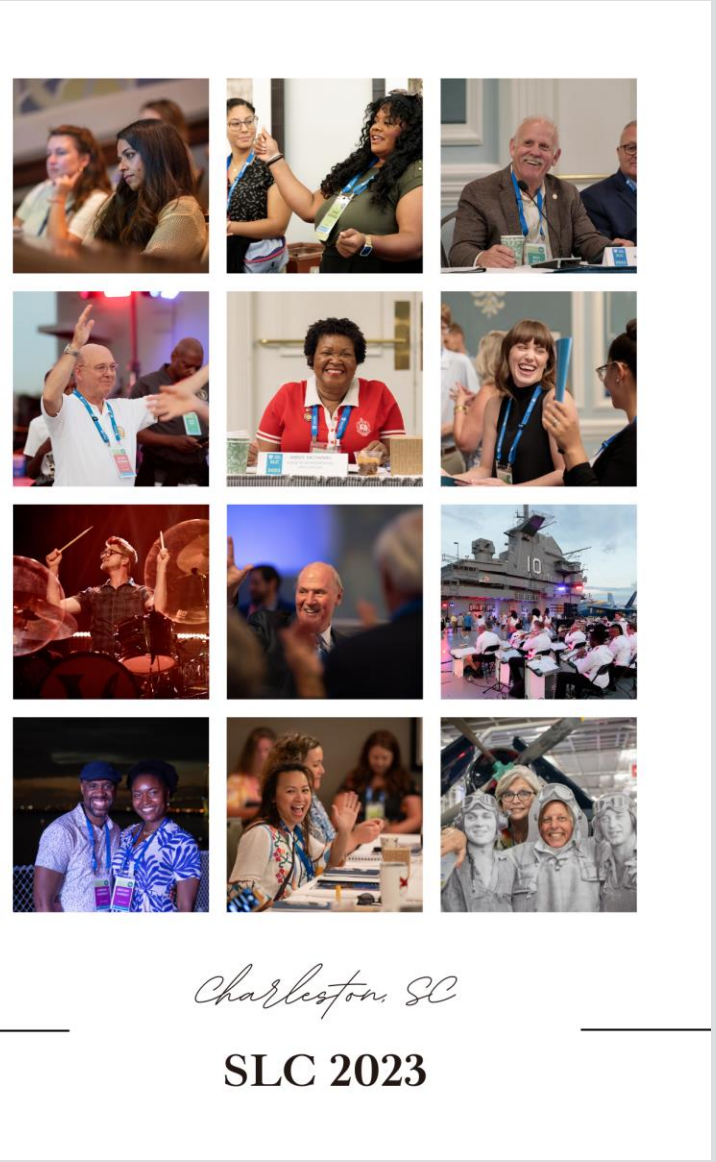
- Legislative Service Agency Directors Group (LSA)
- Staff Alliance for Intergovernmental Leadership (SAIL)
- Legislative Staff Exchange Program (LSEP)





CSG SOUTH: SOUTHERN LEGISLATIVE CONFERENCE (SLC)

- CSG South's Annual Meeting
- Largest regional gathering of legislative members and staff
- Over 2,200 attended in 2023, making it the largest SLC to date
- 35 sessions offered, including keynotes, policy sessions, government staff tracks, committee meetings, site visits, and more
- Robust Guest and Youth program in conjunction with policy and government staff sessions
- 110,00 meals packed during the conference's philanthropy project



CSG SOUTH AWARDS

(GIVEN ANNUALLY AT SLC)

- Carter/Hellard Legislative Staff Award Recipients

  Presented annually since 1990, the Carter/Hellard Legislative Staff Award is given to a staff member who has demonstrated excellence and dedication in service to Southern state legislatures.

- State Transformation in Action Recognition (STAR) Award

  The Southern Legislative Conference's State Transformation in Action Recognition (STAR) award recognizes impactful, creative, effective, and transferable state government solutions.

- Thomas B. Murphy Legacy Award

  The Thomas B. Murphy Legacy Award is presented to a Southern state legislator who has distinguished themselves by dutifully serving their constituents during their years in the legislature and actively participating in the Southern Legislative Conference.

SAVE THE DATE FOR SLC 2024!

JULY 21 – 25, 2024

THE GREENBRIER IN WEST VIRGINIA

HOLTEC INTERNATIONAL

ALL OF THE ABOVE:
Including the Nuclear Energy Option

CSG 90 Years The Council of State Governments

Pierre Oneid
Senior Vice President,
Holtec International
October 25, 2023

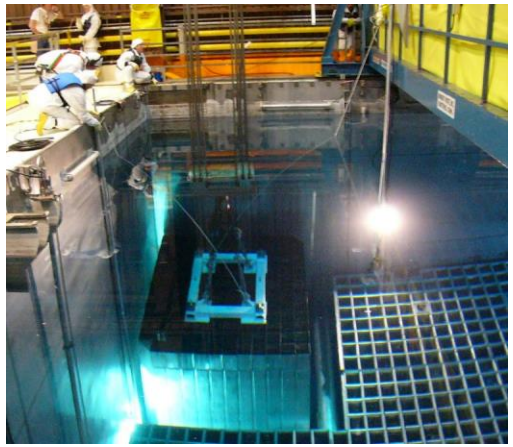
The Big One!

Holtec International Company Overview

- Established in 1986
- Robust safety program
- Strong and effective quality assurance program
- Impeccable on-time delivery record
- Excellent financial strength
  - No history of long-term debt
  - Financially strong with self-financed Research & Development
  - Equipment delivered: 4.0 Billion USD
  - Orders booked for future deliveries: 7.0 Billion USD
- Business mix:
  - 90% Nuclear power & nuclear waste
  - 5% Fossil power - combined cycle
  - 5% Renewables - solar, wind, etc.

Krishna P. Singh Technology Campus
Camden, NJ

Holtec International Product Overview






All the Above










Trends in U.S. Power Generation Since 1950

Power Mix 1950

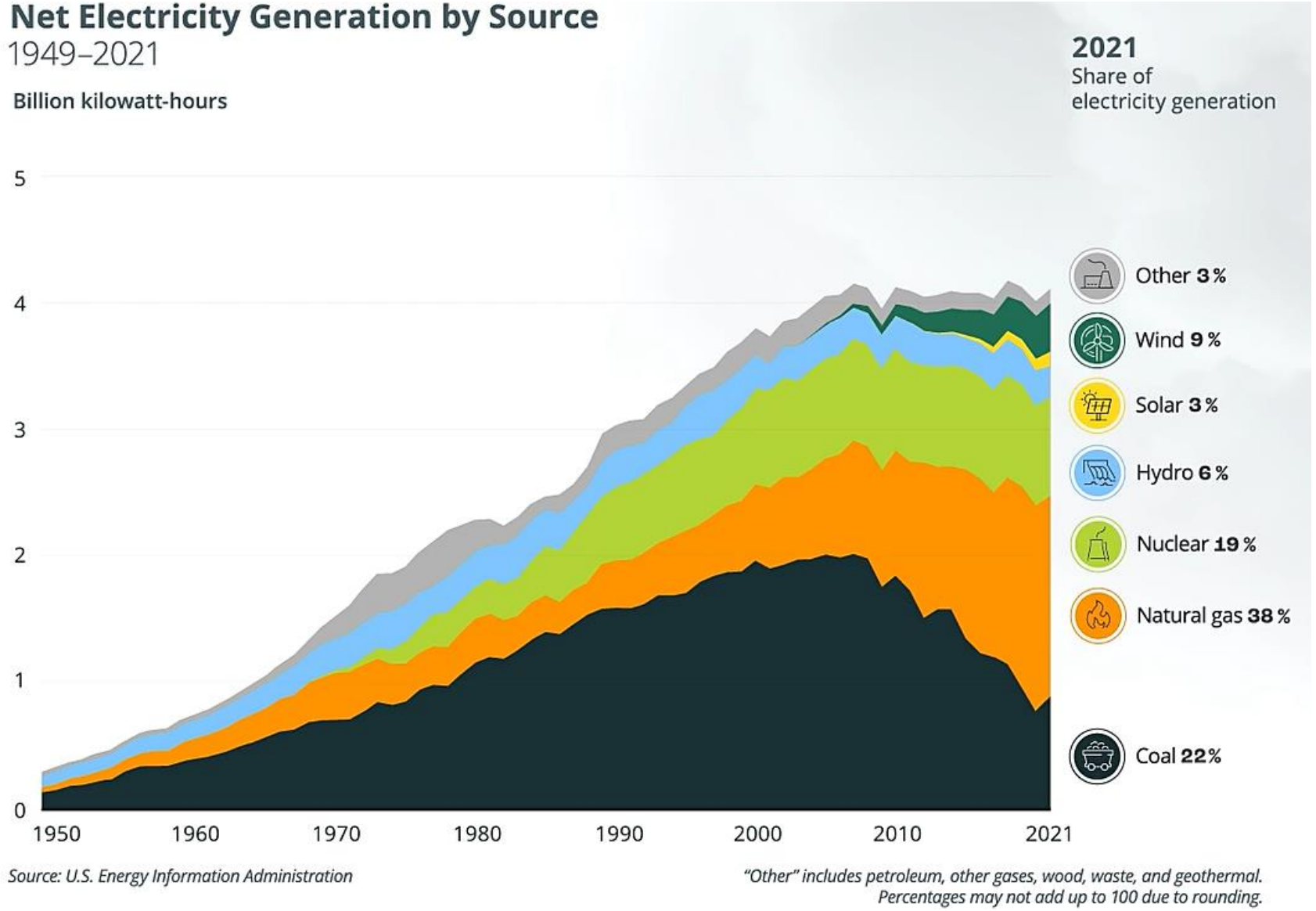
- Coal 46%
- Natural Gas 13%
- Solar 0%

Power Mix 2021

- Coal 22%
- Natural Gas 38%
- Solar 3%

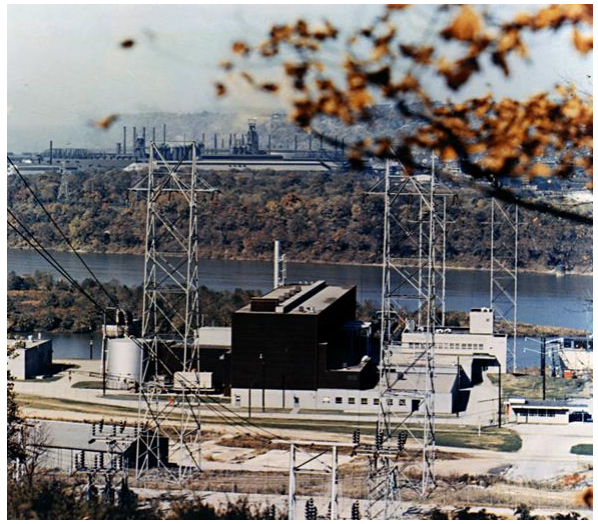
While coal and hydropower led as the largest sources of electricity in the 1950s, growth in the U.S. electricity demand is now met primarily by natural gas, followed by coal, nuclear, wind and solar power.

70 Years of U.S. Power Generation

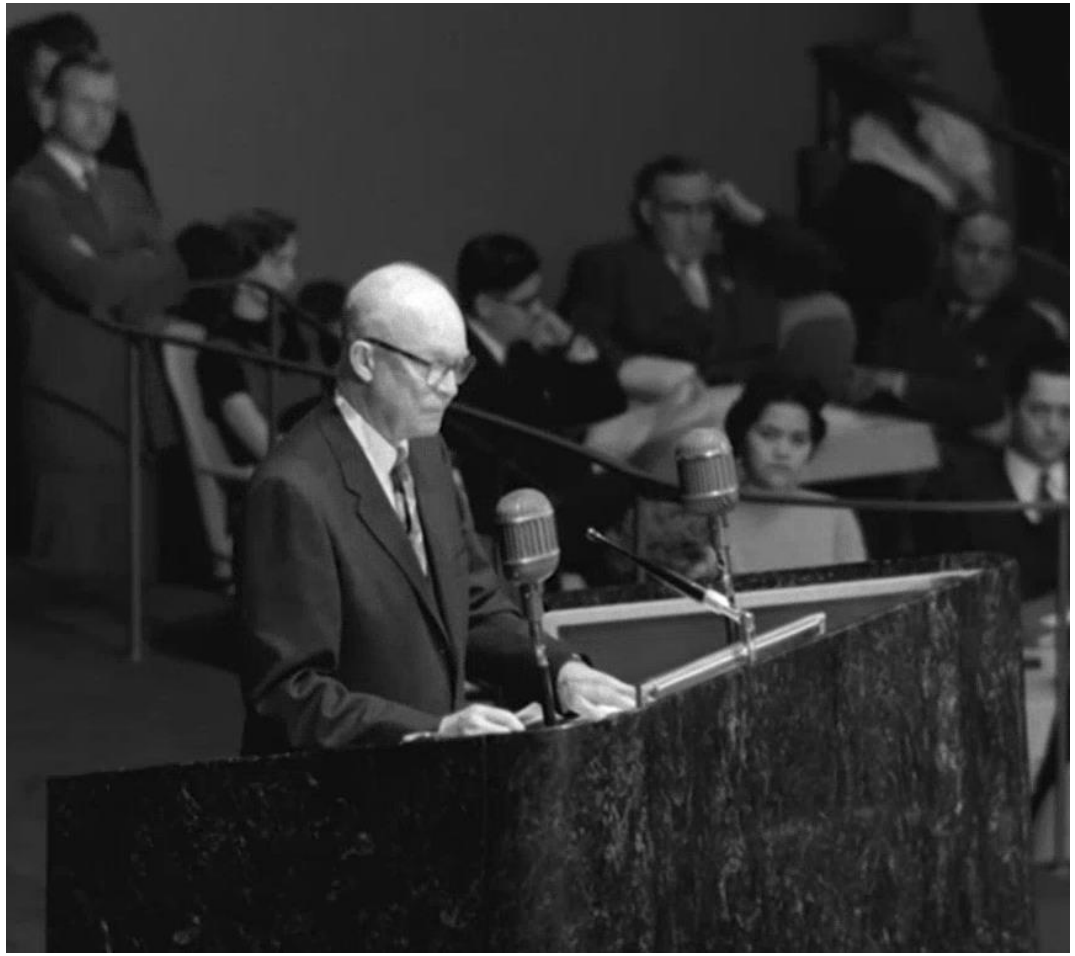


Commercial Nuclear Power

- The Past ….
- ……The Present……
- ……The Future



It Started Here



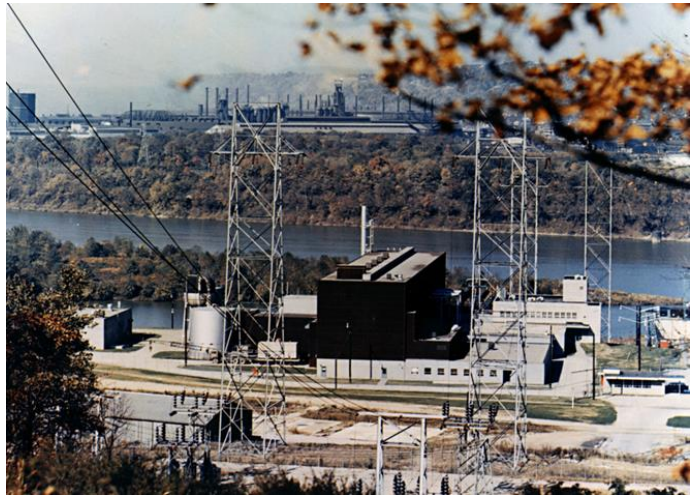
"**Atoms for Peace**" -Dwight D. Eisenhower
Delivered December8, 1953, United Nations General Assembly

"Experts would be mobilized to apply atomic energy to the needs of agriculture, medicine, and other peaceful activities. A special purpose would be to provide abundant electrical energy in the power-starved areas of the world. Thus, the contributing powers would be dedicating some of their strength to serve the needs rather than the fears of mankind."

First Nuclear-Powered Plants

- On September 30, 1954, Nautilus became the first commissioned nuclear-powered ship in the United States Navy
- Shippingport Atomic Power Station in Shippingport, Pennsylvania, the first full-scale nuclear power generating station in the United States which began operating in 1957

USS Nautilus



Shippingport Atomic Power Station

Current Nuclear-Powered Plants





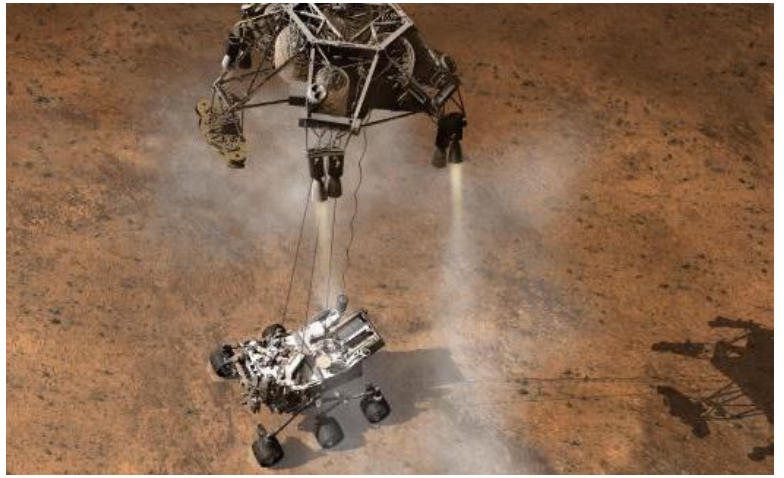
- US: 93 Reactors - 100GW
- World: 440 Reactors - 390GW
- Approx. One in Five US households is powered by Nuclear Energy



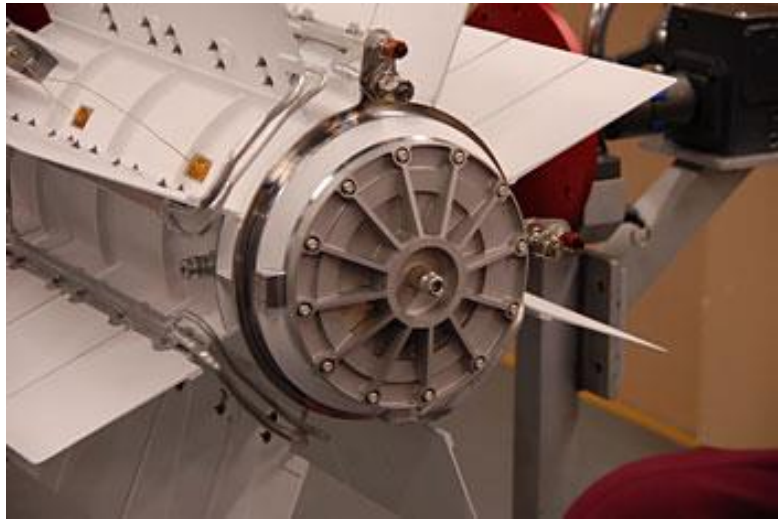


Today's Nuclear-Powered Plants

- When the Curiosity rover touched down on Mars a specially designed nuclear generator kicked into action
- Multi-Mission Radioisotope Thermoelectric Generator (MMRTP): an energy source that relies on the heat generated by decaying plutonium dioxide to run Curiosity
  - Designed to run at least one Martian year, which is almost two Earth years



Mars Curiosity Rover



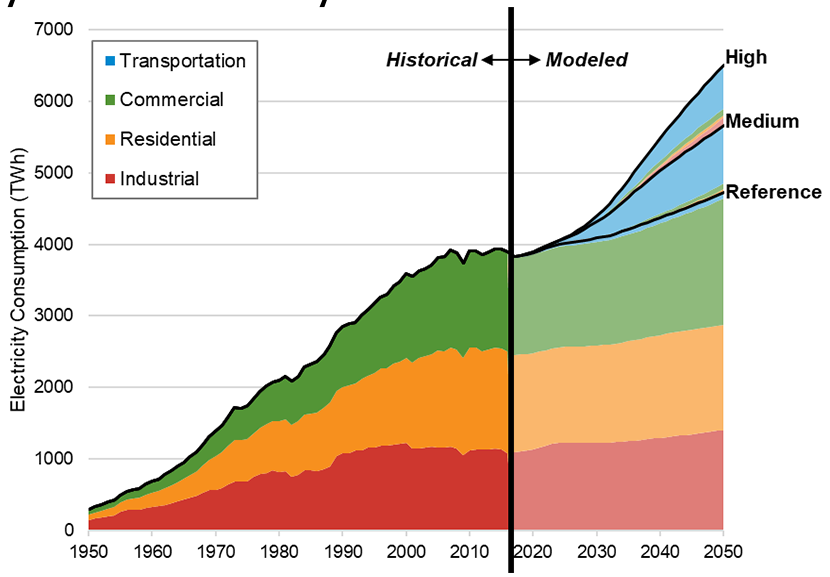
Multi-Mission Radioisotope Thermoelectric Generator

U.S. Electricity Generation Demand Market Projection for the Next 25 Years

- National Renewable Energy Lab's medium to high U.S. electricity demand projection to 2050 is 138% of current demand, including all sectors: commercial, industrial, residential, transportation
  - By 2050, the U.S. will consume 5500TWh annually instead of the current (2022) 4000TWh
- Many believe that projection is low, owing to the electrification of everything, and estimate electricity demand to double to nearly consume 8000TWh annually by 2050
- Nearly 75% of current installed US electricity generation capacity will need to be replaced or will otherwise achieve capacity retirement by or before 2050
  - The US delivered electricity replacement market = 3000TWh/yr.

That translates to a U.S. replacement + new demand wheeled energy demand market of 4500 to 7000TWh annually by 2050

(114MWe * 8760hrs/yr = 1TWh)



U.S. 30 Year New Nuclear Marketplace to 2050

- U.S. Energy Information Agency estimates renewables will account for 2500TWh of total U.S. delivered electricity by 2050
  - 1TWh wind = 250MW installed capacity – NOT dispatchable
  - 1TWh solar PV = ~450MW installed capacity – NOT dispatchable
  - 1TWh nuclear = ~100MW installed capacity – IS dispatchable
- At 95% capacity factor, nuclear power can wheel 1000TWh annually with 120GWe of constructed nameplate capacity
- With an estimated 2050 U.S. electricity consumption projection of 5500 to 8000TWh annually, the remaining amenable 30yr U.S. electricity marketplace for non-renewable electricity (2000 to 4500TWh) is equivalent to between 240GW and 540GW for new nuclear generation capacity (avg. 390GW)
- An average projected 390GWe nuclear nameplate capacity addition in the U.S. by 2050 represents nearly 4X the installed capacity of the current U.S. operating NPP fleet
- At $6-9k/kw, that represents a ~$2.3 – 3.5 trillion market opportunity for new US nuclear power to 2050
  - That equates to ~1300 SMR reactors (300 MW each)

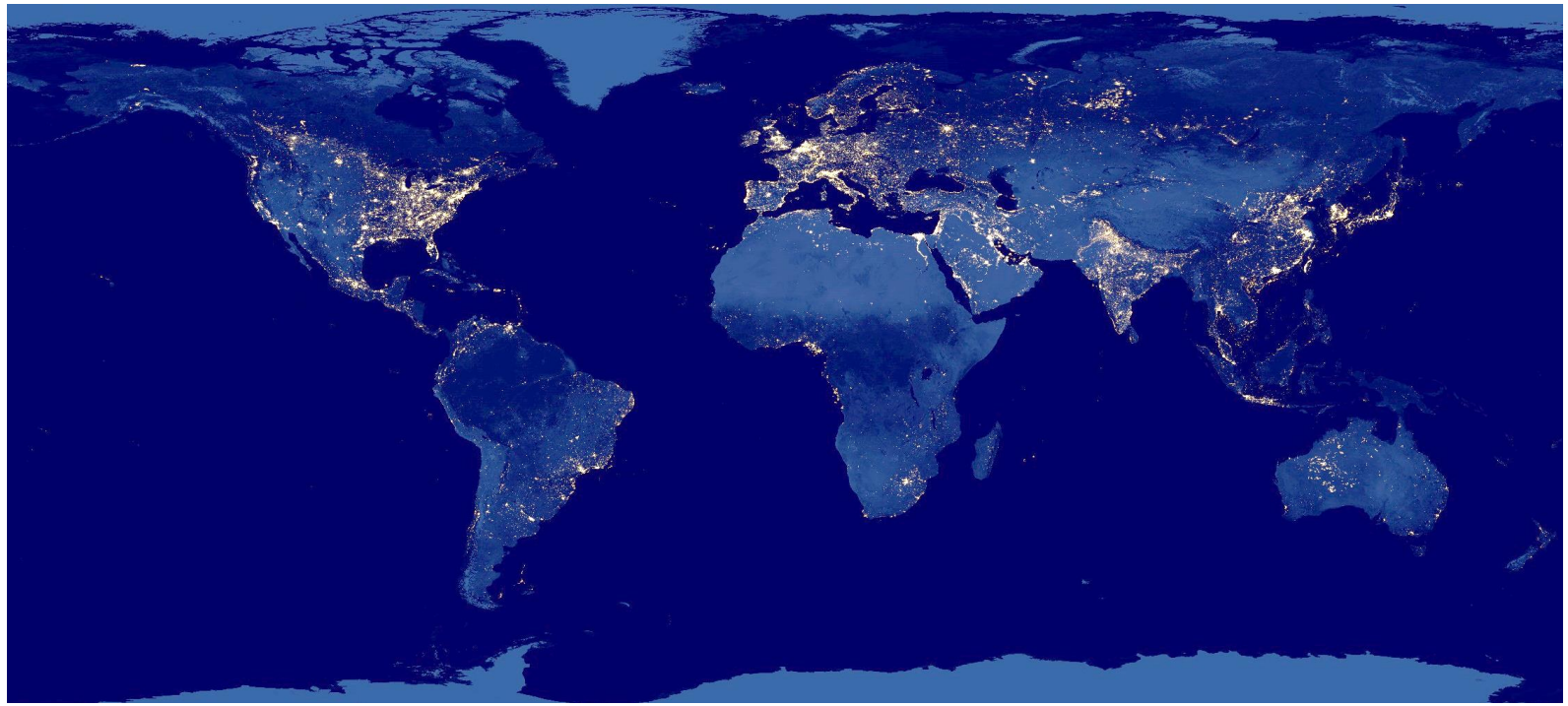
Nuclear Energy

- America is moving toward a clean energy future
  - We need that energy to be not only clean, but reliable and cost effective
- Our nation needs to be able to independently produce its own energy
  - Nuclear increases our energy independence by providing a steady, secure energy supply here at home
- Now, more important than ever to keep electric bills affordable and create good jobs
  - Nuclear creates highly paid jobs wherever the plants are built
  - Next generation nuclear facilities are smaller, simpler to construct and more affordable than ever
- Nuclear provides clean, reliable and secure energy we can count on for our energy future

24/7, 365 days a year, rain or shine, nuclear is powering America's clean energy future;
no matter what happens outside – rain, snow, extreme weather

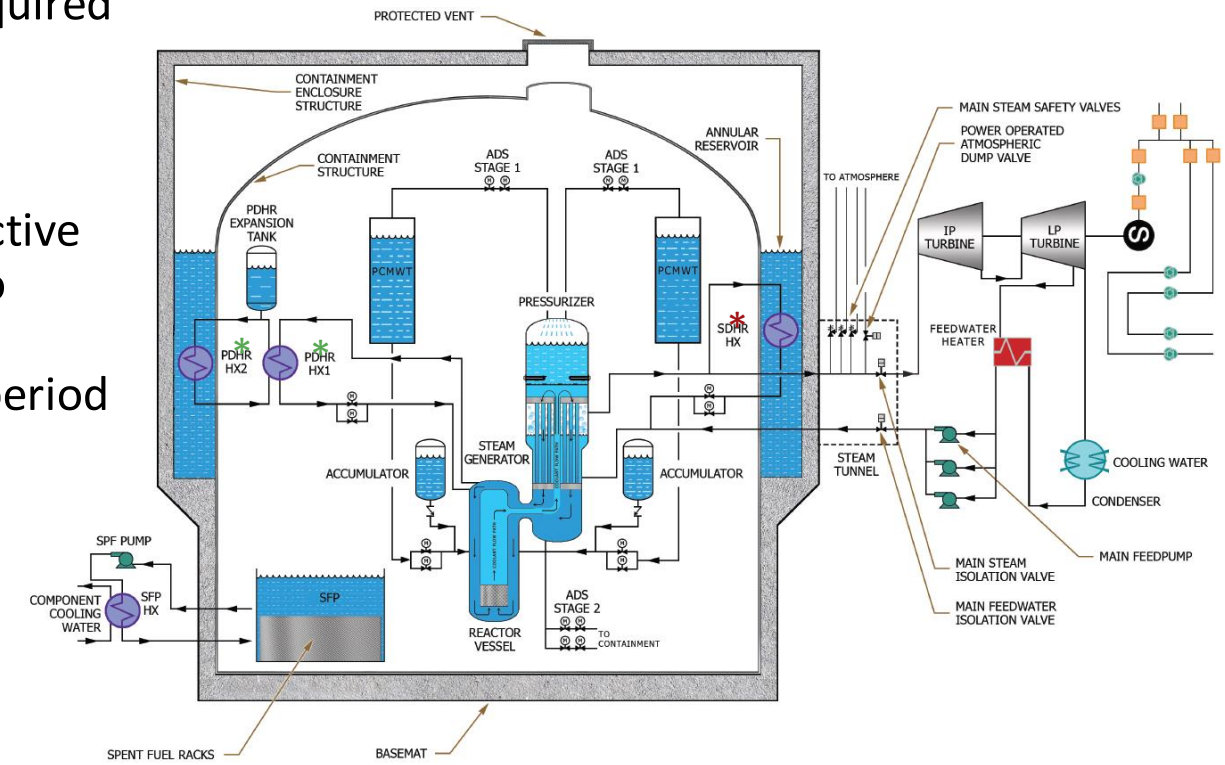
Holtec SMR – A New Paradigm for Nuclear Energy

- Holtec SMR mission is to light up the ill-lit areas on the globe with affordable clean energy
  - ✔ Safe
  - ✔ Secure
  - ✔ Economical



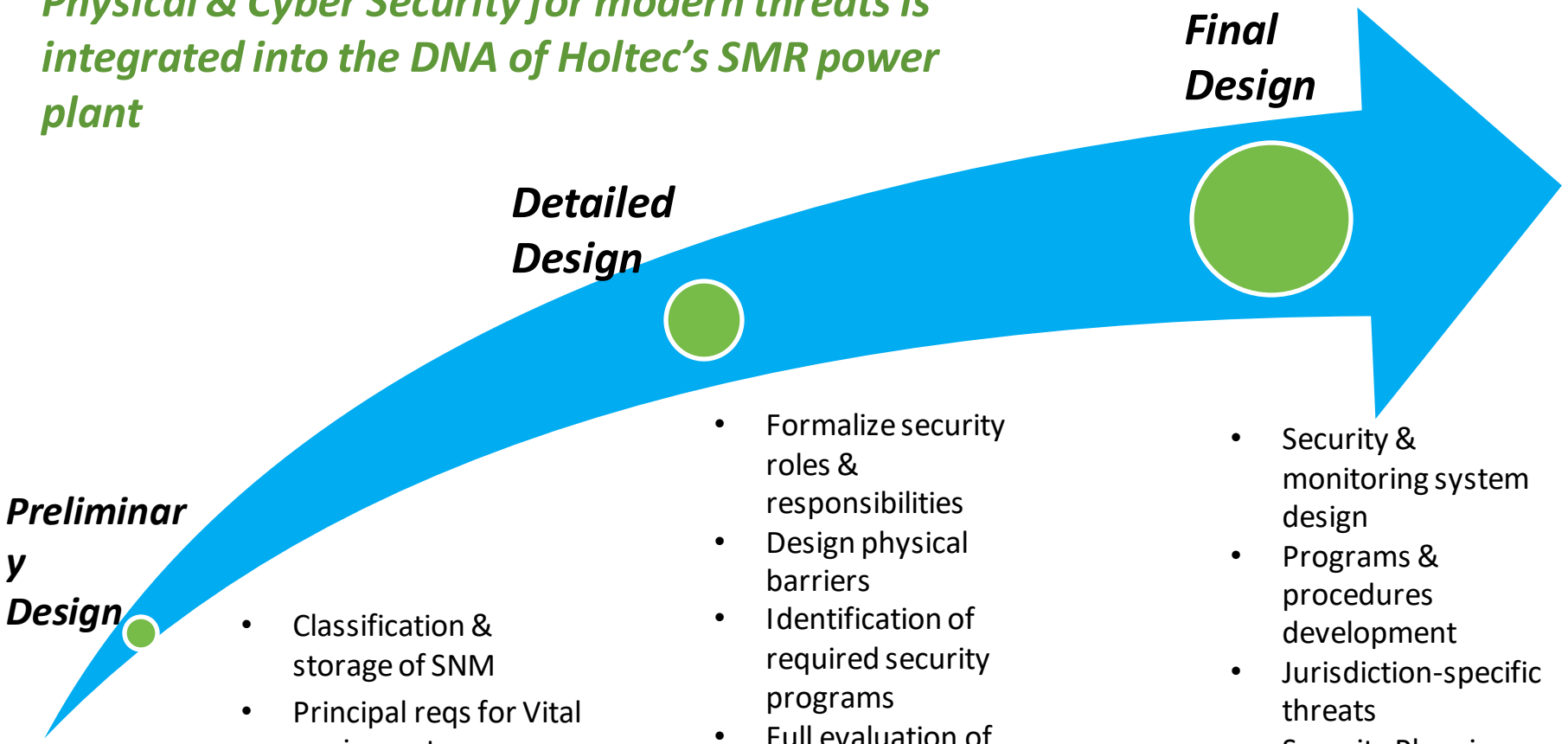
Essential Design Features of SMR-160+
Passive Engineered Safety Systems

- Redundant and diverse pathways to reject heat in the case of a postulated LOCA
  - ✔ **Primary Decay Heat Removal System -** Removes heat passively from reactor vessel
  - ✔ **Secondary Decay Heat Removal System -** Removes heat passively from steam generator
- No operator action required for accident mitigation ("walk-away safe")
- Exploits gravity-driven convective and conductive heat transfer modes to provide an unlimited post-accident coping period
- Uses only proven materials
- No pumps; no motors for safe shut down



Security by Design

Physical & Cyber Security for modern threats is integrated into the DNA of Holtec's SMR power plant



- Classification & storage of SNM
- Principal reqs for Vital equipment
- Setting up for success – future systems & programs
- Identify applicable codes & standards

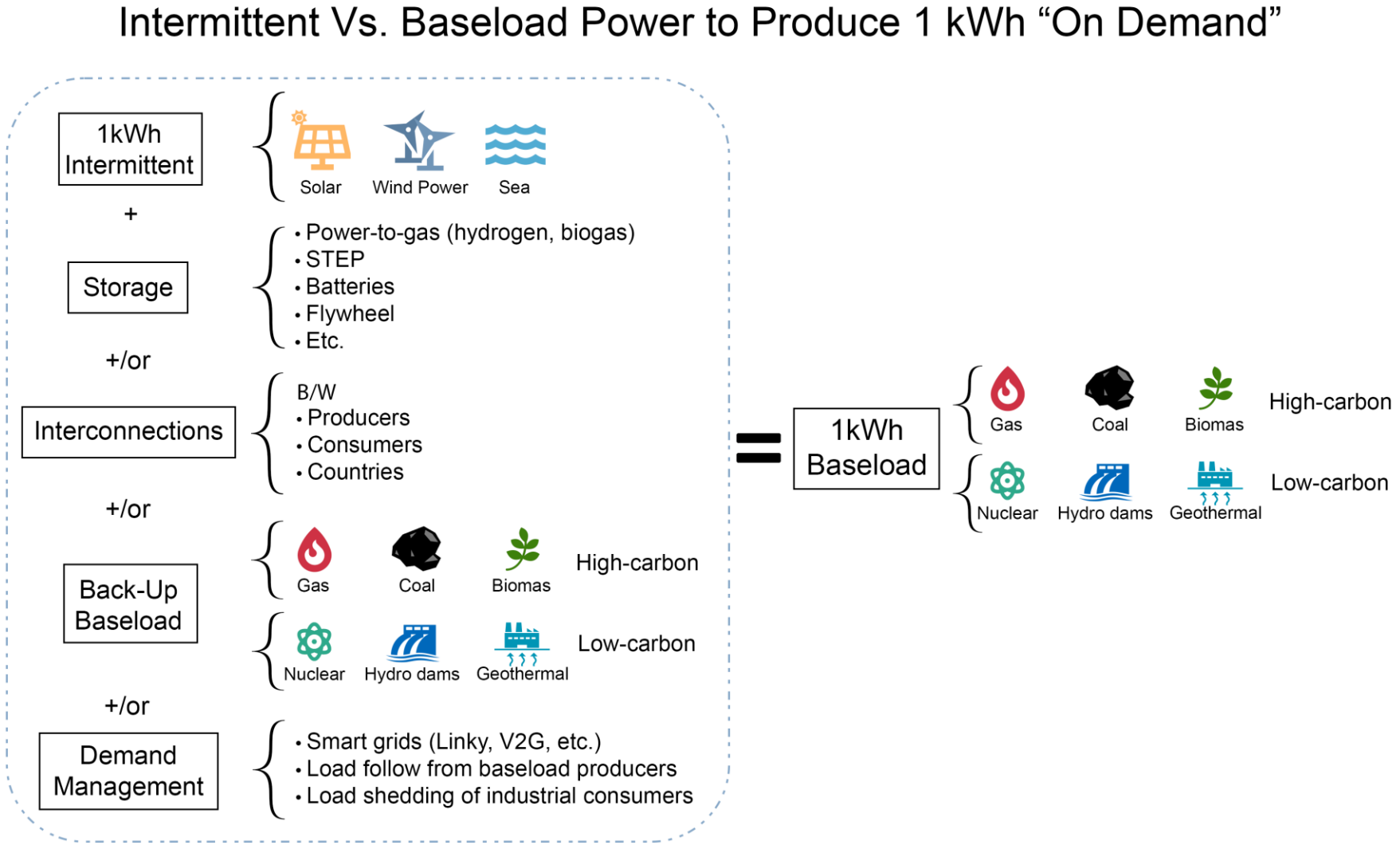
- Formalize security roles & responsibilities
- Design physical barriers
- Identification of required security programs
- Full evaluation of threats
- Programs for handling security information

- Security & monitoring system design
- Programs & procedures development
- Jurisdiction-specific threats
- Security Planning

Holtec SMR Economical Case

- Small
- Modular
- 80-Year Service Life
- Location Flexible: air-cooled available
- Dual Unit Plant Superior Economics: minimizes cost of ownership and operation
- Substantial In-House Manufacturing
- High Power Density: less fuel bundles
- Life Cycle Management

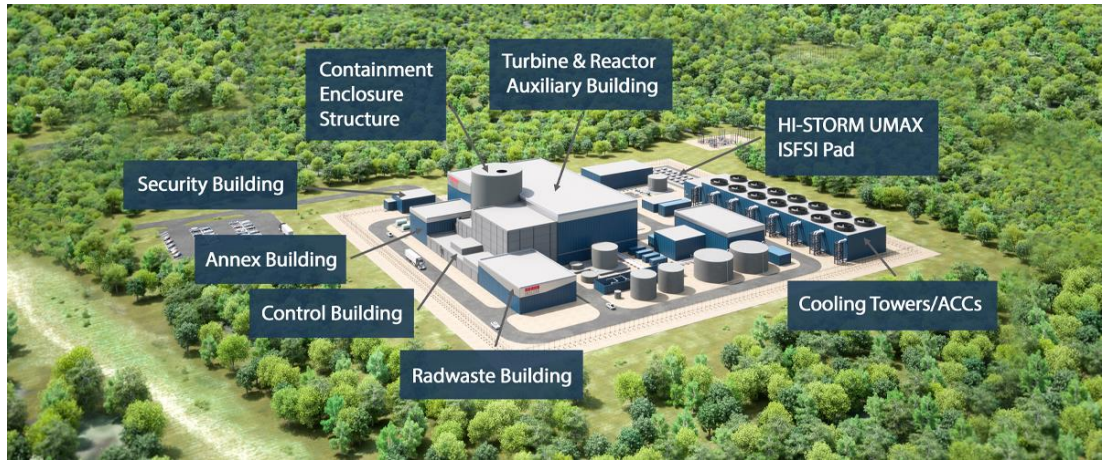
Intermittent Vs. Baseload

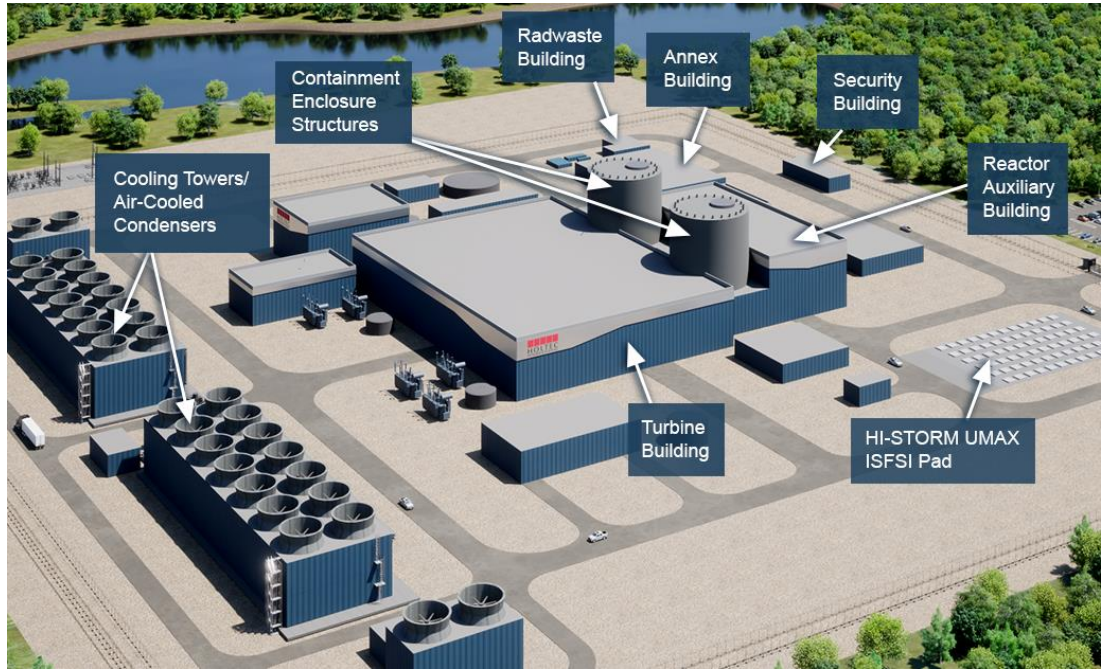


Myrto TRIPATHI

Each Holtec SMR Plant is Compact and Autonomous

- Land Use
  - ✔ Single Unit: less <15 acres
  - ✔ Dual-Unit Block: ~25 acres
- EPZ Boundary = Site Boundary





Imperatives of the 21st Century Energy Generation Economy

- Distributed power generation to minimize the need for wheeling power long distance in emerging economies much more reliant on electricity than today
  - ✔ Holtec SMR fulfills this need
- Solar energy must be rendered into a continuously available power source (base load) by employing efficient energy storage technologies (viz, Green Boiler)
- Nuclear energy provides base load power and runs at full power 24/7 by using the Green Boiler [no wasteful load-following]

Holtec's Energy Triad to Support U.S. Leadership in the 21st Century

1. Holtec SMR:

The SMR is an intrinsically safe nuclear plant, designed to be a global reactor (i.e., deployable practically anywhere in the world). Conceived to provide distributed power to serve local mini-grids.

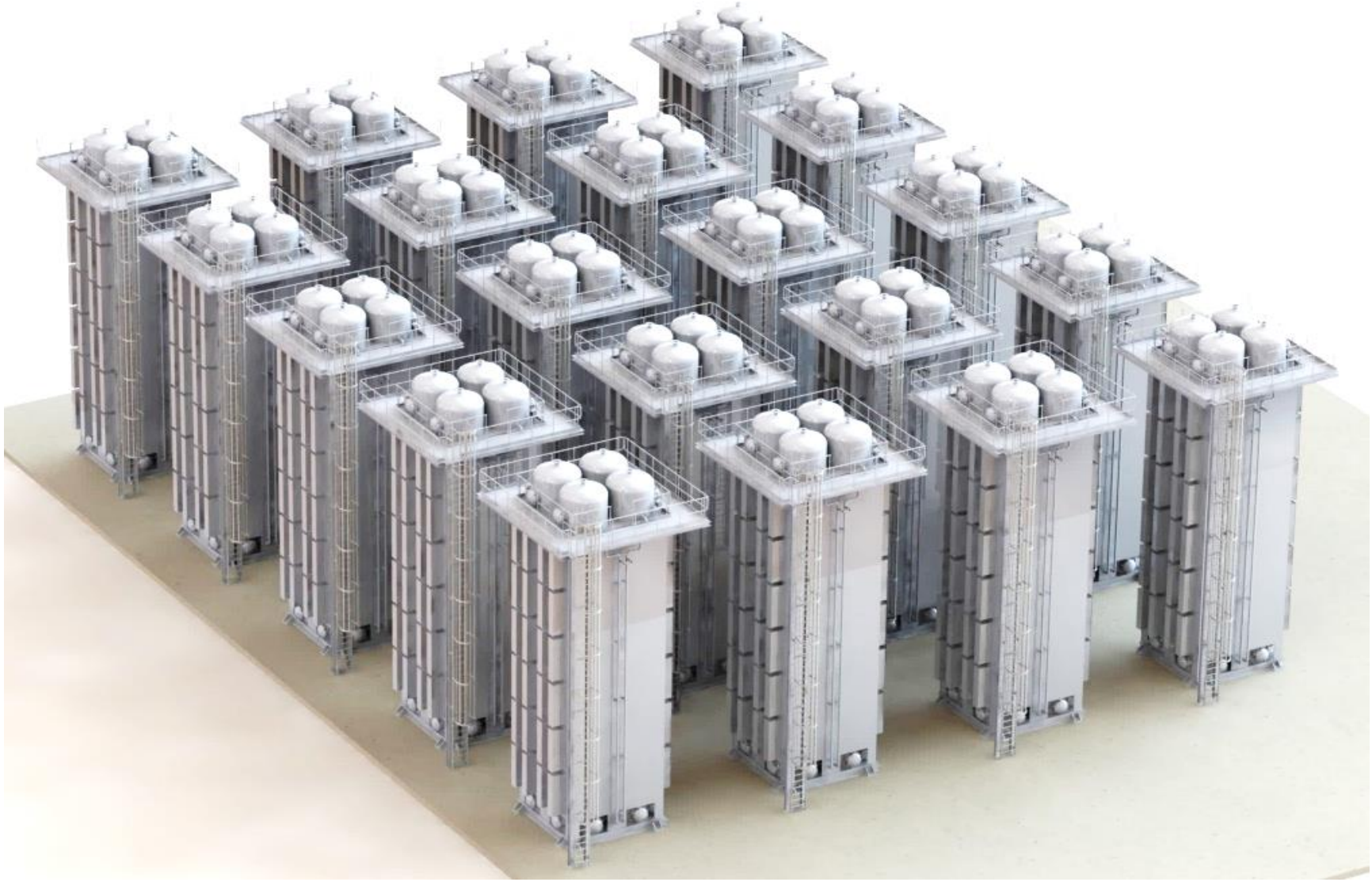
2. Green Boiler:

The Green Boiler is a flexible-capacity thermal energy storage and delivery system. It has been devised to serve as a large capacitor to store heat from a renewable energy source or surplus energy from operating plants with minimal parasitic losses; capable of providing steam at any pressure and superheat desired.

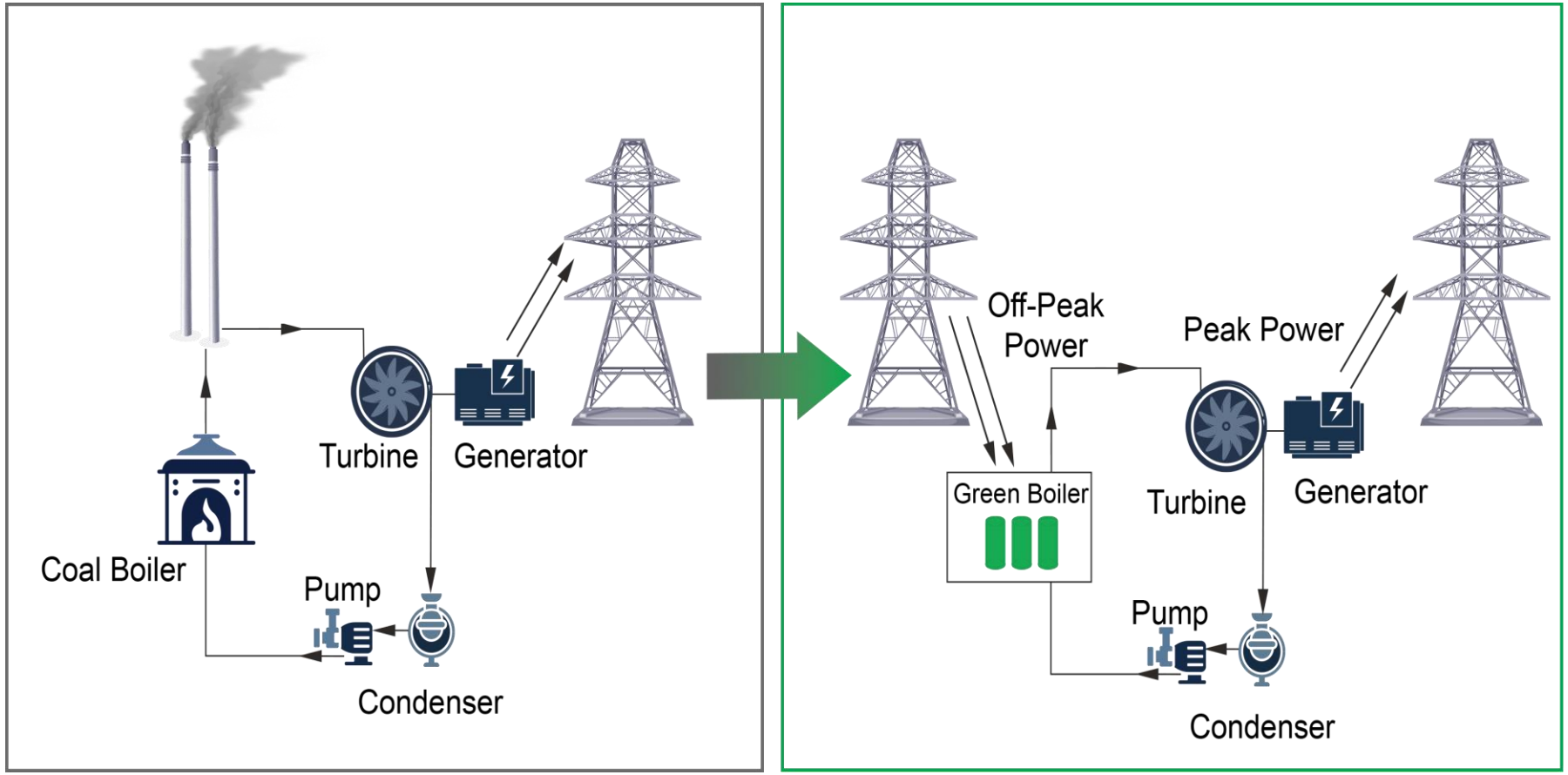
3. Solar Concentrator Plant (CSP):

A high-density solar concentrated Solar Power (CSP) plant that heats molten salt that can feed the thermal capacitor in the Green Boiler.

Array of Green Boilers

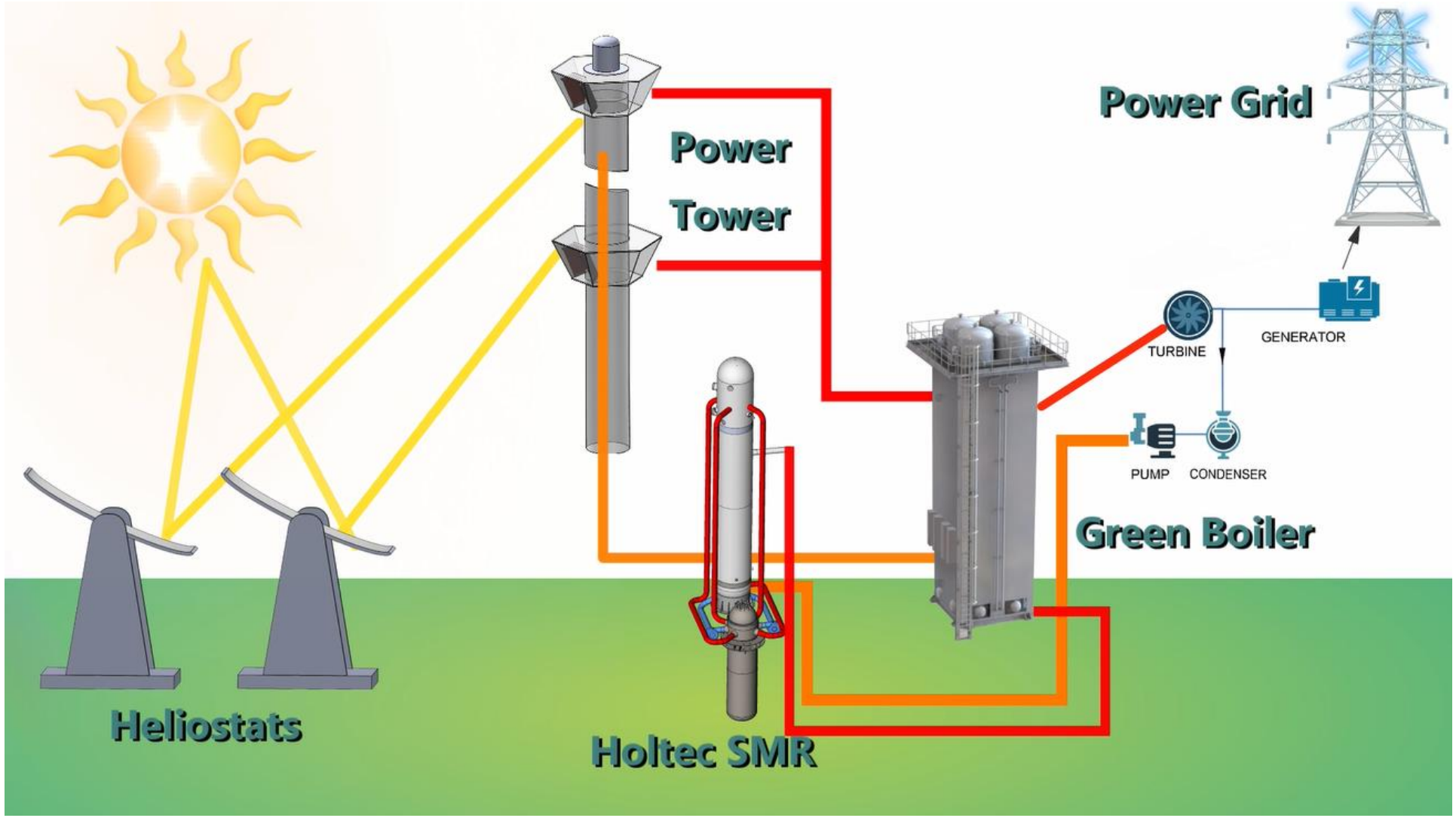


Pictorial of Green Boiler Replacing the Coal Boiler



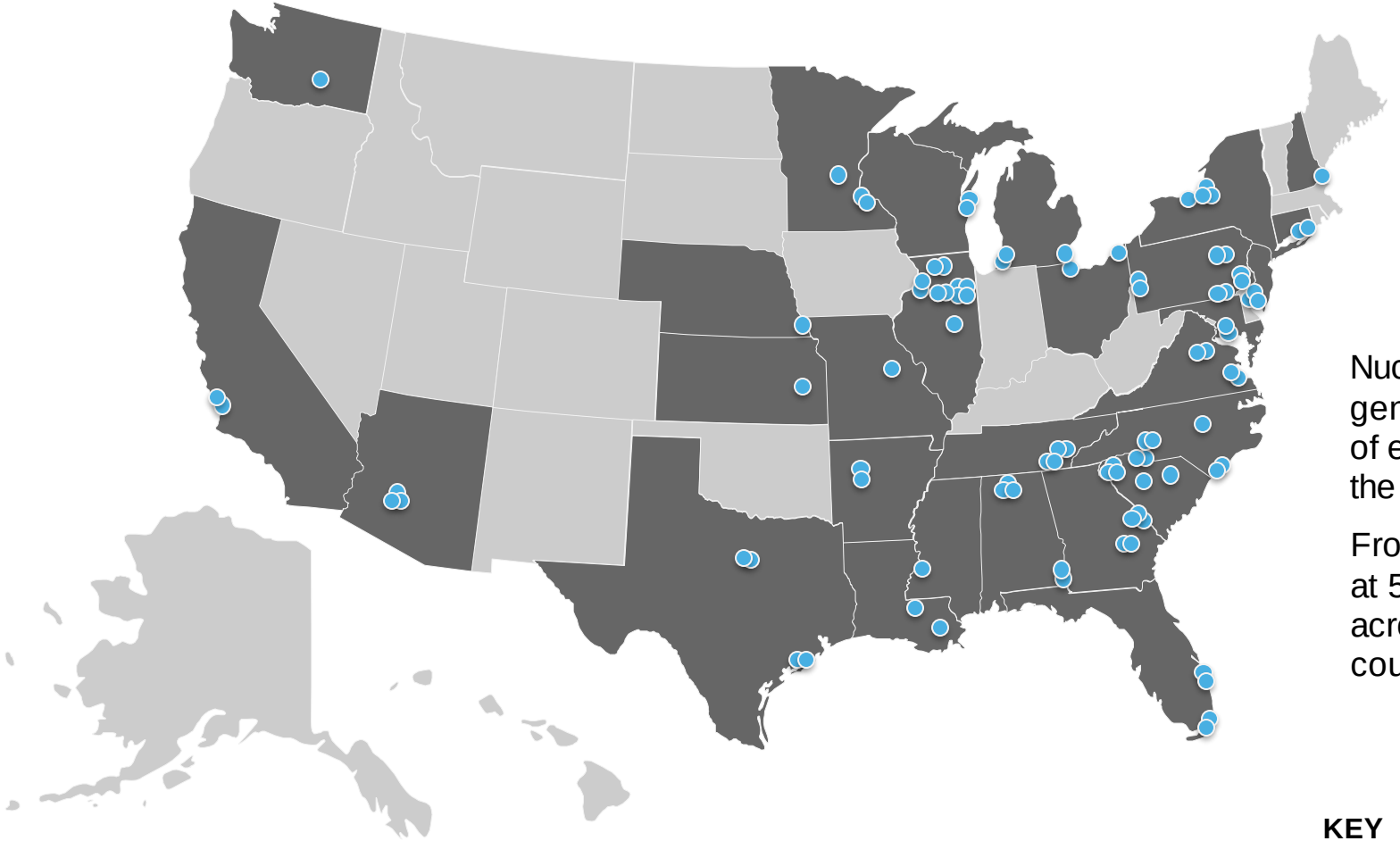
Transitioning from a Coal-Fired Plant to Holtec's Carbon-Free Green Boiler Facility

Triad of Holtec's SMR, HI-THERM and Green Boiler in Operation



Current States Activities Related to Nuclear Energy

Nuclear Provides Majority of Emissions-Free Electricity



Nuclear generated 19% of electricity in the U.S.

From 93 reactors at 53 plant sites across the country

KEY

Nuclear power reactor

2023 State Policy Trends

- 200+ bills introduced that impact nuclear
  - Nuclear Moratorium Repeals
  - Clean Energy Standards and Definitions
  - SMR Studies
  - Task Forces, Working Groups, Commissions
  - Used Fuel and Decommissioning
  - Workforce Development
  - Regulatory Reform
  - Advanced Nuclear
  - Hydrogen
  - Fusion

2023 State Actions for Nuclear Energy

CES and Defining Clean
- Minnesota, Idaho, Tennessee, North Carolina

Workforce Development
- Virginia, West Virginia, South Carolina

SMR Incentive
- Indiana

SMR Study
- North and South Dakotas

Moratorium Repeal
- Illinois

Energy Study
- Colorado

Nuclear and Hydrogen
- Nebraska

Nuclear Working Group or Authority
- Kentucky, Connecticut, Ohio

Coal to Nuclear
- Texas

Nuclear Recycling Program
- Arkansas

Interim SMR Study
- Oklahoma, West Virginia

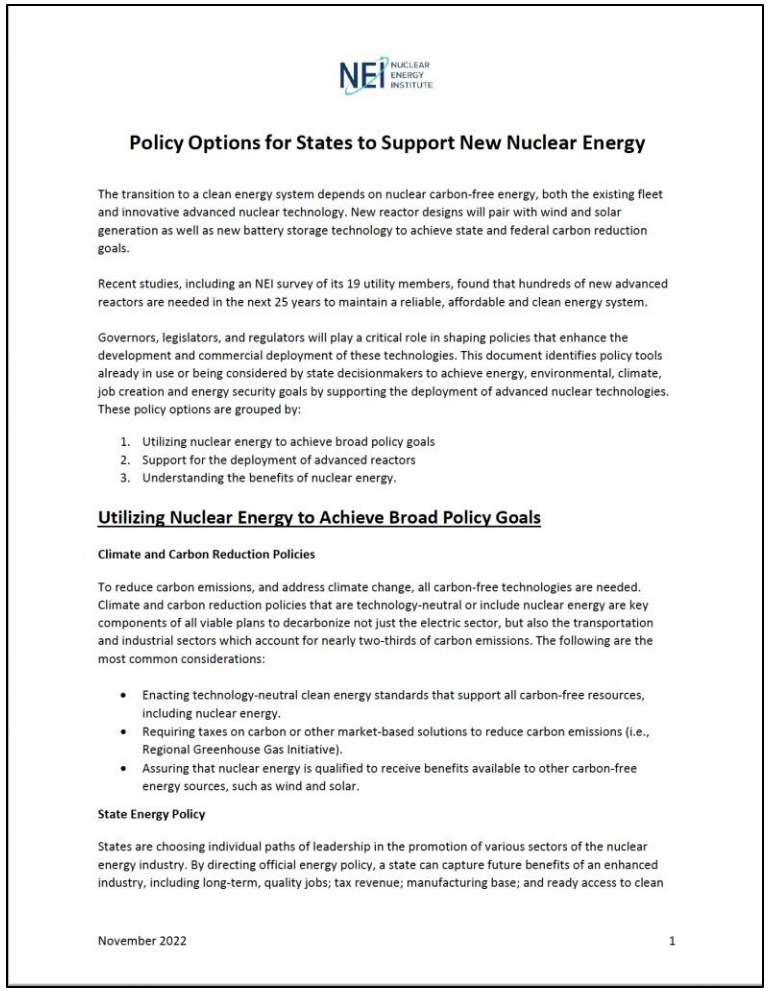
Nuclear Energy Caucus
- Washington, Texas, Michigan

2023 Governor Actions

- Tennessee's Governor Lee's $50 Million for Incentives and Nuclear Energy Advisory Council
- Michigan's Governor Whitmer $150 Million for re-activating Palisades in state budget
- Governor Youngkin's budget includes $2 Million for the Virginia Nuclear Innovation Hub
- Governor Abbott directing the PUCT to create a working group to develop rules for advanced nuclear

State Options to Support Advanced Reactors

- Feasibility Studies
- Reducing Barriers
- Tax incentives (e.g., property)
- Advanced cost recovery
- Workforce and infrastructure



NEI NUCLEAR ENERGY INSTITUTE

Policy Options for States to Support New Nuclear Energy

The transition to a clean energy system depends on nuclear carbon-free energy, both the existing fleet and innovative advanced nuclear technology. New reactor designs will pair with wind and solar generation as well as new battery storage technology to achieve state and federal carbon reduction goals.

Recent studies, including an NEI survey of its 19 utility members, found that hundreds of new advanced reactors are needed in the next 25 years to maintain a reliable, affordable and clean energy system.

Governors, legislators, and regulators will play a critical role in shaping policies that enhance the development and commercial deployment of these technologies. This document identifies policy tools already in use or being considered by state decisionmakers to achieve energy, environmental, climate, job creation and energy security goals by supporting the deployment of advanced nuclear technologies. These policy options are grouped by:

1. Utilizing nuclear energy to achieve broad policy goals
2. Support for the deployment of advanced reactors
3. Understanding the benefits of nuclear energy.

Utilizing Nuclear Energy to Achieve Broad Policy Goals

Climate and Carbon Reduction Policies

To reduce carbon emissions, and address climate change, all carbon-free technologies are needed. Climate and carbon reduction policies that are technology-neutral or include nuclear energy are key components of all viable plans to decarbonize not just the electric sector, but also the transportation and industrial sectors which account for nearly two-thirds of carbon emissions. The following are the most common considerations:

- Enacting technology-neutral clean energy standards that support all carbon-free resources, including nuclear energy.
- Requiring taxes on carbon or other market-based solutions to reduce carbon emissions (i.e., Regional Greenhouse Gas Initiative).
- Assuring that nuclear energy is qualified to receive benefits available to other carbon-free energy sources, such as wind and solar.

State Energy Policy

States are choosing individual paths of leadership in the promotion of various sectors of the nuclear energy industry. By directing official energy policy, a state can capture future benefits of an enhanced industry, including long-term, quality jobs; tax revenue; manufacturing base; and ready access to clean

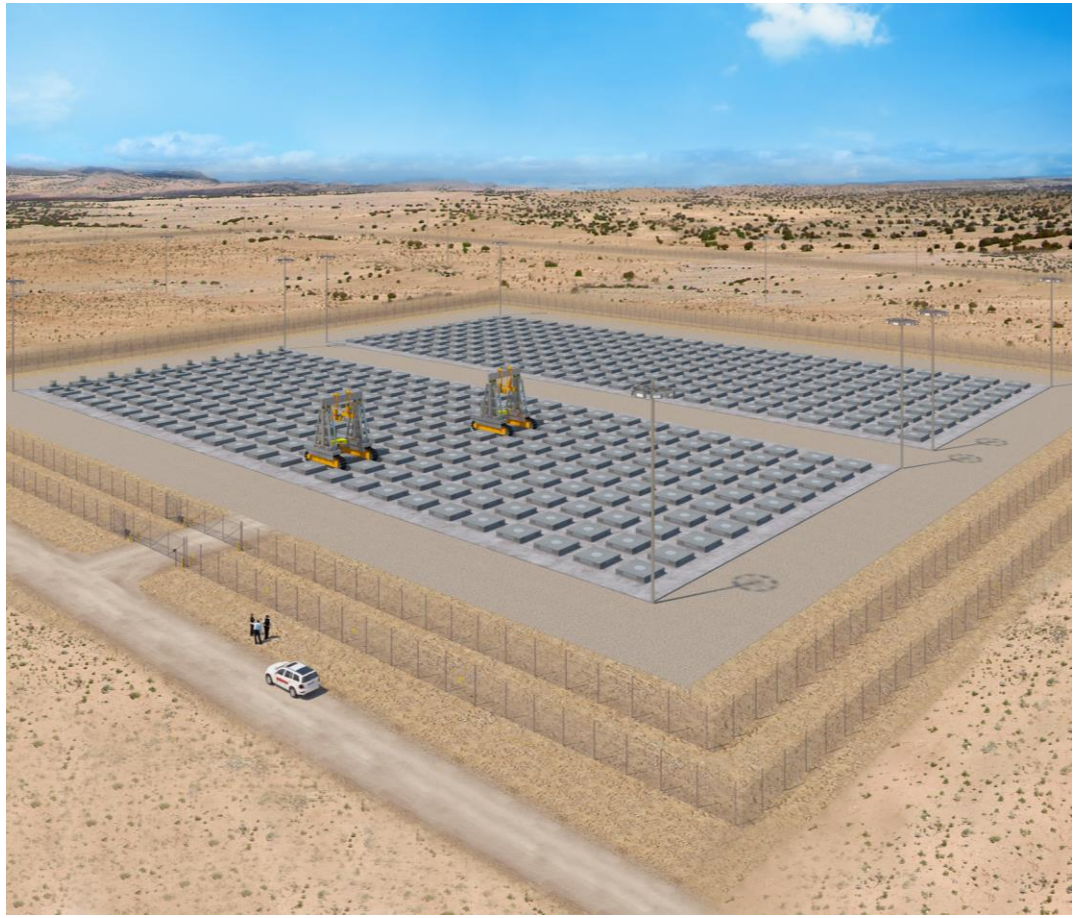
November 2022 1

State Policy Options: https://www.nei.org/resources/reports-briefs/policy-options-for-states-to-support-new-nuclear

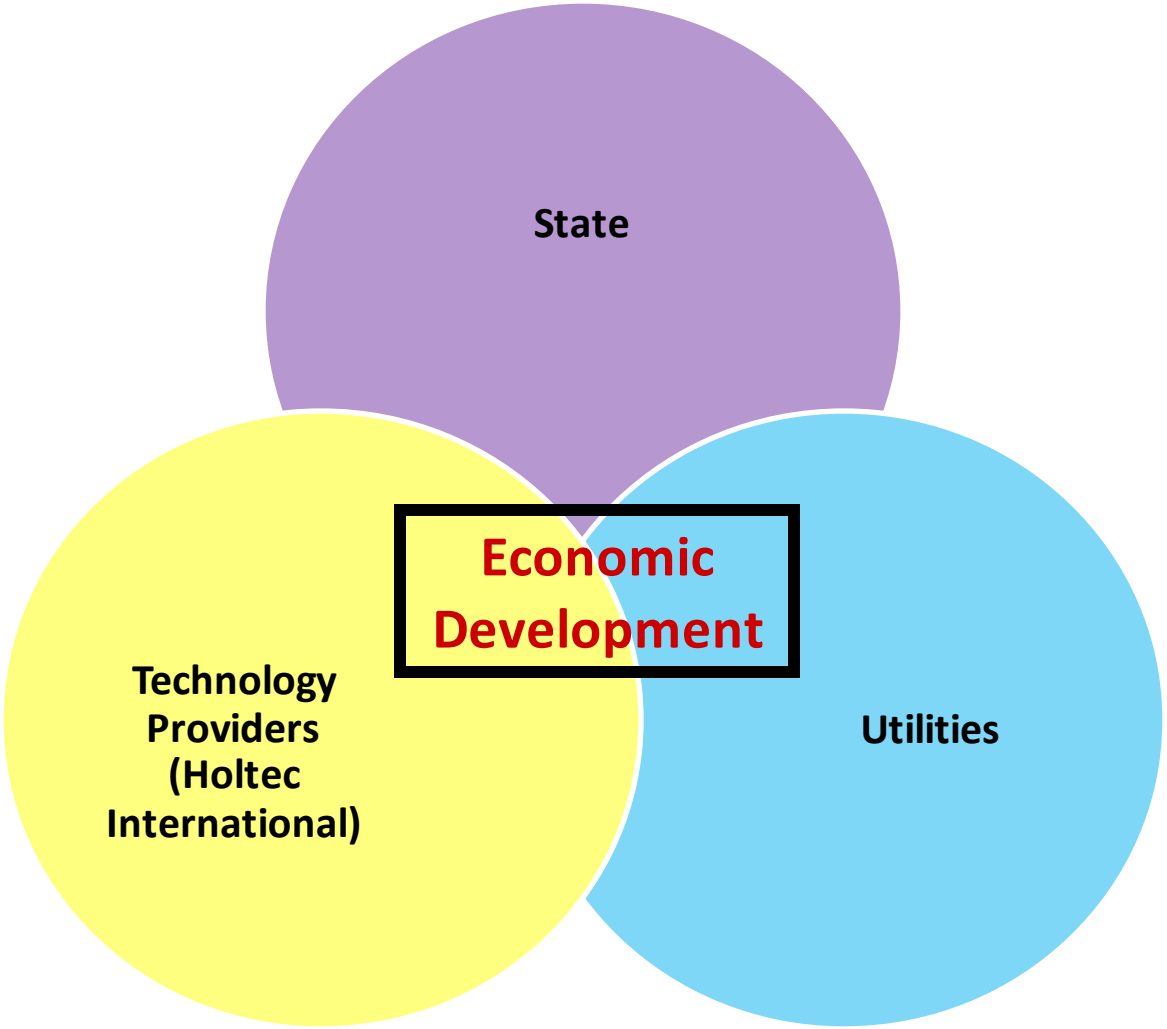
Ideas for Your Consideration

Impediments to deploying New Nuclear

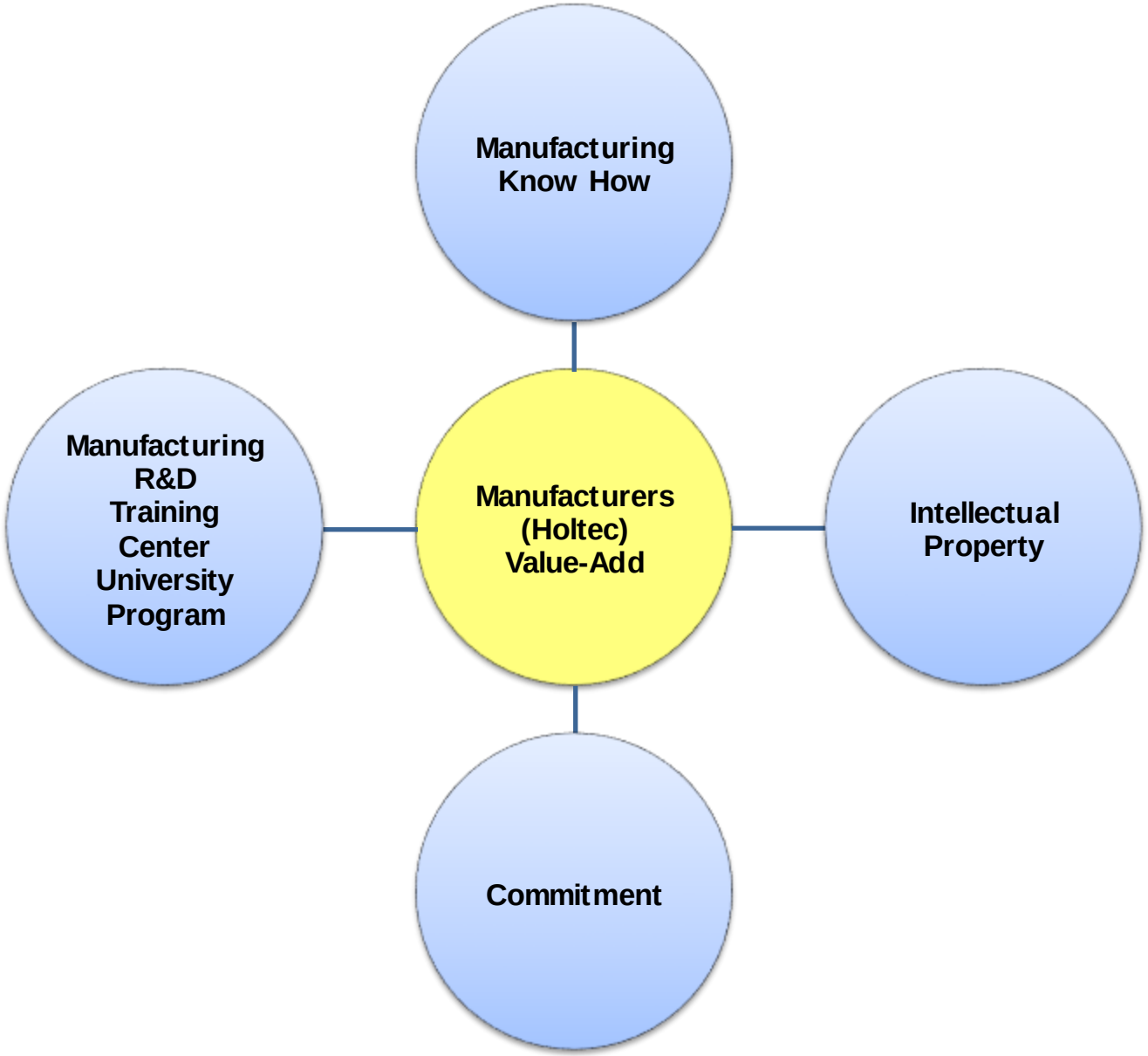
- Public Perception
- Regulatory Hurdles
- Financing Structure
- Waste Management



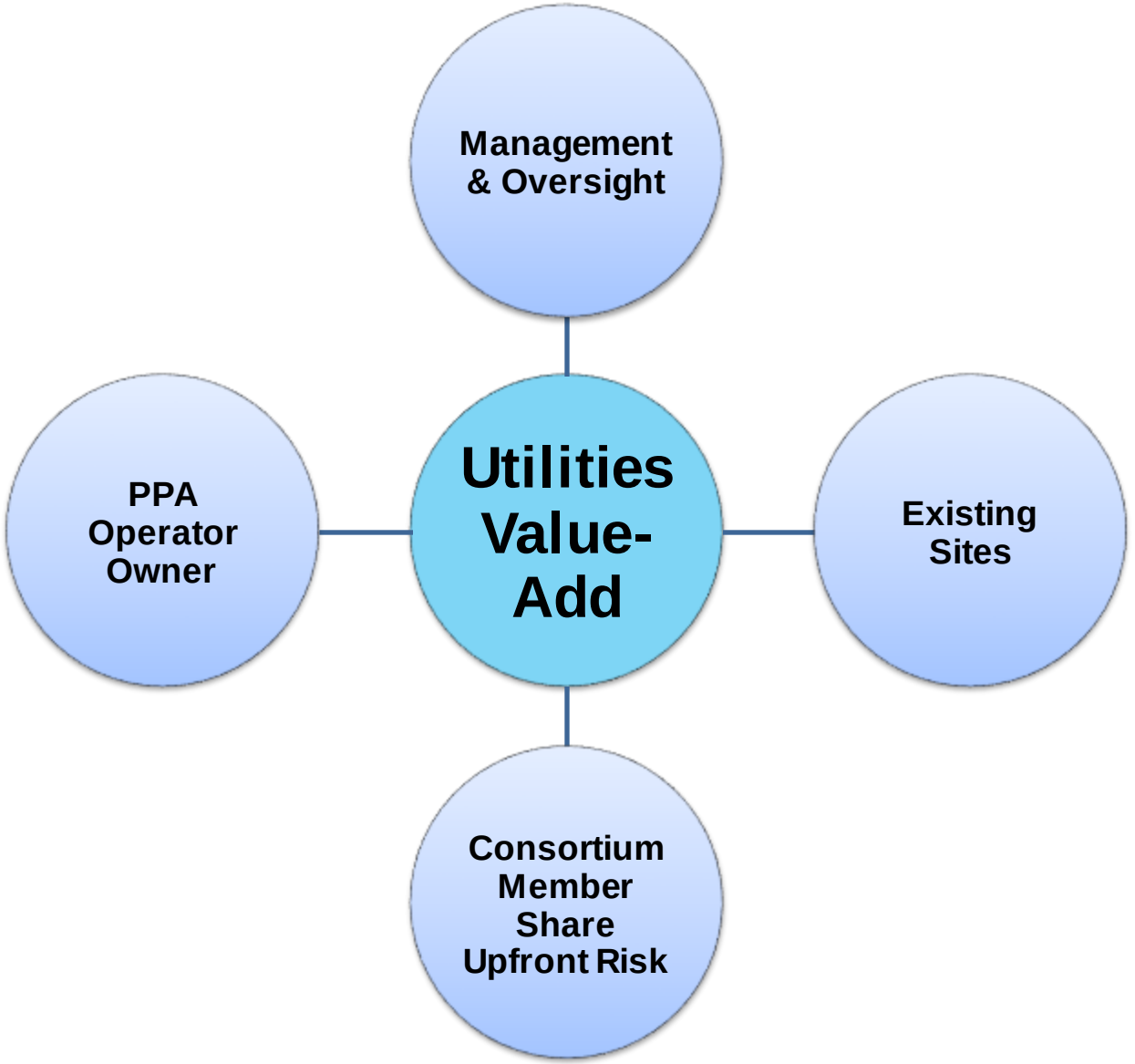
A Path Forward: A 3-Way Partnership Jobs, Jobs, Jobs



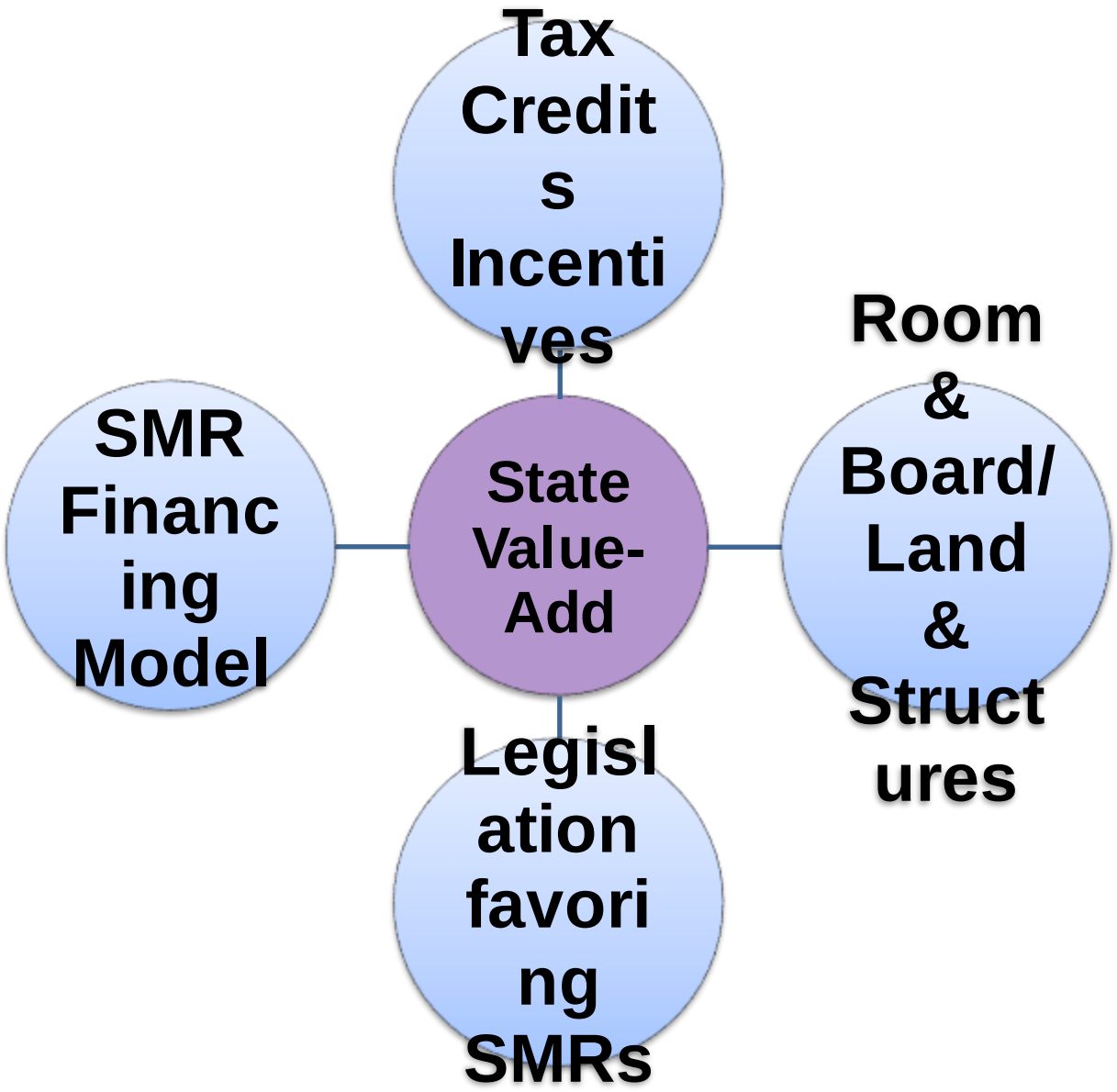
Manufacturers (Holtec) Value-Add



Utilities Value-Add



State Value-Add



Recommended State Policies to Enable New Nuclear – Clean Energy

- Streamed Regulations
- Expedite Permits
- Shared Risk
- Solutions for the HLW – Support Proposed Policies

Nuclear Energy – A Tremendous Opportunity

Energy Security – Clean Energy - Jobs

Which State Will Catch the Big One!?

Thank You

HOLTEC INTERNATIONAL

Krishna P. Singh Technology Campus
1 Holtec Boulevard
Camden, NJ 08104

Tel: (856) 797-0900
www.holtec.com

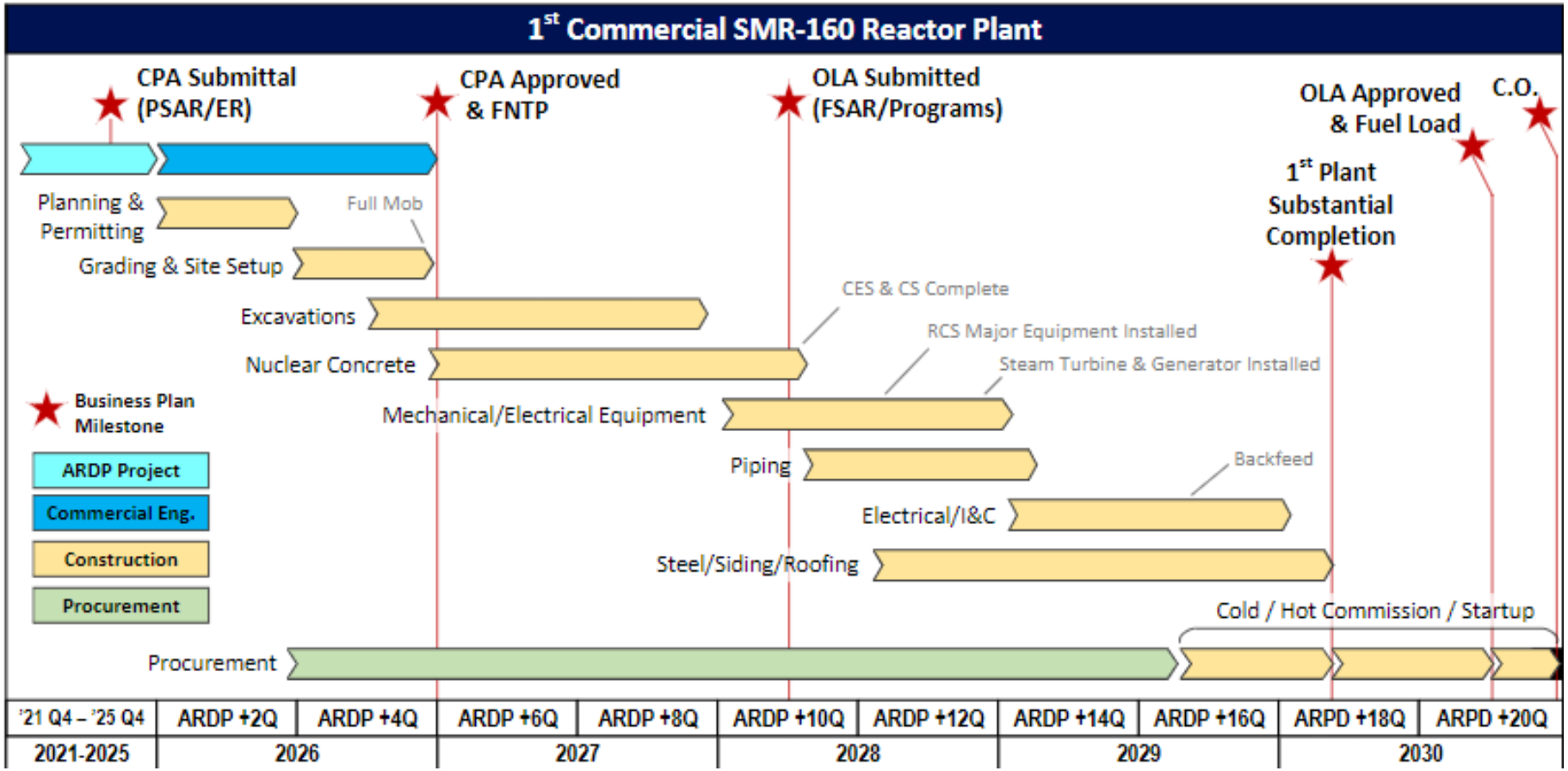
BACK–UP SLIDES

Holtec SMR Licensing Plan for the USA

- Designed according to **current** US Regulations and Guidance Documents
  - 10 CFR Part 50 Appendix A General Design Criteria
  - NUREG-0800 for Format and Content of Safety Analysis Report
  - Other regulatory guidance documents
- International regulatory requirements and guidance are evaluated and incorporated into the design
- Operating experience and manufacturing experience incorporated into the design
- Follow the 10 CFR Part 50 Two-Part application process – PSAR & CPA
  - Complete PSAR for *Standard Design* by Dec 2024 (first CPA)
  - Submittal of Construction Permit Application (Q1.2026) for lead US project

NRC pre-application: https://www.nrc.gov/reactors/new-reactors/smr/licensing-activities/pre-application-activities/holtec/documents.html

1st Unit Schedule – update for Palisades EOY 2031



Carbon Capture and Storage

Jennifer Stewart
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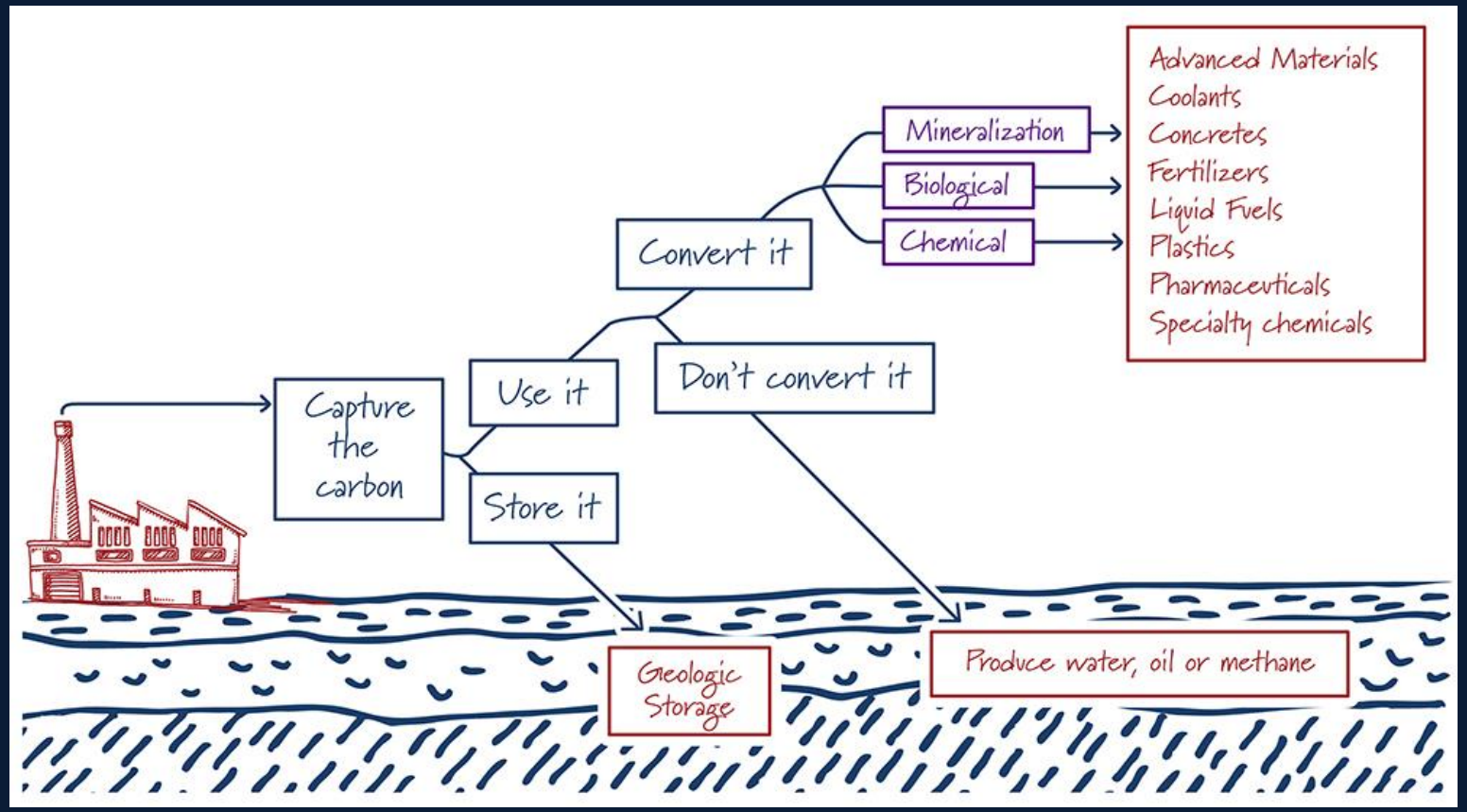
American Petroleum Institute

API's Role

- API represents all segments of America's oil and natural gas industry. It's approximately 600 members produce, process, and distribute the majority of the nation's energy. Many of API's members are owners, operators, and developers of carbon capture and storage (CCS) projects and CO2 pipelines.

- API developed a **Climate Action Framework** that presents actions we are taking to tackle the challenge of meeting the world's growing need for energy while ushering in a low-carbon future. These actions include:
  - Accelerating Technology and Innovation
  - Further Mitigating Emissions from Operations
  - Endorsing a Carbon Price Policy
  - Advancing Cleaner Fuels
  - Driving Climate Reporting

The CCS Process



Graphic produced by ClearPath

Why is CCS important?

- CCS is a critical part of the climate solution. The International Energy Association (IEA) has found that reaching net zero will be virtually impossible without CCS.
- CCUS is a critical tool for decarbonizing hard-to-abate industrial sectors, such as manufacturing, refineries, cement, steel, and chemicals.
- CCS enables decarbonization of power generation from oil and gas, supporting both emissions reduction goals.
- CCS is also a critical to the development of direct air capture (carbon removals) and the production of low-carbon hydrogen.
- The US federal government is actively supporting CCS deployment through federal incentives and funding programs, including those passed in the Inflation Reduction Act and the Infrastructure Investment and Jobs Act.

Federal Incentives

45Q tax credit for carbon sequestration: The IRA expanded the 45Q tax credit for carbon sequestration, providing tax credits of $85 and $160 per ton of CO_2 permanently stored by CCS and DAC.

DAC Hubs and Hydrogen Hubs: IIJA appropriated $3.5 billion and $8 billion for DAC Hubs and Hydrogen Hubs respectively, aiming to provide demonstrations and accelerate the commercialization of these technologies. Multiple of the announced hydrogen hubs plan to utilize CCS.

Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA): The IIJA appropriated $2.1 billion to CIFIA for low-interest loans and grants to support the buildout of CO_2 infrastructure.

Safety

- The oil and natural gas industry has more than 40 years of experience in CO2 injections and has injected more than 1 billion tons of CO2e to date.
- The Environmental Protection Agency regulates the permitting of CO2 injection wells, creating stringent requirements that aim to safeguard public health and the environment.
- CO2 pipelines are regulated by the Pipeline Hazardous Materials Safety Administration, which is currently undertaking additional rulemaking to further strengthen CO2 pipeline safety.

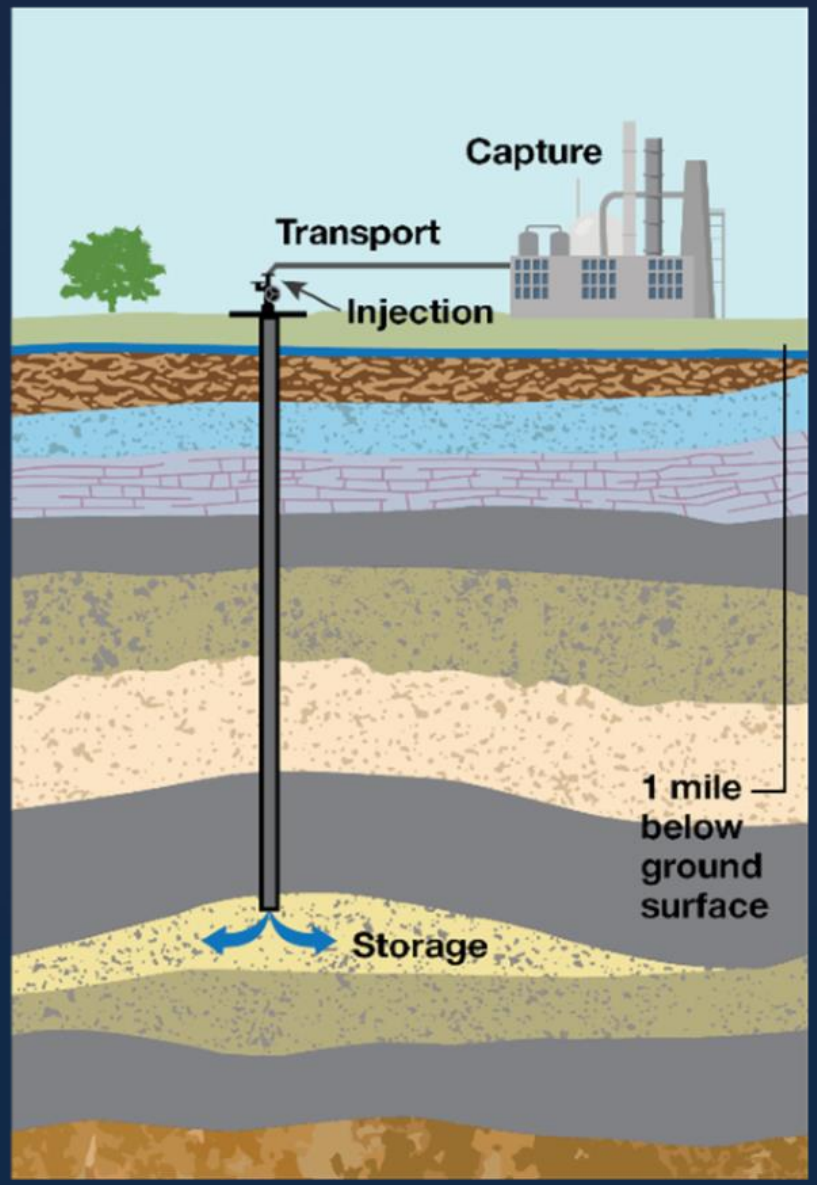
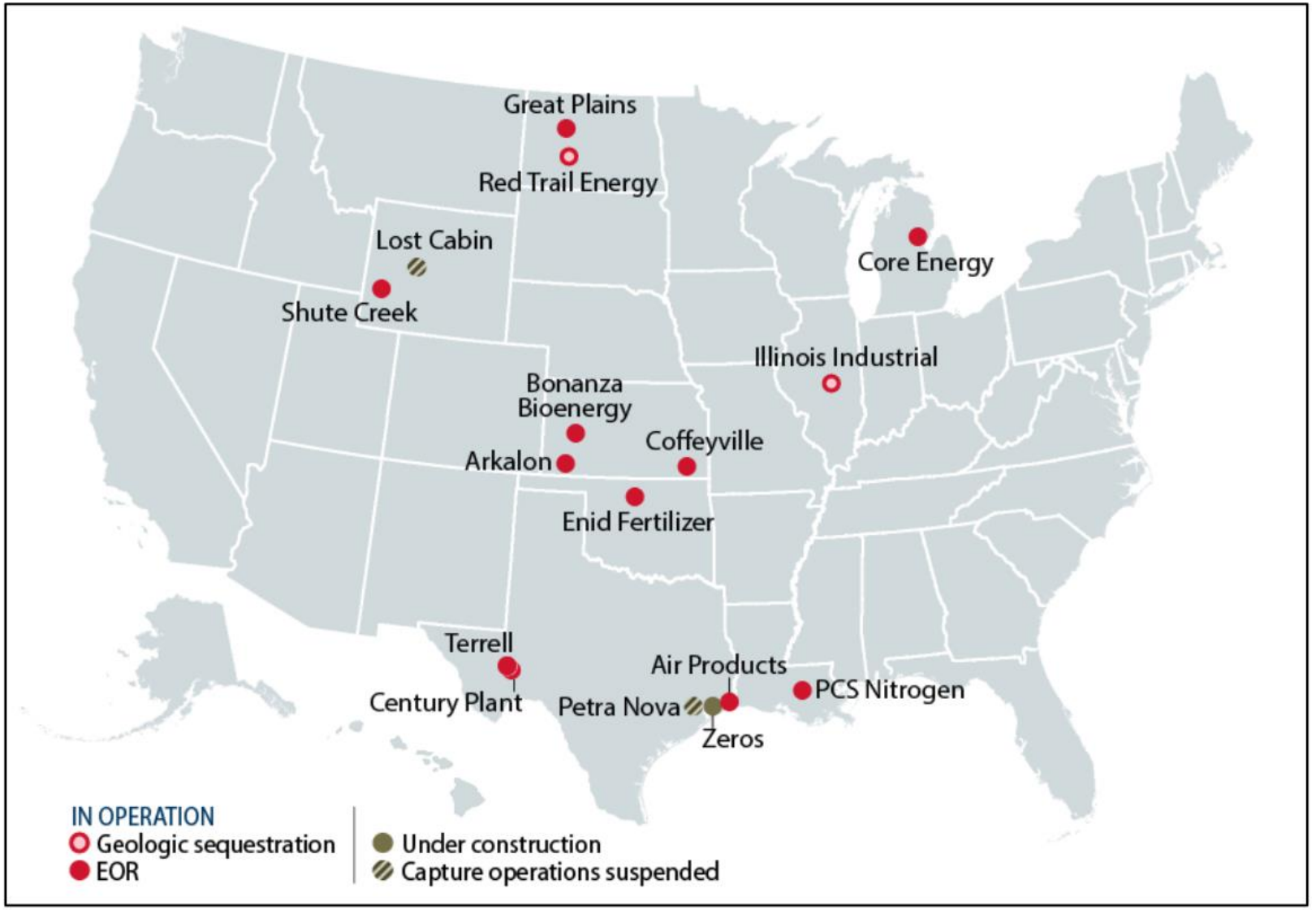


Figure 6. Location of U.S. Carbon Capture and Injection Projects

EOR and Geologic Sequestration



Source: CRS, using data from the Global CCS Institute, *Global Status Report 2021*, 2021, and the University of North Dakota Energy & Environment Research Center at undeerc.org.

Total Potential Storage Space in the US

- Over 3 trillion metric tons
- Capable of storing centuries of man made carbon

Source: NETL https://www.netl.doe.gov/coal/carbon-storage/strategic-program-support/natcarb-atlas

Estimates of CO_2 Stationary Source Emissions and Estimates of CO_2 Storage Resources for Geologic Storage Sites

RCSP or Geographic Region	CO_2 Stationary Sources		CO_2 Storage Resource Estimates (billion metric tons of CO_2)								
	CO_2 Emissions (million metric tons per year)	Number of Sources	Saline Formations			Oil and Gas Reservoirs			Unmineable Coal Areas		
			Low	Med***	High	Low	Med***	High	Low	Med***	High
BSCSP	115	301	211	805	2,152	<1	<1	1	<1	<1	<1
MGSC	267	380	41	163	421	<1	<1	<1	2	3	3
MRCSP	604	1,308	108	122	143	9	14	26	<1	<1	<1
PCOR*	522	946	305	583	1,012	2	4	9	7	7	7
SECARB	1,022	1,857	1,376	5,257	14,089	27	34	41	33	51	75
SWP	326	779	256	1,000	2,693	144	147	148	<1	1	2
WESTCARB*	162	555	82	398	1,124	4	5	7	11	17	25
Non-RCSP**	53	232	--	--	--	--	--	--	--	--	--
Total	3,071	6,358	2,379	8,328	21,633	186	205	232	54	80	113

Source: U.S. Carbon Storage Atlas ...fth Edition (Atlas V); data current as of November 2014

* Totals include Canadian so...s identified by the RCSP

** As of November 2014, "U.S. Non-RCSP" includes Connecticut, Delaware, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, and Puerto Rico

*** Medium = p50

Atlas V Estimates of CO2 Stationary Source Emissions and Estimates of CO2 Storage Resources for Geologic Storage Sites

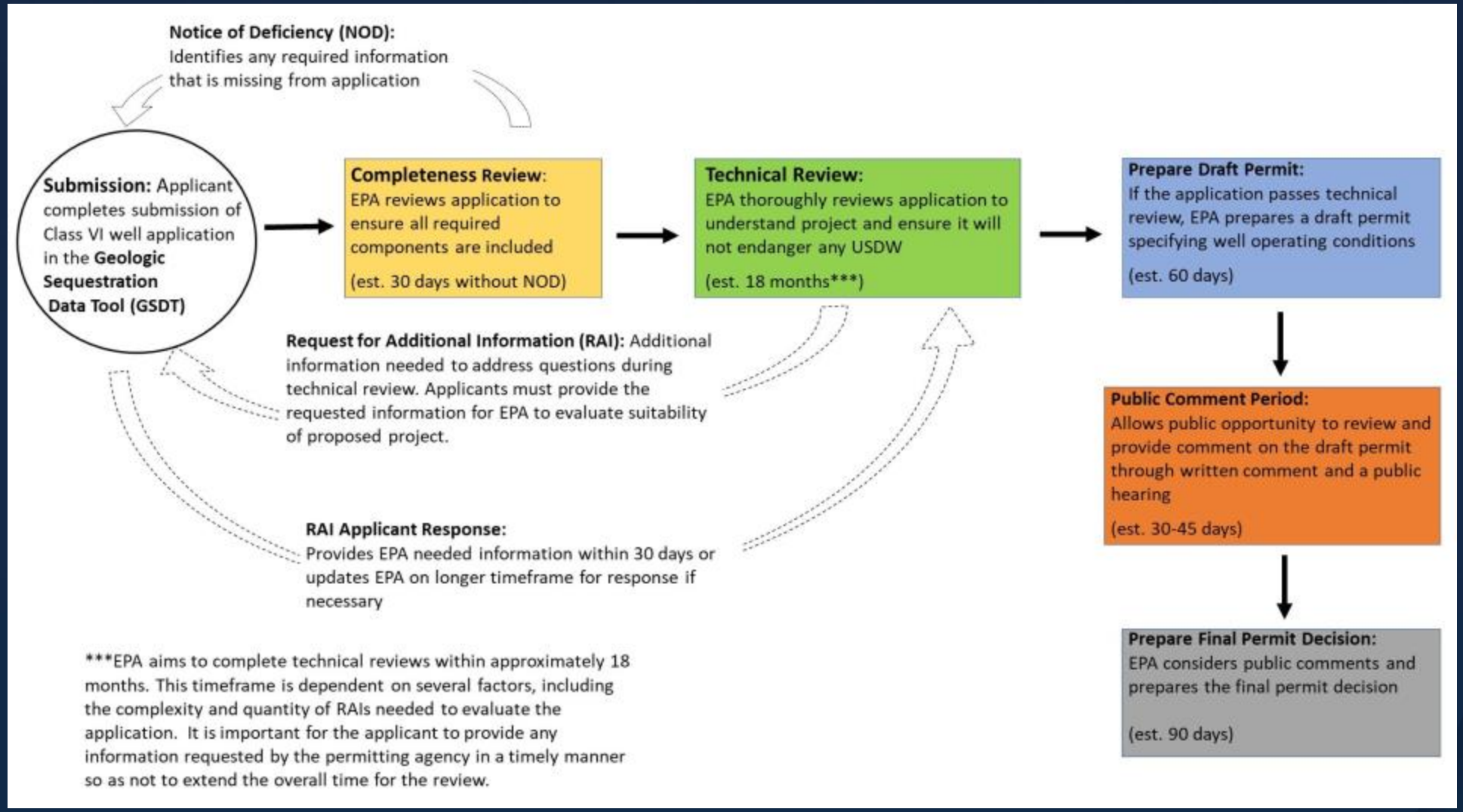
Permitting at EPA

- EPA is responsible for permitting injection wells for permanent CO2 storage (Class VI wells) through their Underground Injection Control (UIC) program.
- UIC Class VI regulations establish permitting requirements, including requirements for *permit information, minimum criteria for siting, area of review and corrective action provisions, financial responsibility, and injection well construction*.
- As the CCS project pipeline continues to grow, EPA has become inundated with Class VI permit applications.

SECTION 146.81	146.81 Applicability.
SECTION 146.82	146.82 Required Class VI permit information.
SECTION 146.83	146.83 Minimum criteria for siting.
SECTION 146.84	146.84 Area of review and corrective action.
SECTION 146.85	146.85 Financial responsibility.
SECTION 146.86	146.86 Injection well construction requirements.
SECTION 146.87	146.87 Logging, sampling, and testing prior to injection well operation.
SECTION 146.88	146.88 Injection well operating requirements.
SECTION 146.89	146.89 Mechanical integrity.
SECTION 146.90	146.90 Testing and monitoring requirements.
SECTION 146.91	146.91 Reporting requirements.
SECTION 146.92	146.92 Injection well plugging.
SECTION 146.93	146.93 Post-injection site care and site closure.
SECTION 146.94	146.94 Emergency and remedial response.
SECTION 146.95	146.95 Class VI injection depth waiver requirements.

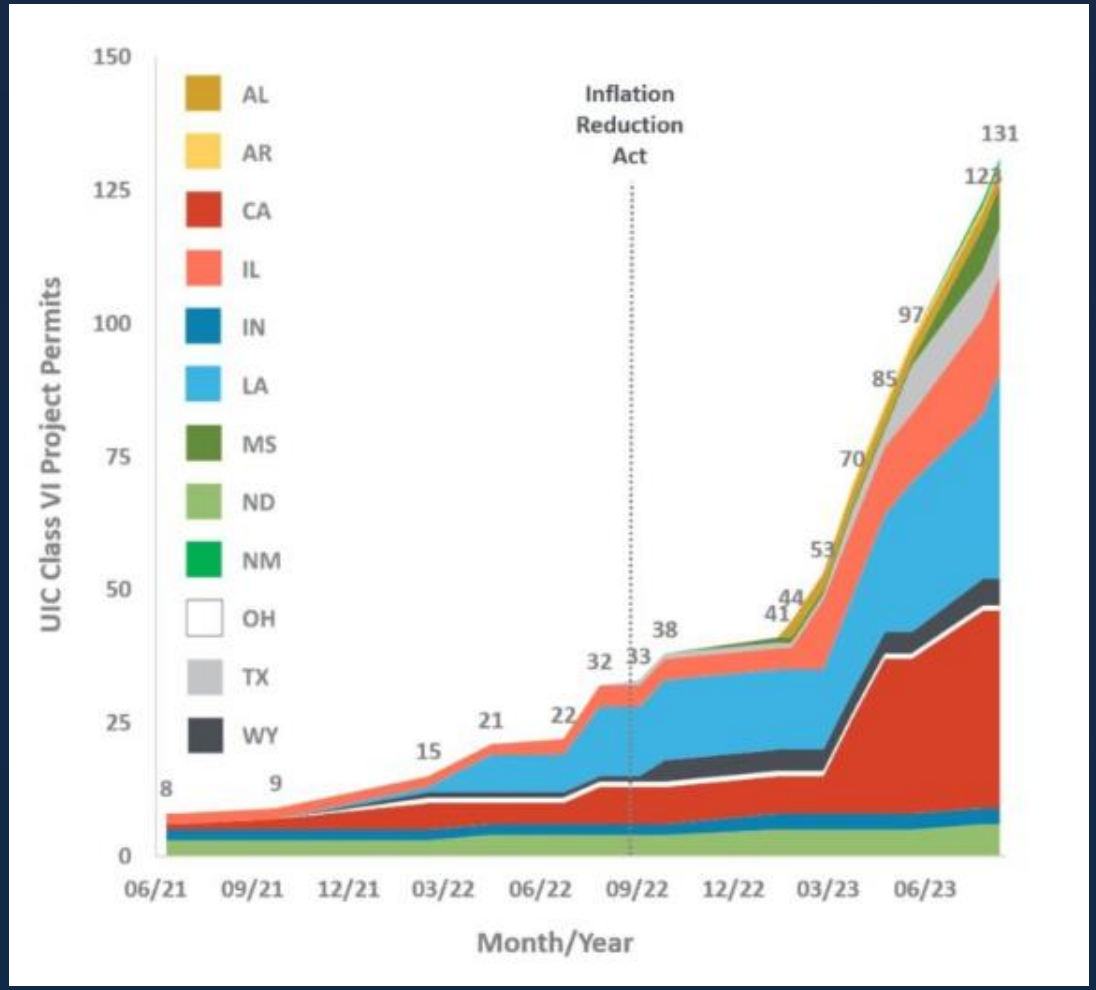
Areas covered by Class VI UIC regulations

Class VI Permitting Process



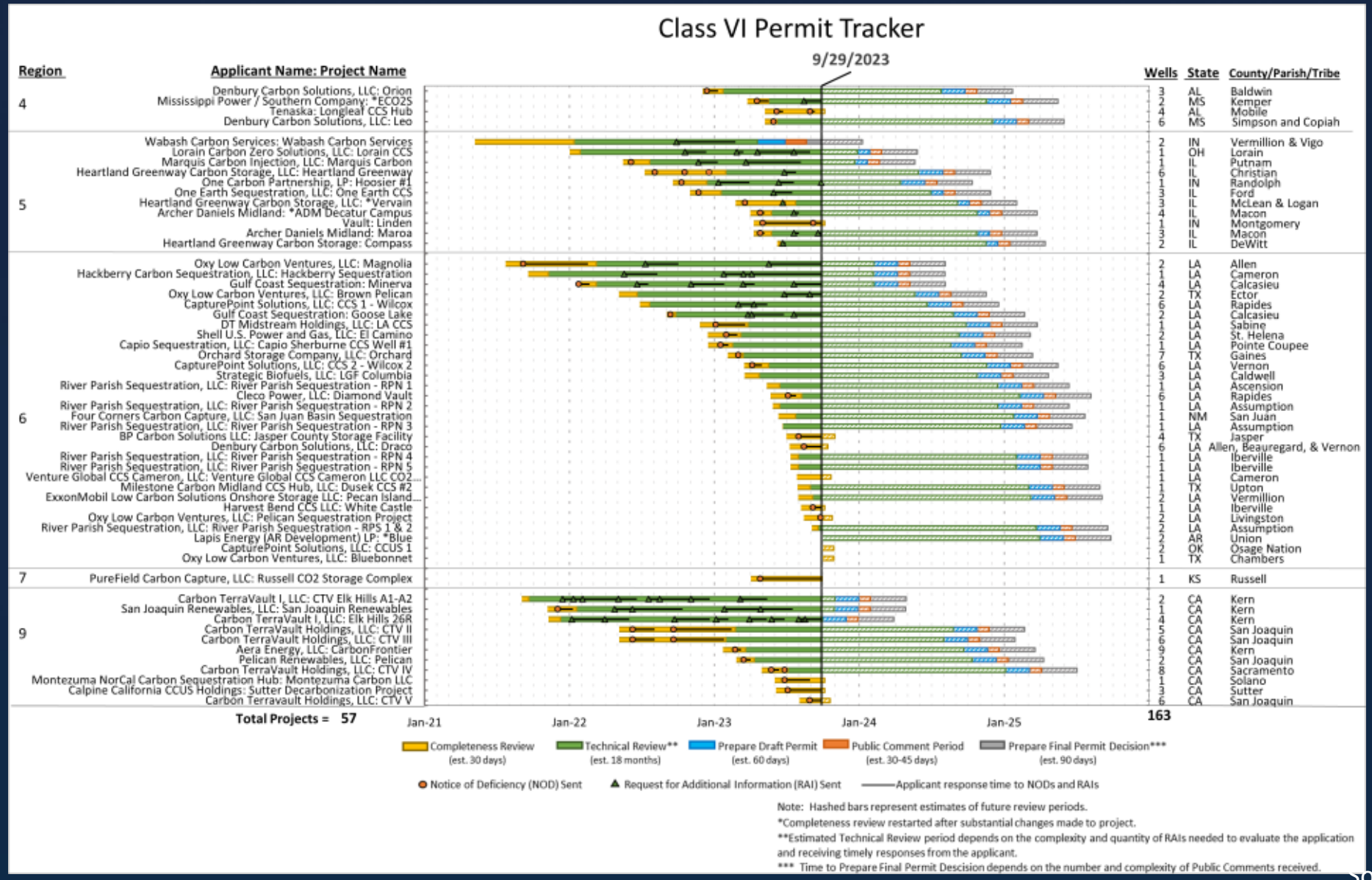
Source: EPA

Class VI Permit Applications



Number of submitted Class VI application, grouped by state, over the last two years. Source: US EPA/B3 Insight

Class VI Permit Tracker

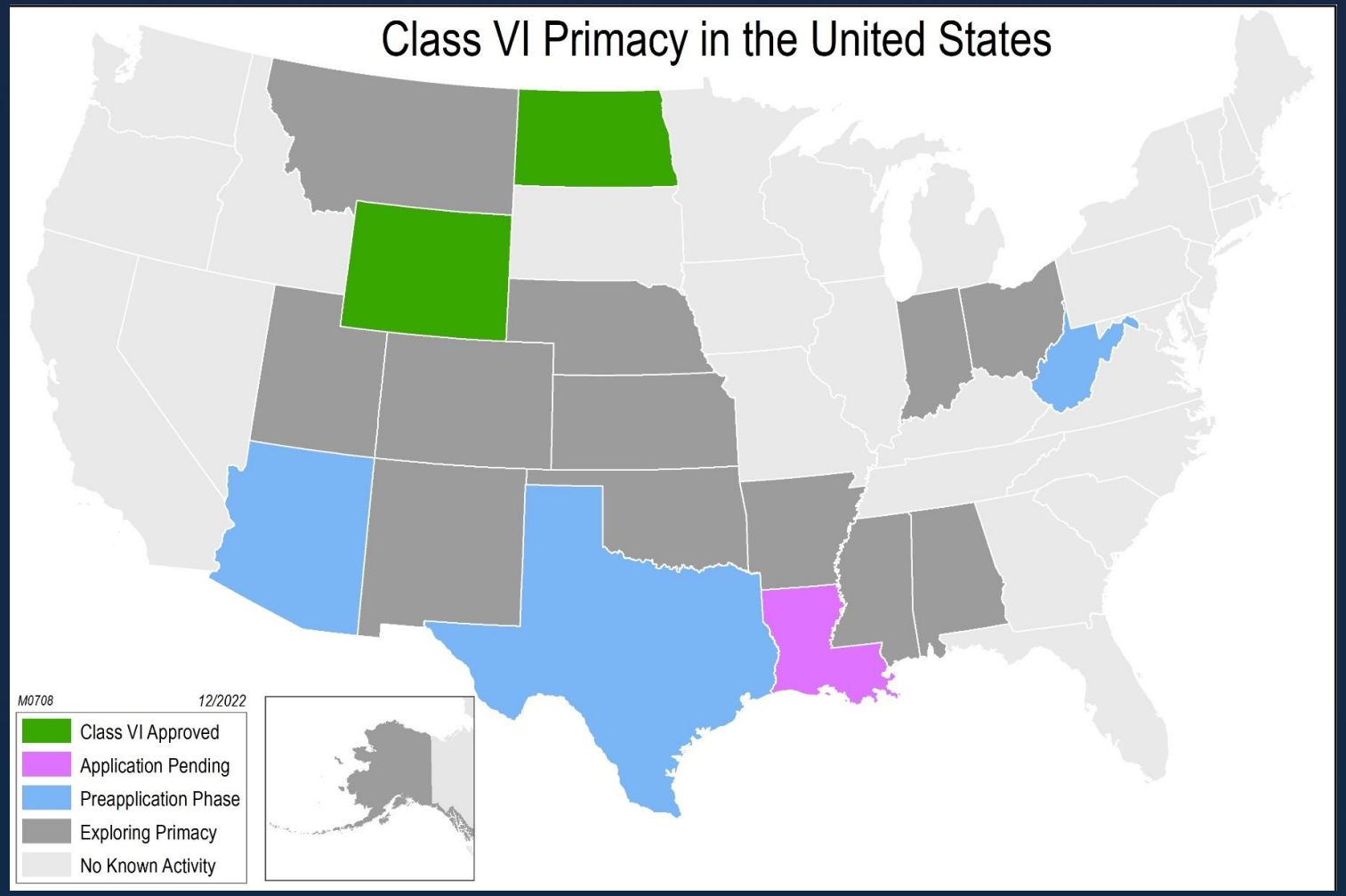


Source: EPA

Class VI Primacy

- The EPA can grant permitting authority for underground injection wells to states who have developed regulatory frameworks that meet EPA's requirements for underground injection control programs.
- Primacy can increase the speed at which Class VI wells are permitted, as states may be better resourced to review permit applications within their region.
- North Dakota and Wyoming, have received Class VI primacy.
- Louisiana may be granted primacy later this year
- Texas and Arizona in pre-application phase

Status of Class VI Primacy



Current CO2 Pipeline Infastructure

Figure 6-2. CO_2 Pipeline Infrastructure in the United States in 2019
Source: Denbury Resources, Inc.

American Petroleum Institute

Stakeholder Opposition

- Concern over the safety of geologic storage and CO2 pipelines and a lack of understanding of the CCS process.
- Argument from environmental NGOs that CCS solely exists to prolong the fossil fuel industry.
- Lack of economic benefits for landowners impacted by CO2 infrastructure development and the potential use of eminent domain.

Over 500 Organizations Call on Policymakers to Reject Carbon Capture and Storage as a False Solution

Carbon Capture: The Fossil Fuel Industry's False Climate Solution

A massive buildout of carbon capture facilities is not the way to avert the climate crisis.

Every Dollar Spent on This Climate Technology Is a Waste

See photos as protesters rally to oppose carbon capture pipelines in Iowa

Des Moines Register

Thank you!

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American Petroleum Institute

DIVERSIFIED energy

CSG South Energy Masterclass

October 2023

DIV.energy

DIVERSIFIED energy

Diversified Energy

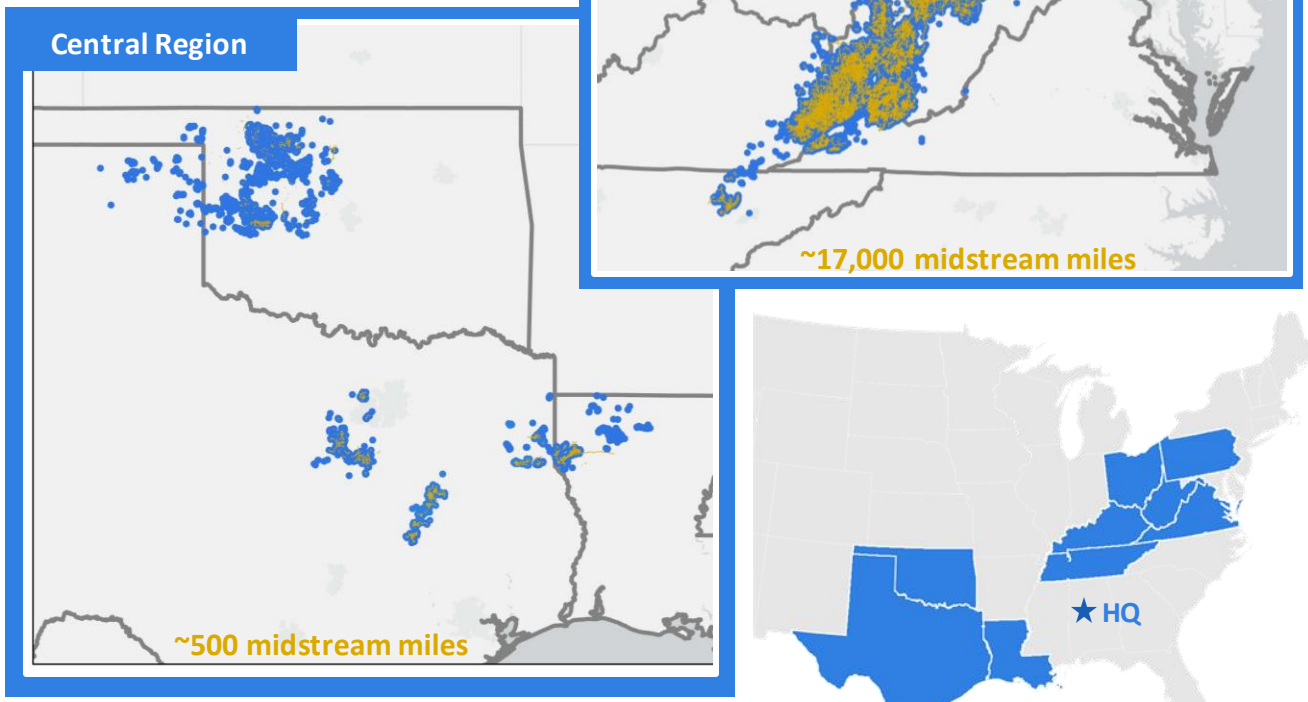
Overview of Premier Gas Operator

THE RIGHT COMPANY AT THE RIGHT TIME TO DELIVER LONG-TERM STAKEHOLDER RETURNS

WHO ARE WE: OPERATOR OF U.S. ONSHORE DEVELOPED ASSETS

Appalachian Region:
Pennsylvania, West Virginia, Ohio, Kentucky, Virginia, Tennessee
~60% of Production

Central Region:
Oklahoma, Texas, Louisiana
~40% of Production



A Differentiated Business Model Focused On:

- ✓ **Optimising long-life, low-decline producing assets**
- ✓ **Strategically hedging to protect cash flow**
- ✓ **Vertically integrated to reduce expenses, expand margins**
- ✓ **Durable shareholder returns through the cycle**
- ✓ **Disciplined growth through low-risk PDP assets**
- ✓ **ESG goals naturally align with stewardship model**
- ✓ **Expand Next LVL to become leader in safe, systematic well retirement**

Daily Production **863** MMcfepd	Production Mix **85%** Natural Gas
2022 Revenue **$1.9** Billion	Enterprise Value **~$2.5** Billion

2022 Revenue excludes the effect of settled derivative instruments

RELENTLESS FOCUS ON OUR CORPORATE STRATEGY

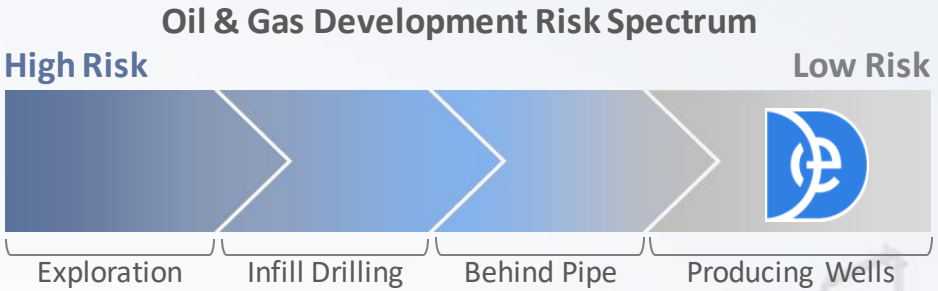
Acquire.
Target low-decline, producing assets that complement our returns-focused strategy

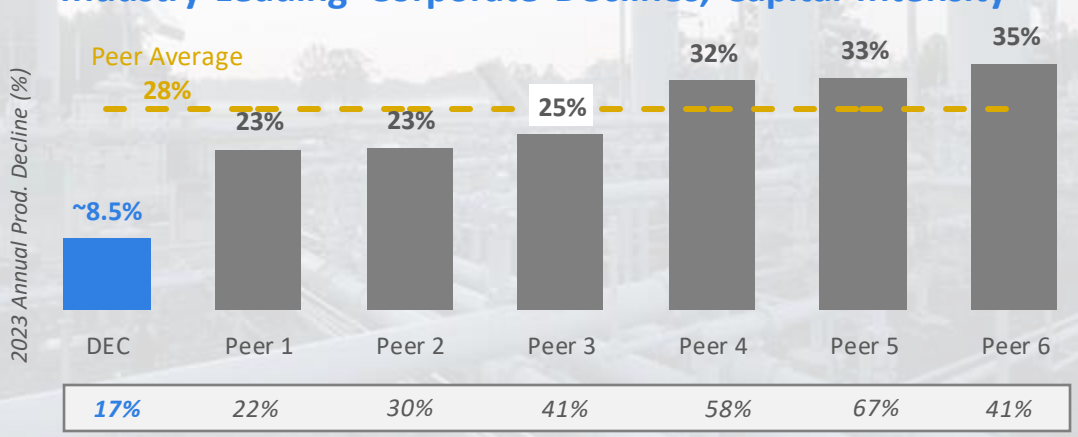
Produce.
Deploy Smarter Asset Management to enhance economics and reduce emissions

Transport.
Leverage synergies available from owned midstream assets to enhance cash margins

Retire.
Safely and efficiently retire assets from within our portfolio and for other entities

Diversified's business model reduces exposure to typical industry risk factors





INVESTING IN OUR OPERATING REGIONS

22 Acquisitions Across Our Operating Footprint

Includes Next LVL well along with midstream and process assets

Significant Taxes paid to State Governments

Approximately $250 million in 2022 while donating over $2 million to local charities

Royalty Payments of ~$510 million

Allocated to individuals and entity landowners of producing assets

Total Employee Headcount of ~1600; Ancillary Employment of ~5,500

Gross wages and income paid of approximately $650 million

GDP Contribution of ~$1 Billion

Providing a positive impact on the economy and communities in which we operate

CSG SOUTH Member States

All figures as of 2022, unless otherwise noted

COMMITMENT TO STRONG SUSTAINABILITY PRACTICES

PROJECT CANARY GOLD

MSCI ESG RATINGS AA

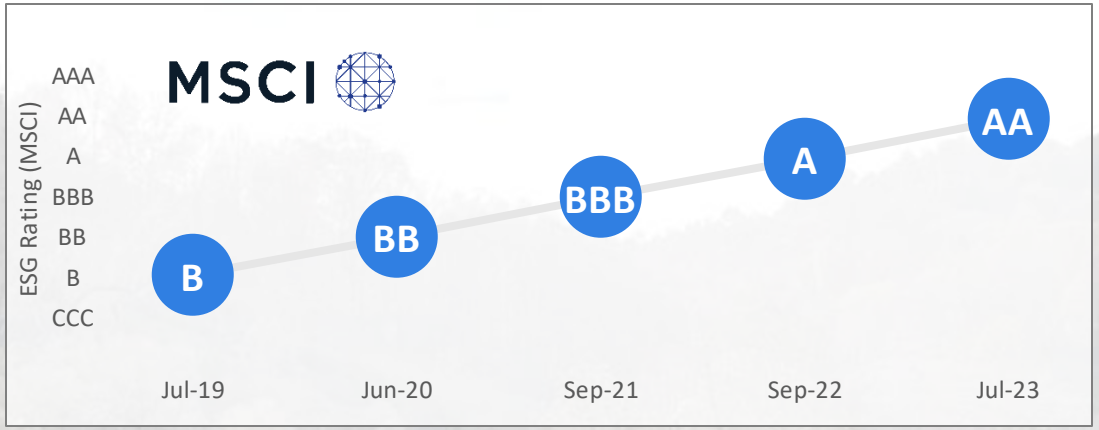
GMP Oil And Gas Methane Partnership 2.0 GOLD

Disclosed State-by-State Economic Analysis	Enhanced Biodiversity & Climate Risk Disclosures	Published 2023 ESG Performance Objectives	Received Gold Rating from Project Canary	Achieved 'AA' Rating from MSCI Analytics	Awarded OGMP 2.0 Gold Standard

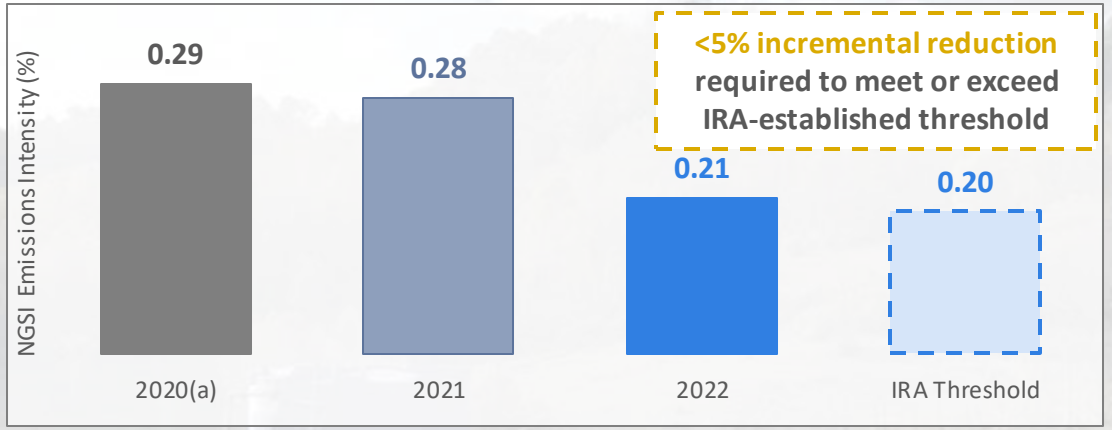
Sustainability Report Highlights

Recent ESG Achievements

ESG Scores Reflect Commitment to Sustainability and Transparency



Sustainability Strategy Drives Down Scope 1 Methane Intensity



a) As first reported at year end 2021, emissions data for 2020 have been revised to incorporate the impacts of 2021 Project Fresh initiatives which focused on replacing theoretical emissions figures with more exact metrics as the result of direct measurement and emissions device inventory processes

NEXT LVL ENERGY: SETTING A NEW STANDARD FOR RETIREMENT

Differentiated Outlook on Asset Retirement

Stewardship from acquisition to retirement ensures sustainable operations for the lifetime of assets

Efficiencies Obtained through Operating Scale

Full suite of service capabilities creates unique capacity for efficient and effective asset retirement

Uniquely Situated for Program Management

Full-scope services from permitting to plugging enhance ability to deliver internal efficiencies and provide third-party services to states and other operators

Strategy Driven by Innovation not Repetition

Cumulative experience from internal and third-party retirement provides process enhancement insights

As a wholly-owned subsidiary of Diversified, Next LVL Energy is strategically advantaged among Appalachian retirement companies:

- ✓ Financial stability
- ✓ Corporate support of FTSE 250-listed operator
- ✓ Positioned to innovate well retirement techniques
- ✓ Strong industry and state relationships

WORKING TO MAKE ASSETS OUT OF LIABILITIES

Energy Transition Opportunities

- ✓ Diversified's vast portfolio of wellbores and storage fields can expand well retirement options by leveraging the growing demand for CCUS projects
- ✓ Potential to meaningful reduce asset retirement by repurposing mature assets **without the need to plug**
- ✓ Commercial benefits & advancement to net zero

About Carbon Capture and Sequestration (CCS)

Carbon capture and sequestration (CCS) refers to a suite of technologies that can play an important and diverse role in meeting global energy and climate goals. CCS involves the capture of CO_2 from large point sources to be used in a range of applications or injected into deep geological formations (including depleted oil and gas reservoirs or saline formations) which trap the CO_2 for permanent storage.

Carbon Credits

Strategically timed retirement of wells has the potential to generate proceeds from sale of carbon credits

Carbon Sequestration

Existing wellbores have potential to become permanent sequestration sites of CO_2

DRIVEN BY CULTURE

SOCIAL

- ✓ Providing competitive compensation & benefits
- ✓ Supporting personal & professional growth and development
- ✓ Soliciting employee feedback through employee engagement surveys
- ✓ Investing in future leaders through university scholarships & internships
- ✓ Helping those in need and disaster relief
- ✓ **Established Community Giving Program, providing up to $2 million annually**

Disaster Relief: rebuilt roads for flood victims

Operation Warm: new coats to elementary school children

Community Giving: providing food for those in need

DIVERSIFIED energy

Importance of Natural Gas

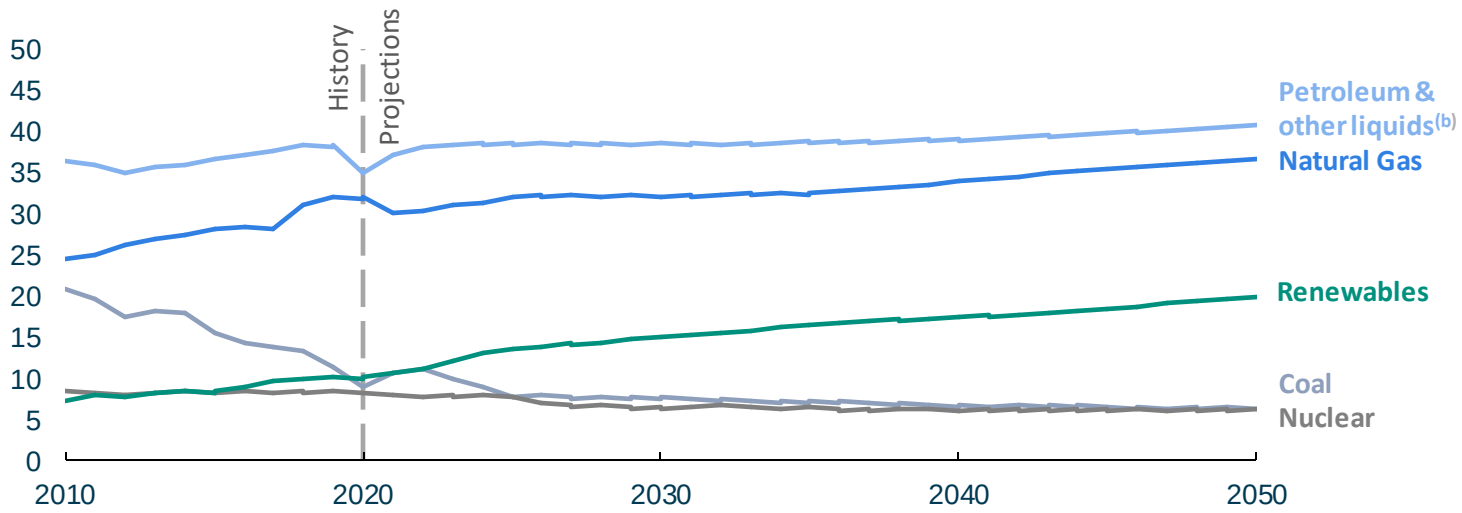
Reliability & Energy Security

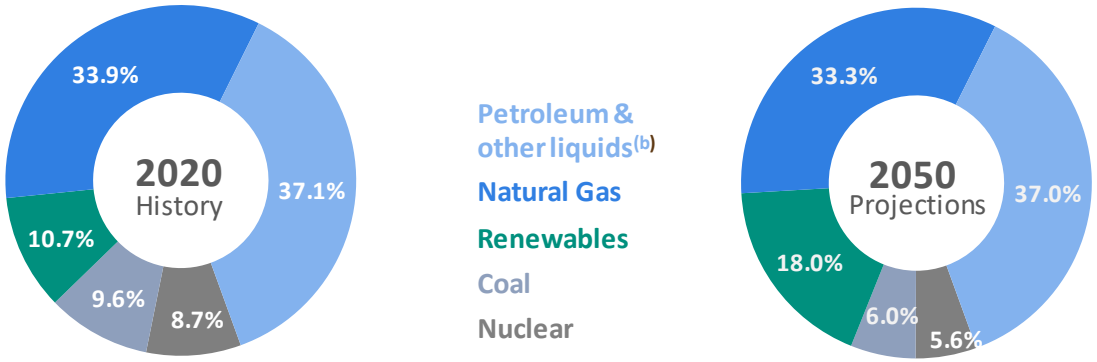
MORE EXCITED THAN EVER ABOUT THE FUTURE
SAFERELIABLEAND RESPONSIBLY PRODUCED ENERGYDELIVERING MEANINGFUL VALUE TO STAKEHOLDERS

IMPORTANCE OF NATURAL GAS: DOMESTICALLY

Energy Consumption by Fuel[a]

Quadrillion Btu





Essential

Natural gas remains an essential element in meeting total US energy needs, even with the growth of renewable energy sources

Clean

Natural gas increasingly replacing coal as a base load power generation source with significant emission reduction benefits

Resilient

Even in an accelerated energy transition scenario and net zero footprint world, gas demand remains resilient

a) US Energy Information Administration, Annual Energy Outlook 2021, Reference Case
b) Includes biofuels

IMPORTANCE OF NATURAL GAS: REGIONALLY

Clean ◆ Reliable ◆ Abundant ◆ Affordable ◆ Efficient

2021 Statistics[a]

Appalachian Basin

15%	36%
% US Natural Gas Consumption	% US Natural Gas Production[b]
24%	41%

Central Region

Regional Significance

Collectively, for these 9 states…

77%
of 2020 Total US Natural Gas Production[b]

~53%
of Net Electricity Generated from Natural Gas[c]

~47%
of Households Used Natural Gas for Home Heating in 2021[d]

Source: US Energy Information Administration
a) Total Natural Gas Consumption and Dry Natural Gas Gross Withdrawals and Production as reported at 30 Sep 2021, for primary states of operation where Diversified's gas & oil assets are located
b) Represents Dry Natural Gas and defined as marketed production less extraction losses, or remaining natural gas after liquefiable hydrocarbon has been removed from the gas stream
c) Represents weighted average share (based on megawatt hours) of total utility-scale facility net electric generation from natural gas for July 2021
d) Represents weighted average share (based on Residential natural gas consumption) of households using natural gas for home heating in 2021

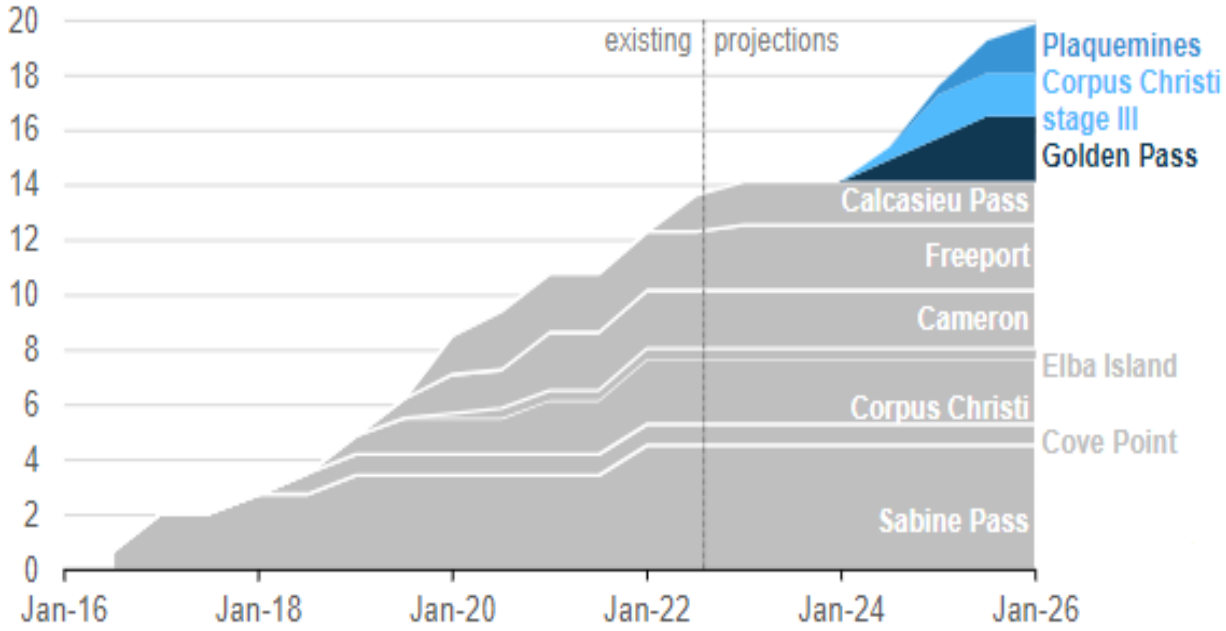
GROWING NATURAL GAS EXPORT CAPACITY

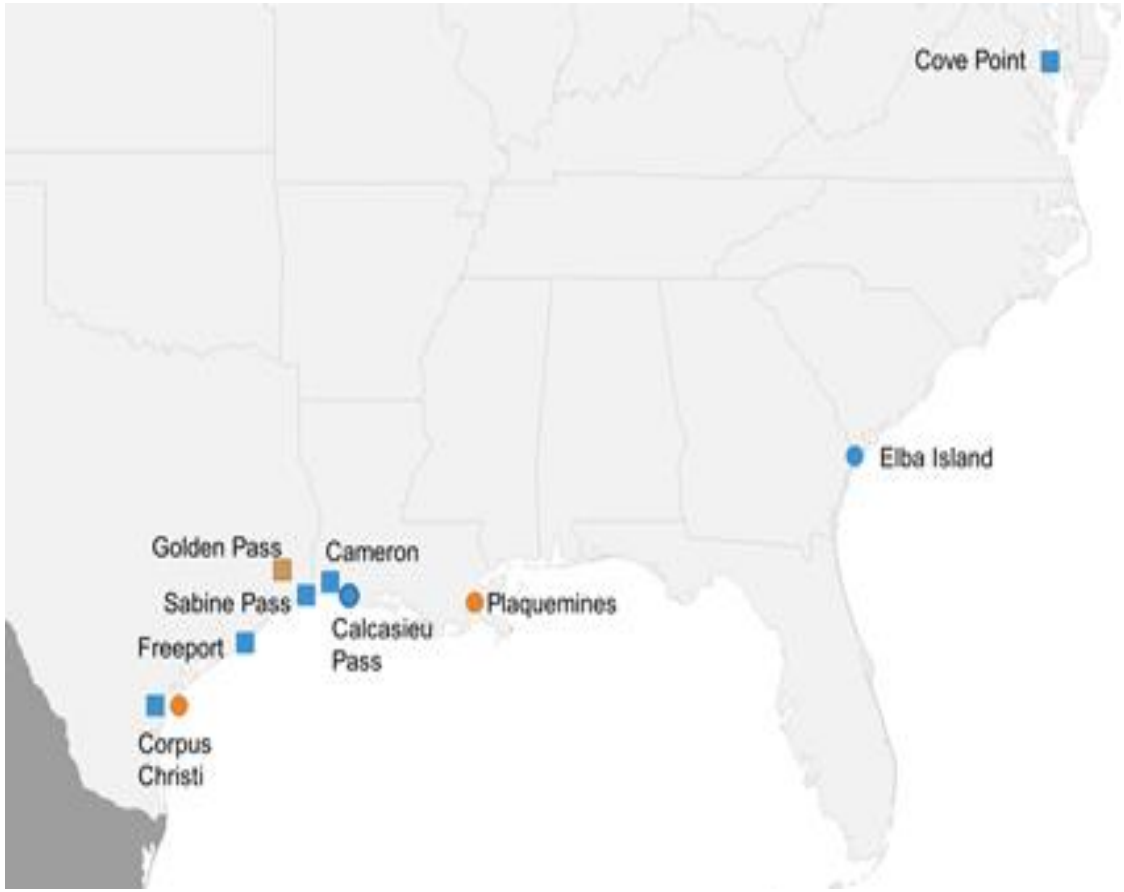
Clean U.S. natural gas provides energy security to other nations and allows for a global reduction of emissions

U.S. LNG Projects Under Construction

Once completed, the three highlighted export projects will add **~6 billion** cubic feet of export capacity by 2025

Capacity could double to **~30 billion** cubic feet by 2030

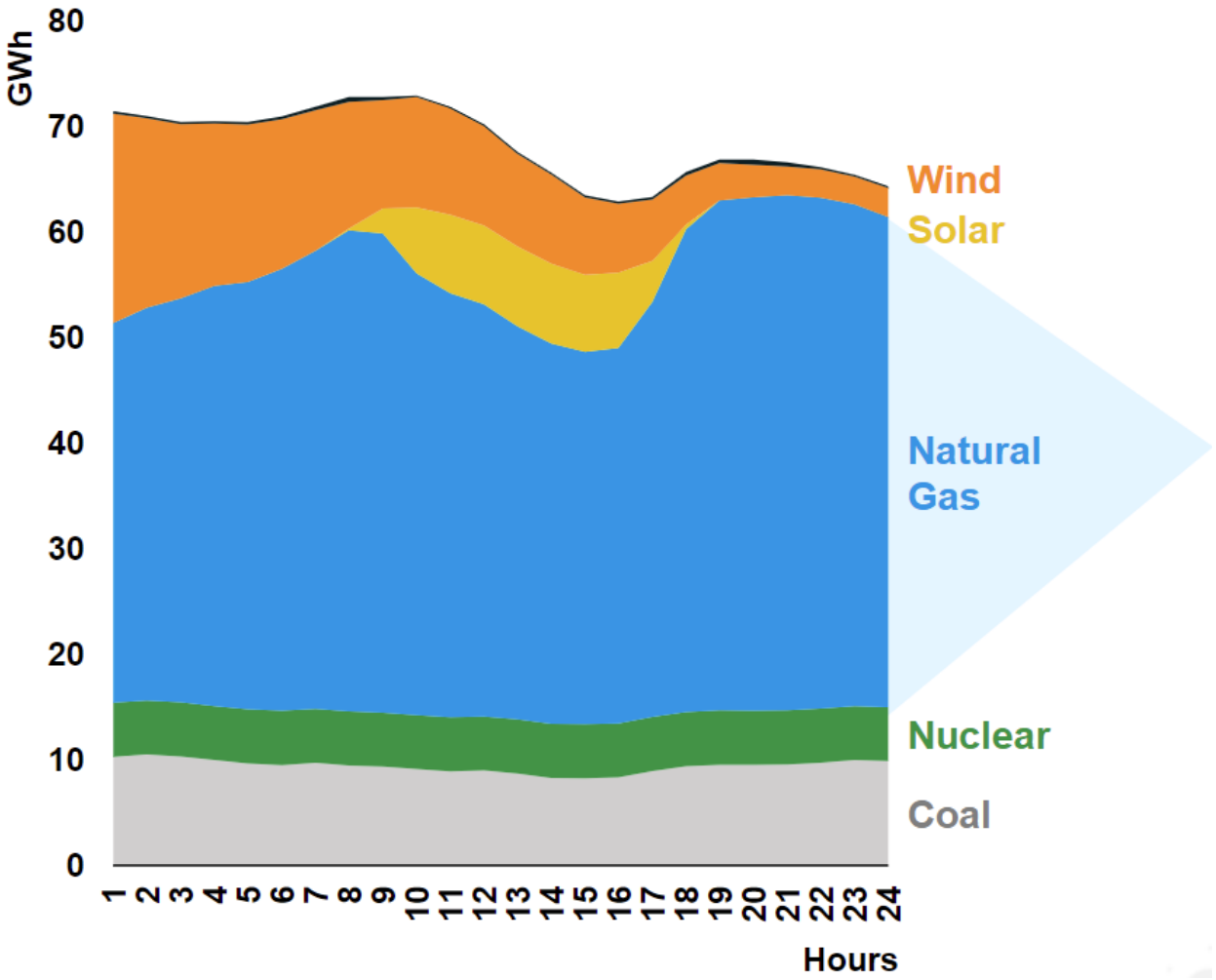




Data Source: U.S. Energy Information Administration

RENEWABLES BUILDOUT REQUIRES NATURAL GAS BACKSTOP

Texas Hourly Power Generation *(December 23, 2022)*



RELIABILITY OF BASE LOAD

Natural Gas supported peak demand needs in Texas during Winter Storm Elliot

Stepped up to fill **~70%** of demand during hours when the sun wasn't shining & wind power collapsed

Dispatchable capacity need for low wind and solar days

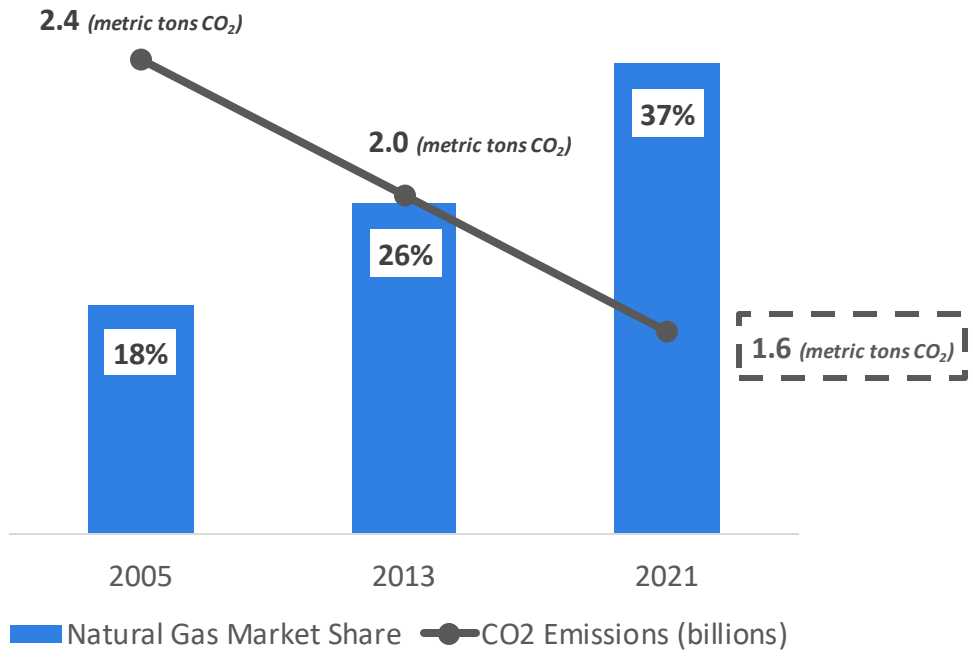
Data Source: Electric Reliability Council of Texas ("ERCOT")

INCREASED NATURAL GAS USAGE DRIVES LOWER EMISSIONS

U.S. CO_2 emissions declined ~35% with increased natural gas power generation

U.S. Electric Power Generation

CO_2 Emissions vs. Natural Gas Market Share



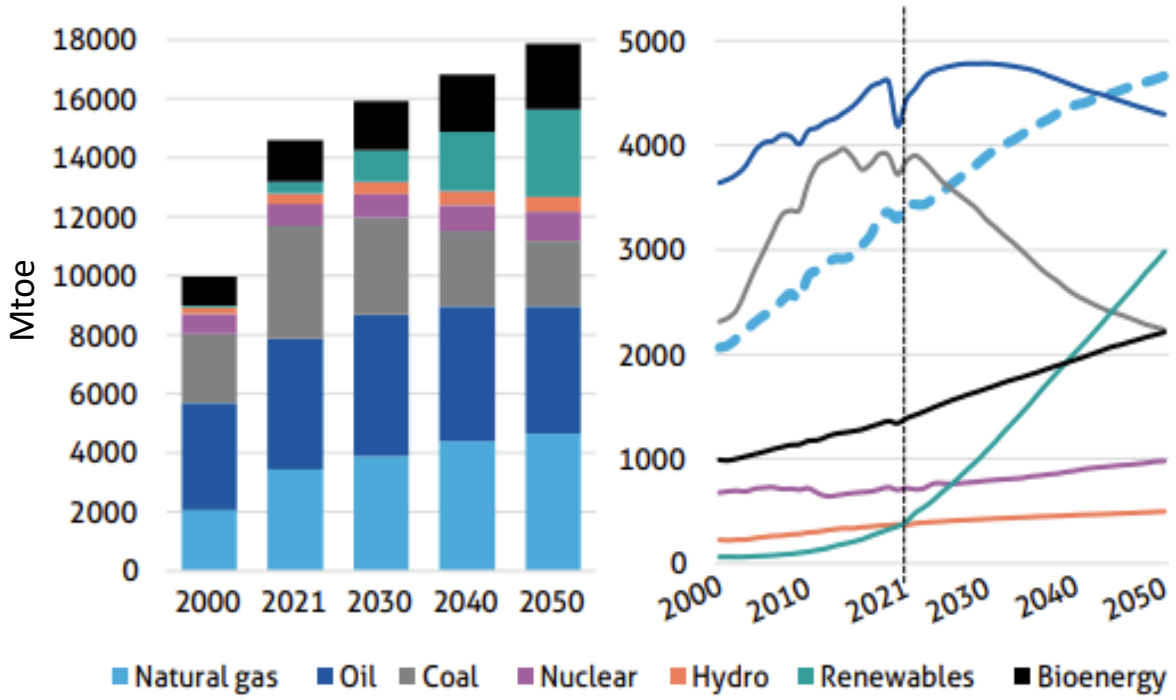
- Natural gas generation increased from 18% to 37% of the total power market
- Shift to natural gas directly responsible for reducing CO_2 power emissions
- There are still ~230 operating coal plants in the U.S. today

Data Source: U.S. Energy Information Administration, December 2022

MEANINGFUL GLOBAL ENERGY DEMAND FROM FOSSIL FUELS

Natural Gas will be the most utilized fuel by 2043 and be a 26% share of energy demand in 2050

Global Primary Energy Power Demand Trends by Fuel Type

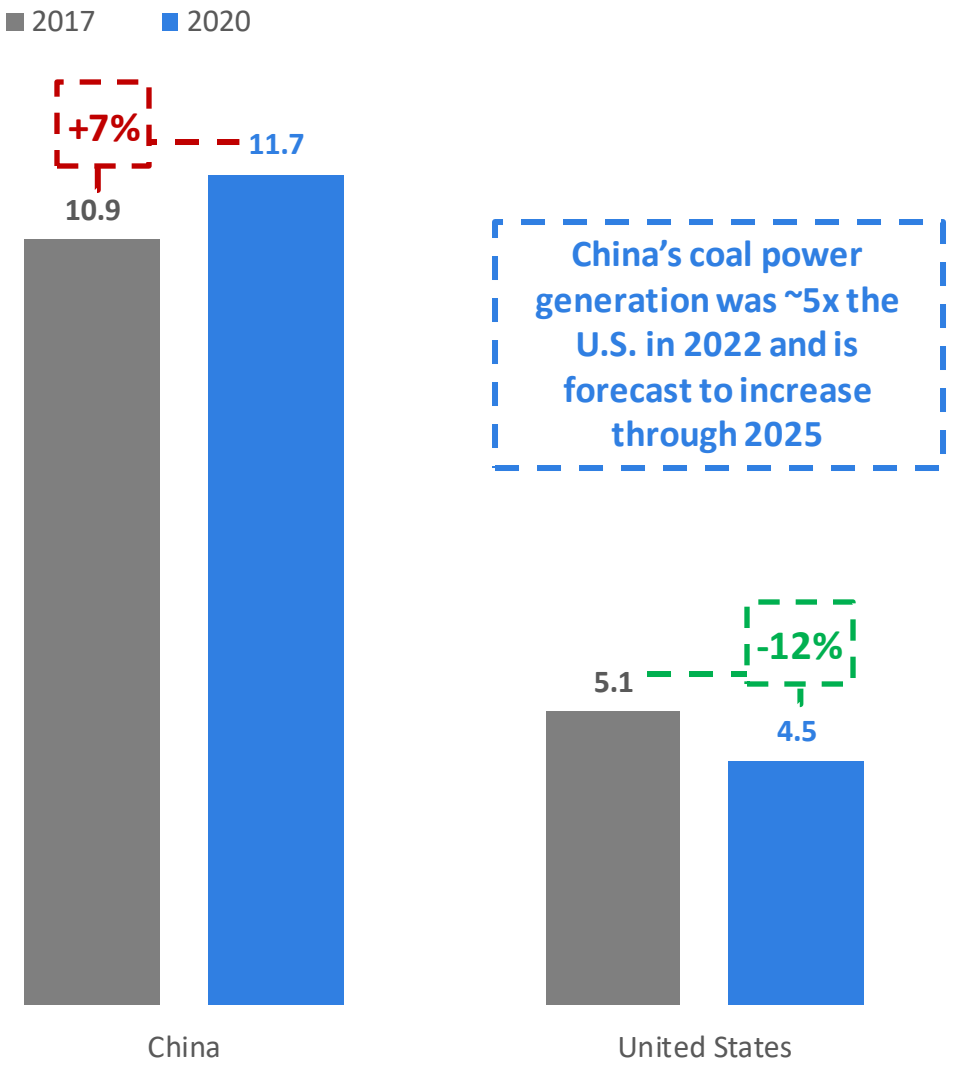


- Driven by electricity demand, clean air policies, and coal/oil to gas switching
- Fast-growing economies in China and India provide the largest growth engine
- Despite energy transition and the rapid contribution of renewables
- Industrial natural gas demand will rise as a feedstock for the production of petrochemicals and fertilizers

Source: Global Gas Exporting Countries Forum 2022; Mtoe = Metric Tonnes of Oil, Equivalent

WE SHARE A COMMON ENVIRONMENT

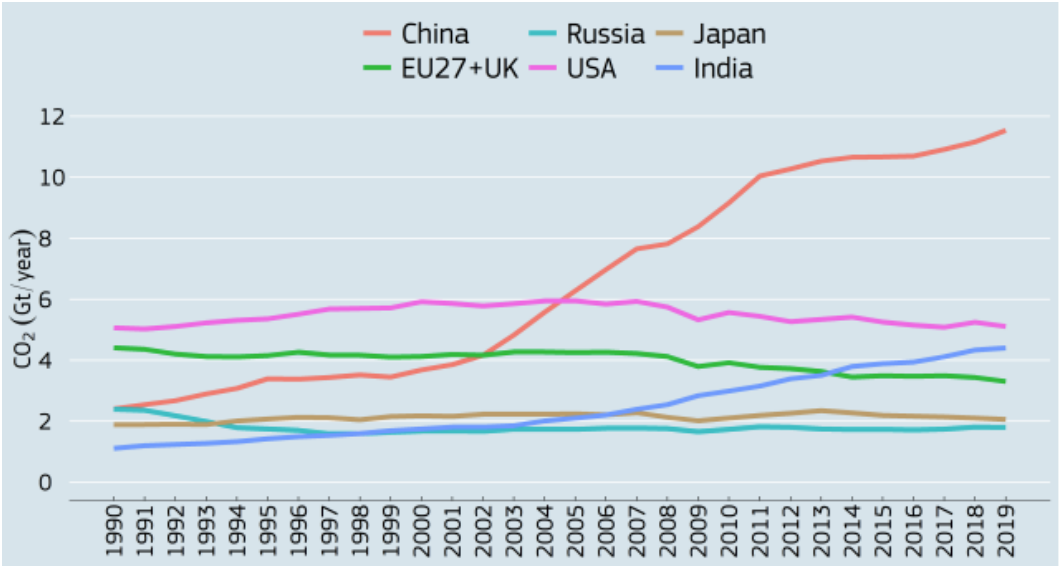
2020 CO_2 Emissions *(Gt)*



Need to address International Emissions:

- China's emissions have grown meaningfully since 1990 including 7% since 2017
- U.S. represents only 18% of the five top emitting counties/regions
- U.S. has reduced emissions 12% since 2017

Fossil CO_2 Emissions from Major Economies



Source: GHG Emissions of all World Countries 2021, Science for Policy report by the Joint Research Centre (JRC) of the European Commission

RIGHT COMPANY, RIGHT TIME

Seasoned management team with proven record of identifying, optimizing and delivering returns from existing producing assets

Consolidator of choice for US natural gas producing assets

Own the value chain through vertical integration from production through retirement

Providing Solutions

Deploy Smarter Asset Management to increase production, reduce emissions and extend well life

Expand retirement capacity, evolve carbon capture opportunities & lead well retirement innovation

DIVERSIFIED
energy

Bringing the promise of *renewable energy* to the forgotten places of

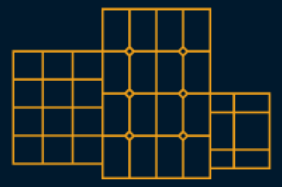
The *Climate Challenge*

There's no magic bullet to combating the climate change. Transitioning from fossil fuels to a portfolio approach with renewable energy will require working across all scales — from utility-scale solar projects to community solar projects to on-site microgrids.

Edelen Renewables is a solar developer that has managed to innovate at each of these scales. Known best for pioneering Social Impact Solar[SM] and "Coal-to-Solar" on utility-scale projects, we're equally proud of our recent expansion into the community solar and "build-to-suit" markets.

Artistic Rendering

1



Creating Legacy Impact for Offtakers and Communities Alike

2

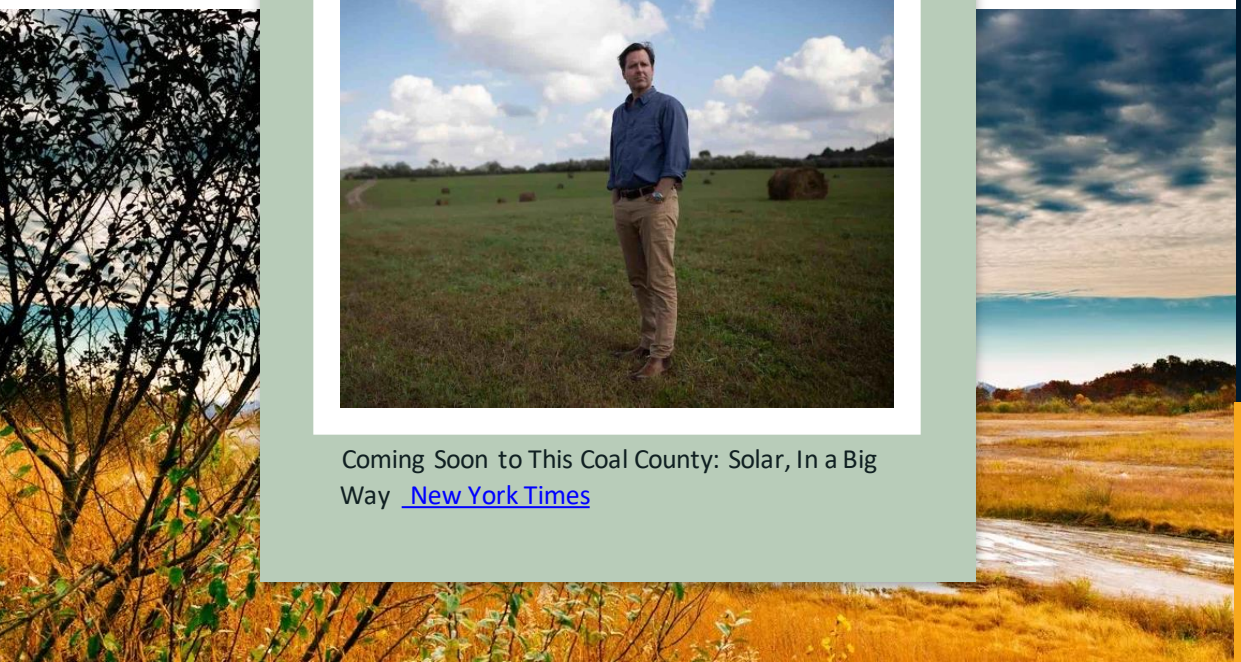
Solar Development Projects Combating the Climate Change

3

Driving Economic Transition in Forgotten Communities

Utility-Scale Solar

Edelen Renewables was the first solar developer to originate and develop large-scale solar projects on abandoned coalfields.



The New York Times

Coming Soon to This Coal County: Solar, In a Big Way New York Times

Edelen Renewables was the first to employ a "social impact" approach to solar development to ensure the benefits of solar investments are felt locally

Social Impact Solar℠

- Prioritizing the hiring and training of local workforce to construct projects.
- Payments in lieu of taxes tailored to each community's needs.
- Working closely with local stakeholders to create legacy projects that live beyond the life of the solar project.

Our projects have helped some of the *world's most known companies reach their carbon reduction targets*

Communit y Solar

Community Solar is the fastest growing segment of the solar energy market in the United States.

This approach was designed to help individuals (especially those with low to moderate incomes) who don't have the ability to directly utilize solar energy, to subscribe to a community solar farm to offset their electricity consumption.

Edelen Renewables partnered with the American Farmland Trust, Arcadia, and Aggreko Energy Transition Solutions to form the most ambitious community solar partnership in the sector

FARMERS POWERING COMMUNITIES

Arcadia EDELEN RENEWABLES American Farmland Trust aggreko

Farmers Powering Communities aims to deliver 500 megawatts of community solar energy across the U.S. over the next decade.

Build-to-Suit

As more and more small- to medium-sized businesses seek to become carbon neutral, the need for on-site solar arrays and other microgrid energy systems is growing rapidly.

With in-house expertise designing some of the most advanced microgrid systems anywhere, Edelen Renewables is perfectly positioned to excel in this ever-expanding build-to-suit market.

Edelen Renewables has formed a joint venture with Aston Labs to build out a new built-to-suit (BTS) division which aims to launch in the first quarter of 2024.

Photo Credit: PV Tech

Solar Project Types / General Reference

"Typical" size for project (acres) / MW / development cost

Type	Acreage	MW	Average Cost to Develop	Offtake	Sample ER projects
Utility Scale Solar	500-7,000 acres	80 MW+	~$100M Typically 1:1; $/watt all in	Virtual Power Purchase Agreement (VPPA)	Hobbs, NM
Community Solar	50 acres (Standard: 5 acres/MW)	5 MW	$10M	Individual power customers (e.g., via Arcadia customer subscriptions)	Farmers Powering Communities
C&I Build to Suit	Roof-mount Ground-mount	Small (100 kW) up to 40 MW	$250K - $45M	Onsite, Power Purchase Agreement	Forthcoming (in discussion)

Typically, ratio is 6-7 acres per 1 megawatt (MW)

Edelen Renewables is leading the nation in developing “coal-to-solar” projects.

The Martin County Solar Project has been described as the “most iconic renewable energy project in America.”

The Starfire mine is the largest renewable energy land origination project in the Eastern US.

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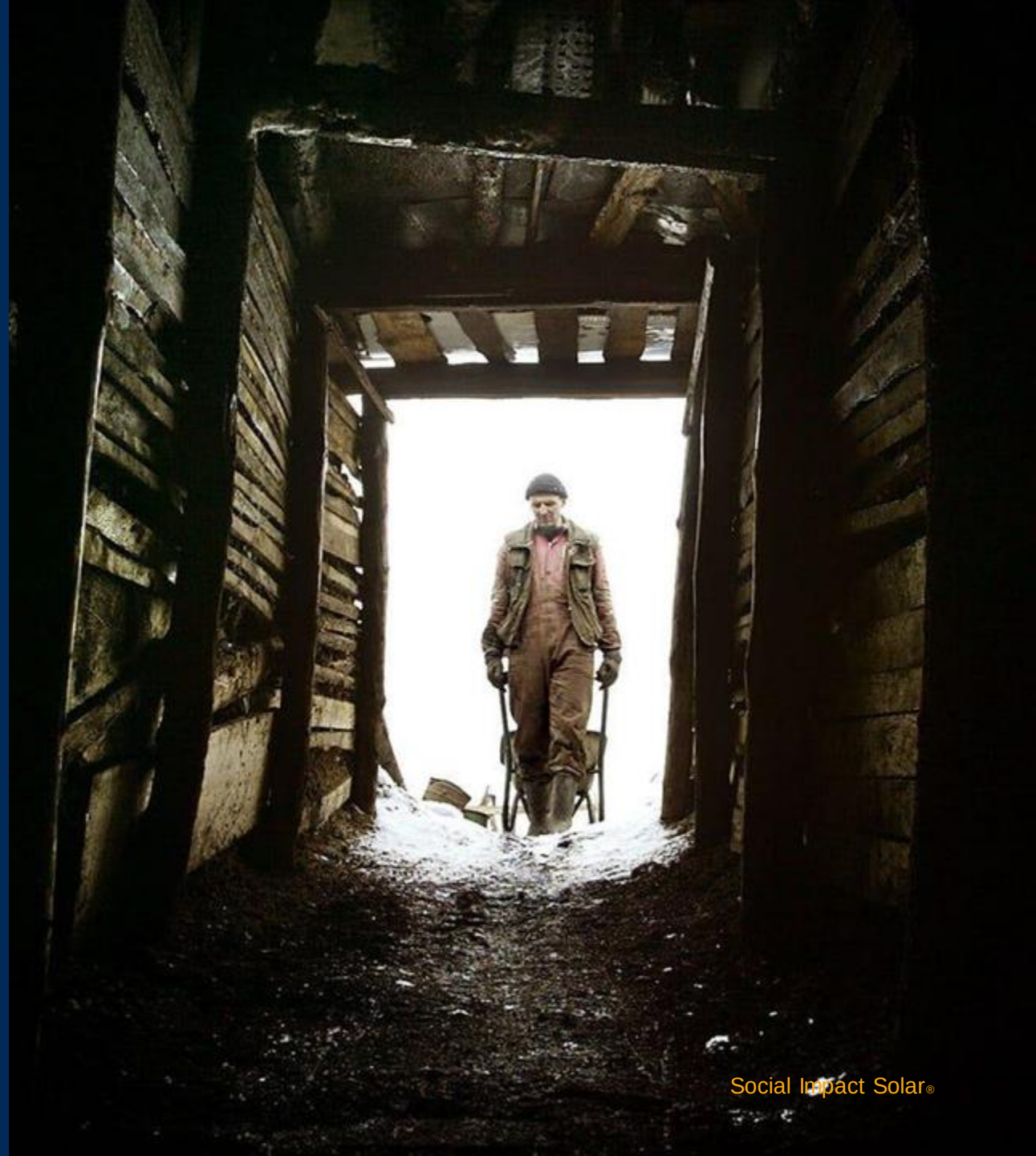

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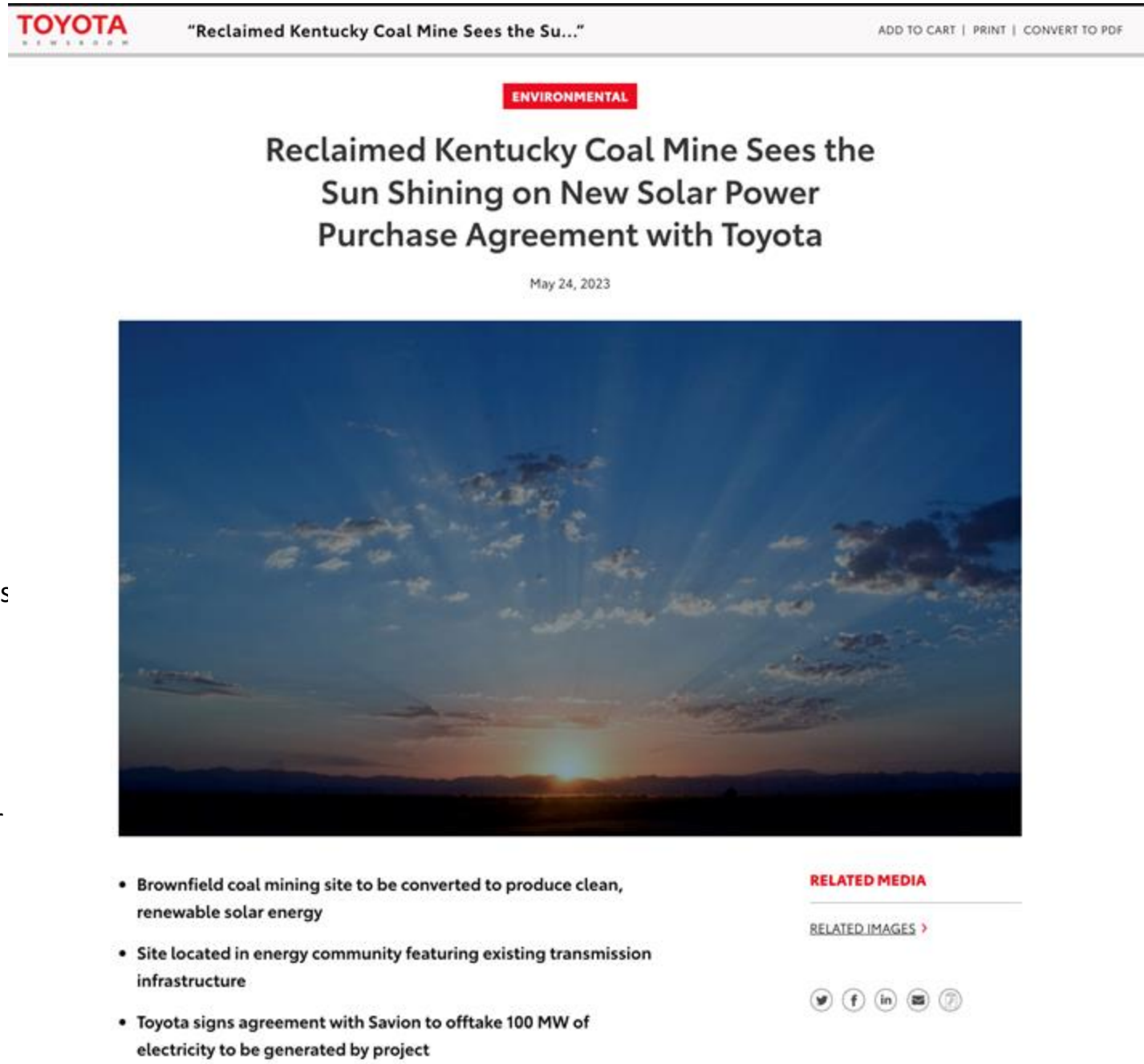
Martin County Solar Project

Location: Martin Co., KY, Martiki Coal Mine
Scale: 200 MW
Timing: Construction begins Fall 2023
Development Partner: Savion

"MARTIN COUNTY, Ky. (May 24, 2023) – The sun will power more of Toyota Motor North America Inc.'s (Toyota's) operations thanks to a new power purchase agreement with Savion. Today, Toyota announced that it has agreed to offtake 100-megawatts (MW) of the electricity generated as part of renewable energy company Savion's Martin County Solar Project through a virtual power purchase agreement (VPPA)."

The 2,541-acre solar installation will be constructed on the former Martiki Coa Mine site near the border of West Virginia and Kentucky.

Installation expected to be operational in 2024.
Went to construction October 16, 2023.



TOYOTA NEWSROOM "Reclaimed Kentucky Coal Mine Sees the Su..." ADD TO CART | PRINT | CONVERT TO PDF

ENVIRONMENTAL

Reclaimed Kentucky Coal Mine Sees the Sun Shining on New Solar Power Purchase Agreement with Toyota

May 24, 2023

- Brownfield coal mining site to be converted to produce clean, renewable solar energy
- Site located in energy community featuring existing transmission infrastructure
- Toyota signs agreement with Savion to offtake 100 MW of electricity to be generated by project

RELATED MEDIA

RELATED IMAGES >

Dedicated project webpage: www.martincountysolarproject.com/

Martin County Solar Project Partners

- Big Sandy Community and Technical College
- Eastern Kentucky Concentrated Employment Program (EKCEP)
- Big Sandy Area Development District
- Mountain Association
- Savion Energy
- Edelen Renewables

Drone Footage: Martin County, KY Coal to Solar Site

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Employment

Snapshot of early postings

- Safety & Health Spec/Advisor - Solar - KY
- Operator Equipment - Medium - 100667 - Pilgrim, KY
- Electrical Superintendent - Solar
- Electrical Superintendent - Solar
- Mechanical Superintendent - Solar - Kentucky

BrightNight, Rivian, and The Nature Conservancy Unite to Transform Starfire Coal Mine into Kentucky's Largest Renewable Power Project

Location: Breathitt, Perry, Knott County Area, KY
Scale: Phase 1 - 210 MW; over 4 phases, 800+MW
Timing: Q4 2026 (completion in 2030)
Development Partner: BrightNight

Situated on 7,000 acres, across the Kentucky counties of Perry, Knott, and Breathitt, the Starfire project will transform one of the Midwest's largest coal mines into a clean renewable power project.

210 megawatts
Of clean renewable energy

7,000 acres
Of revitalized land

$100-$150M
In local tax revenue over the life of the project

250+
Kentucky jobs for each phase

5
Permanent operations and maintenance jobs for each phase

800+ megawatts
Over four phases of development and construction

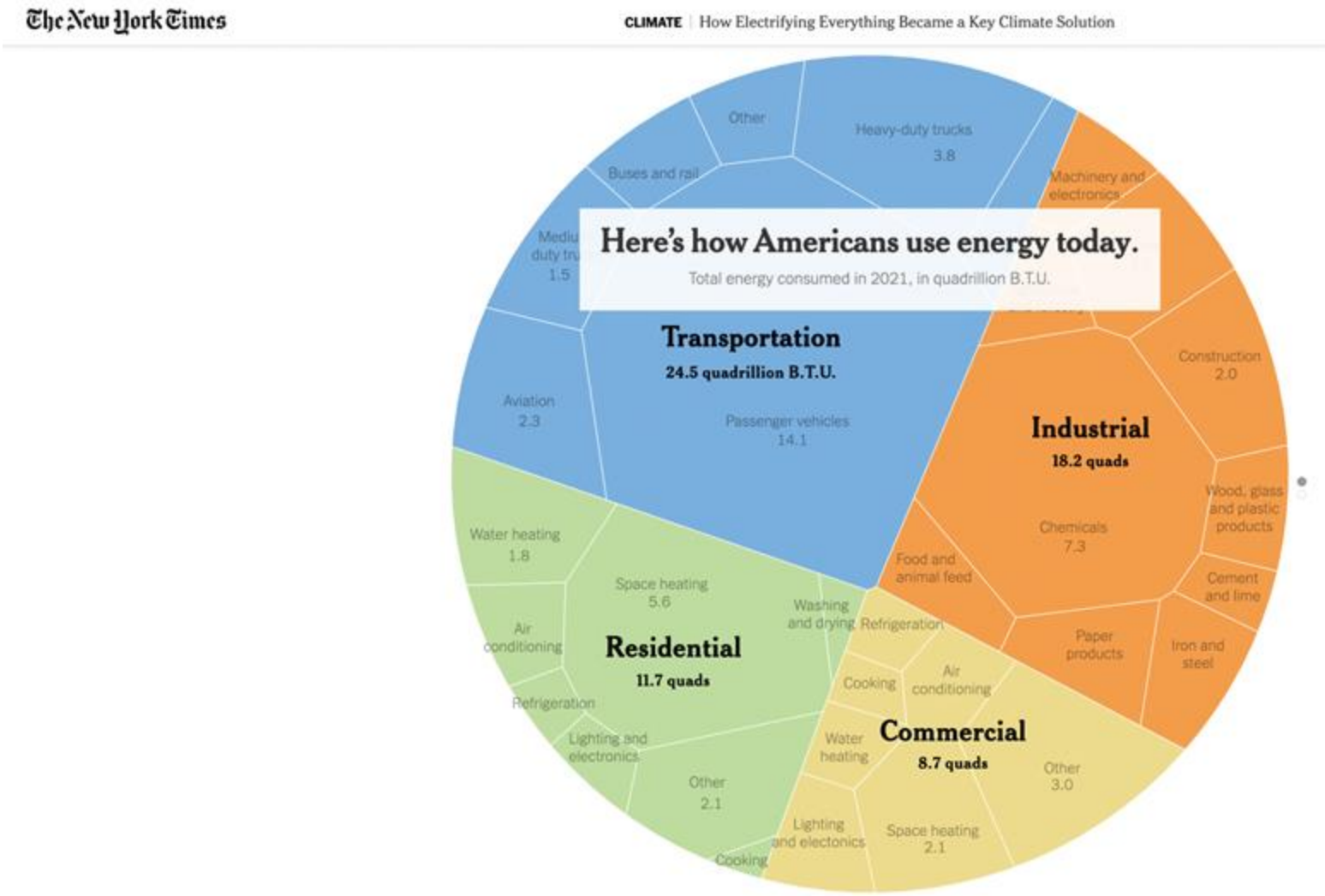

The BrightNight Starfire Renewable Power Project
BRIGHTNIGHT
Power when you need it
Watch late

Hobbs, New Mexico: AC Ranch Solar Project

Wanted: More Electrons

The “electrification of everything” is both a climate solution and a market opportunity.

Inflation Reduction Act (IRA) leverages private investment with public funding, resulting in a major shift in infrastructure.



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Where we are and what is next?

Kentucky ranked third in the country in coal production in 2013, behind Wyoming and West Virginia, and the state was tied with several others at the bottom in wind and solar development.

In 2022, Kentucky's coal production had fallen by 65 percent and its ranking fell to fifth. And, the state had made almost no investment in wind and solar, so it remained at the bottom.

Illinois, Indiana, North Dakota, Ohio and Texas all had increases in electricity generation from wind and solar of at least 100 percent.

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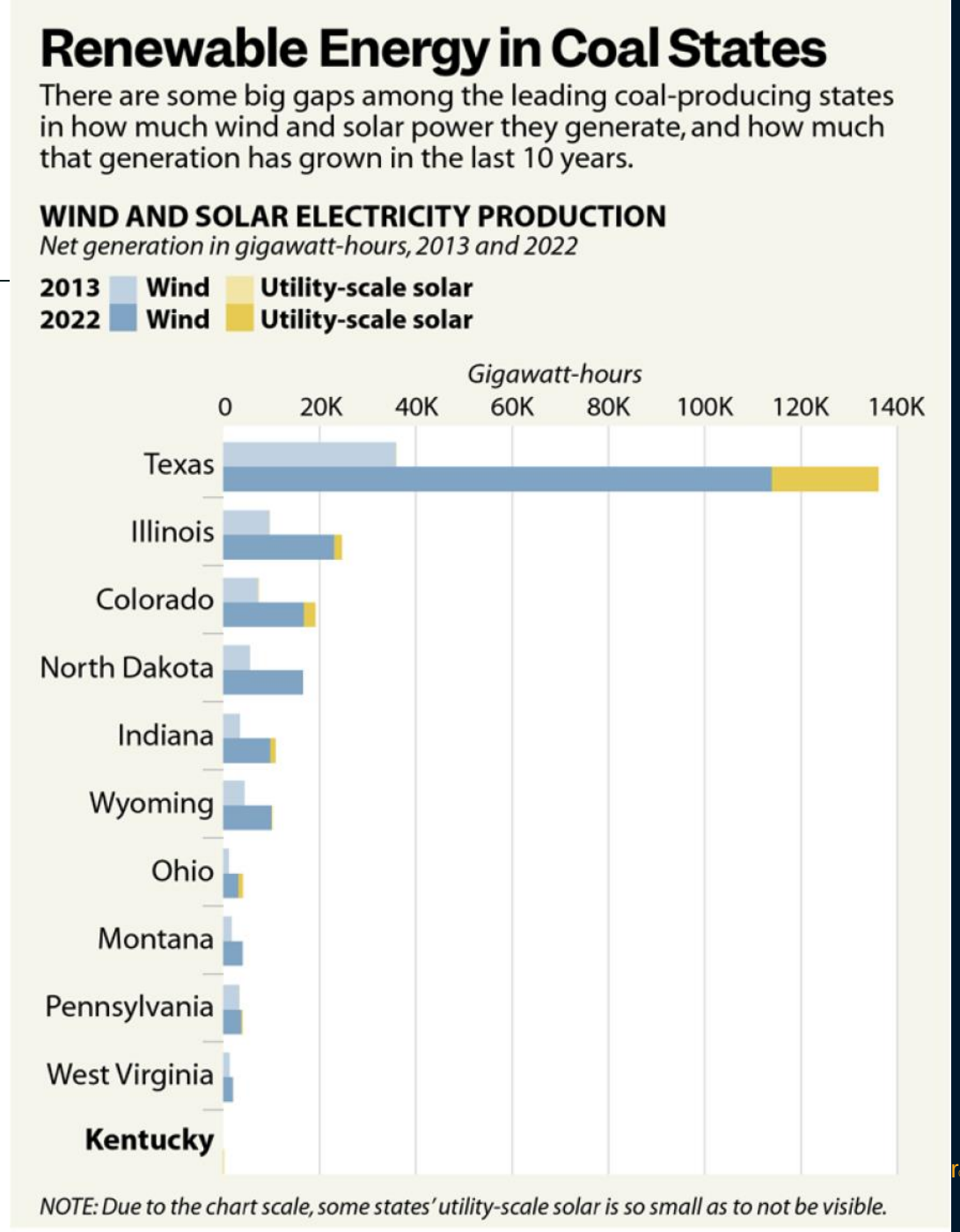


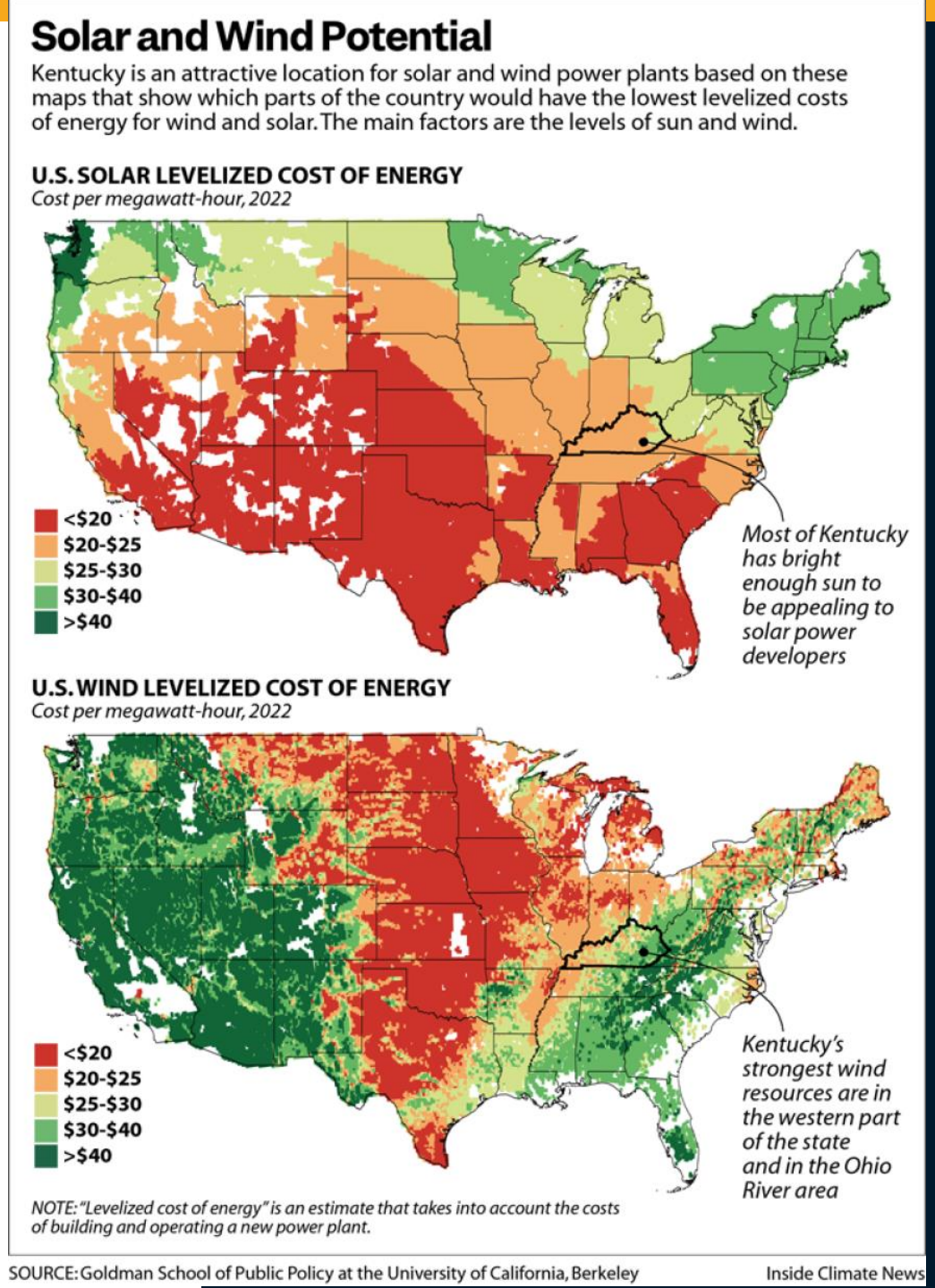
Feasibility

The southern and southwestern states have low levelized costs of energy for wind and solar.

Kent Blake, chief financial officer of LG&E and KU Energy, the state's largest utility, had urged lawmakers to hold off and craft a more narrowly focused bill. The two coal plants his utility wants to shutter are 50 to 60 years old and would cost hundreds of millions of dollars to get them up to date, he said.

The bill [SB4], now a law, will have "unintended consequences," he told lawmakers, leading to "higher rates and less reliable service. It does not necessarily support the coal industry in the state."

Louisville Public Radio, 2022



Hard to Win

December 2022

LG&E and KU Energy to shut down three more aging coal-fired units, build two more gas units and a utility-scale solar plant, while adding purchase agreements for additional solar power and battery storage.

The plan is controversial, attacked by the coal industry and Republican lawmakers as anti-coal, and environmentalists for relying too much on fossil fuels and failing to move faster toward renewable energy amid a climate crisis.

Artistic Rendering

All of the Above

A solar array was constructed next to a shut down coal mine in Lynch, Kentucky.

Creating Opportunity

Creating additional electrons necessary to recruit the next wave of corporations to the region.

for the

Many Fortune 500 and 1000 companies require renewable energy sources to meet their ESG goals.

Community

Edelen Renewables' projects may contribute to meeting a corporation's *Energy Commitments*

Starfire Mountain

210 MW (100 MW available)

Bright Mountain

80 MW (80 MW available)

Martin County

200 MW (100 MW available)

Projects in Development

Social Impact Solar[SM]

Social Impact Solar is a service marked approach to renewable energy project development that focuses on the human and social components of a solar energy development project to ensure the promotion of opportunities to yield positive outcomes for the community in which the project is developed.

Social Impact Solar® is who we are and what we do. For us, it's a laser focus on creating legacy impact for the communities where we develop. Community engagement, workforce development partnerships, good jobs, and credentialed skills training, are the foundation of what we do.

Social Impact Solar℠

A Three-Part Strategy:

Workforce Solutions

Legacy Impact to the Community

Tax Mechanisms for Local Investment (industrial revenue bond, payment in lieu of taxes)

Key Terms

Industrial Revenue Bonds (IRB): Bonds that may be issued by state and local governments in to help finance industrial buildings and projects.

Payment In Lieu of Tax (PILOT) agreements: Negotiated payments to communities by industrial tenants to replace portions of local property taxes lost through public title to the property.

Workforce Development: *Transfer*

Solar/Photovoltaic Technologies - Certificate

Offered at: Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College

Program Plan Number: 1517013150

Course	Title	Credits
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
ELT 110	Circuits I	5
EGY 230	Solar / Photovoltaic Technologies	4
Total Credits		**13**

Social Impact Solar: Workforce

A model for supporting displaced and disenfranchised workers in the new energy economy

- Time on-site earning **living wages**
- % of time earning **stackable credentials**

- Embedded **national standards** (NABCEP) for curriculum design

- Industry recognition of a **qualified, regional workforce**
- Place-based, culturally responsive **support system**

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(L)Earning: Place-Based Learning

Stage 1

Competency Transfer & Early Skill Development

- Safety
- Technical
  - Site Preparation
- Employability
  - Communication
  - Professional Responsibilities

Stage 2

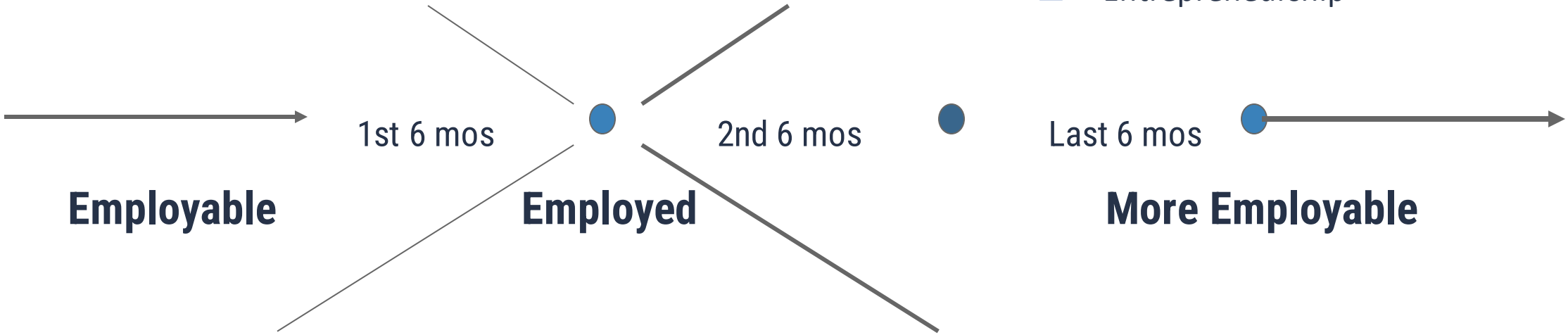
Skill Development

- Technical
  - Construction
  - Electrical
- Employability
  - Teamwork
  - Problem Solving

Stage 3

Skills Transfer

- Technical
  - Calibration
  - Metering
  - Inspection
- Employability
  - Communication
  - Adaptability
- Job Placement/Advancement
- Entrepreneurship



Workforce Training Progress, Credentialing and Opportunities

Confirmed Credentials

- Occupational Safety and Health Administration (OSHA) 30
- Kentucky National Career Readiness Certification (NCRC)
- Kentucky Essential Skills Certification
- General Education Development (GED) credential, as needed

Pursuing

- NABCEP PV Installer Specialist (North American Board of Certified Energy Practitioners®)
- State Solar Apprenticeship credential

NABCEP®

Raising Standards. Promoting Confidence.

Financial Benefits *for the Community*

Renewable power projects provide numerous financial benefits to a community. These include:

- Long-term tax revenue to the local county, which positively impacts local school systems and other community needs while requiring little to no county services in return.
- Creation of numerous jobs during construction and long-term operations and maintenance jobs.
- Production of low-cost clean power, which is in high demand by utilities and corporations and attracts economic development to the areas where it is available.
- Delivery of clean renewable power to the utility grid to help meet the region's energy needs.
- Attracts big corporate and C&I job creators prioritizing locations with renewable power availability.

Who We Are

Adam Edelen
Founder & CEO

Nathan Cryder
Chief Operating Officer

Chad Braden
Director of Operations

Amy Samples
Chief of Staff

Brad Clark
Director of Workforce Solutions

Lee Ullman
Director of Structured Finance

Jason Carter
Strategic Advisor

Vance Nobe
Chief Technical Advisor

Keith Mathis
Senior Advisor for Supply Chain Solutions

Seth Steppe
Director of Outreach & Engagement

Brad Housewright
Director of Midwest Origination & Outreach

Scarlett Shomaker
Office Manager

Dan Taylor
Director of Coalfield Origination

Contact

Edelen Renewables
175 E Main St., Suite 300
Lexington, KY 40507

In The *Media*

The New York Times

Coming Soon to This Coal County: Solar, In a Big Way [New York Times]

LEXINGTON HERALD LEADER

Now hiring: Eastern Kentucky solar project aiming to be economic driver in coal country [Lexington Herald Leader]

FAST COMPANY

These Kentucky Coal Mines Could Become A Massive Solar Farm [Fast Company]

- Community solar initiative 'resonating' with agricultural... PV Tech
- Martin County Solar Project kicks off with plans to bring hundreds... WYMT
- Utilities: Let There Be Light (and Water and Gas) Lane Report
- The Human Element Watch The Trailer
- The Dickenson Group to look at solar, wind, reforestation projects in West Virginia Metro News
- Solar power farm would bring 300 jobs to Martin County by 2023 The Levisa Lazer

Who We Are

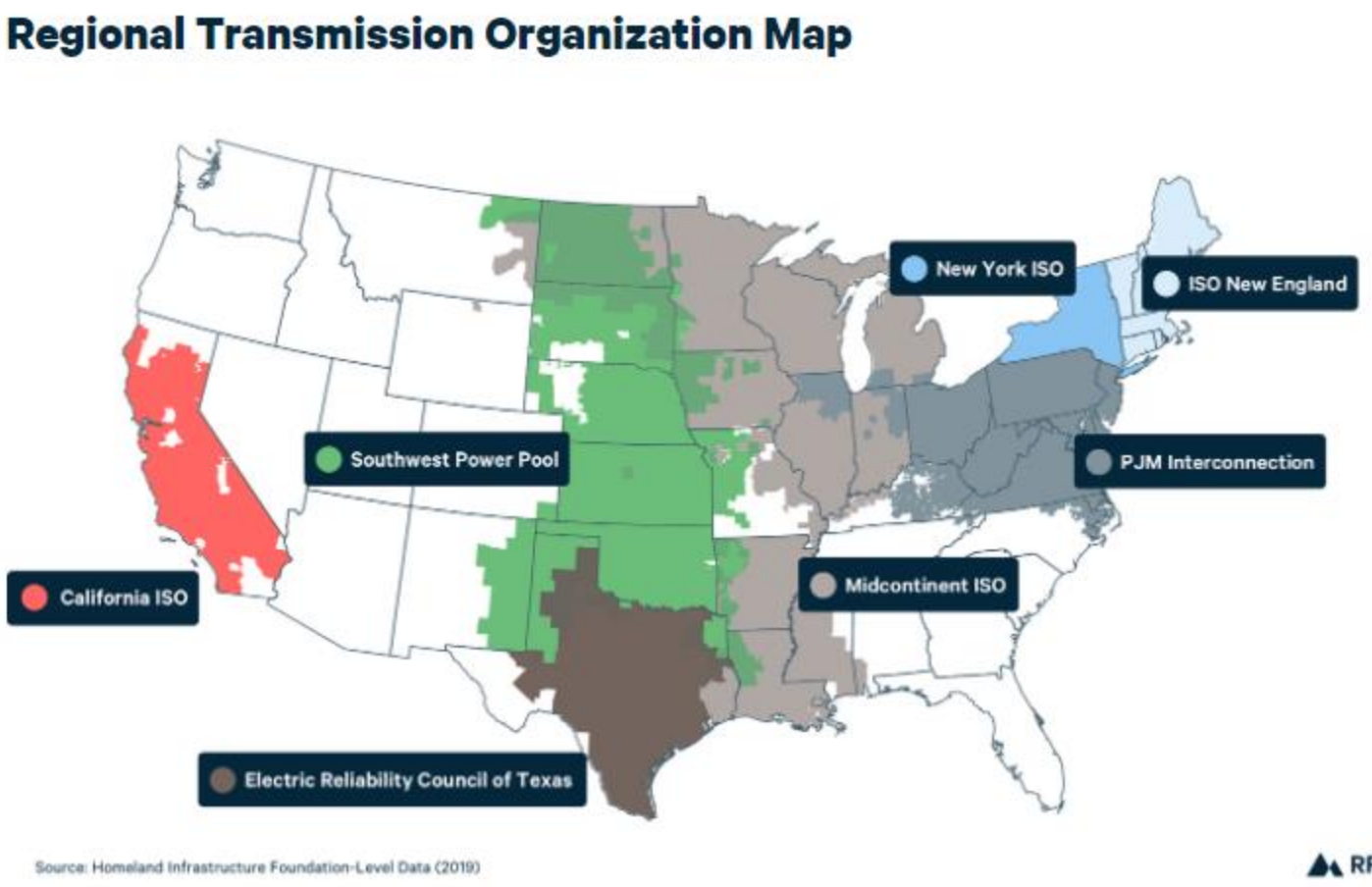
Adam Edelen	Nathan Cryder	Chad Braden	Amy Samples	Brad Clark	Lee Ullman
Founder & CEO	Chief Operating Officer	Director of Operations	Chief of Staff	Director of Workforce Solutions	Director of Structured Finance

Vance Nobe	Keith Mathis	Seth Steppe	Jason Carter	Brad Housewright	Scarlett Shomaker	Dan Taylor
Chief Technical Advisor	Senior Advisor for Supply Chain Solutions	Director of Outreach & Engagement	Strategic Advisor	Director of Midwest Origination & Outreach	Office Manager	Director of Coalfield Origination

Transmission

Key Terms

RTO – Regional Transmission Organization
ISO – Independent System Operator



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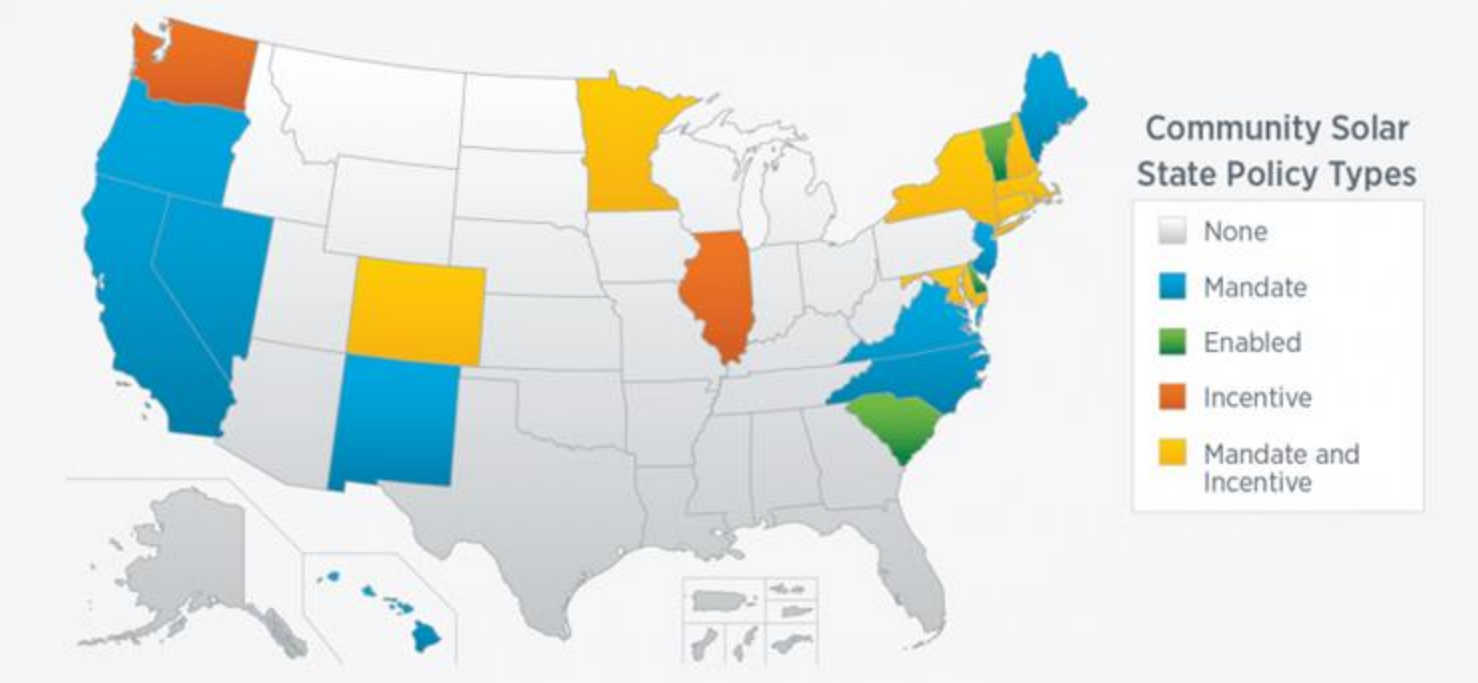
lar®

Community Solar States

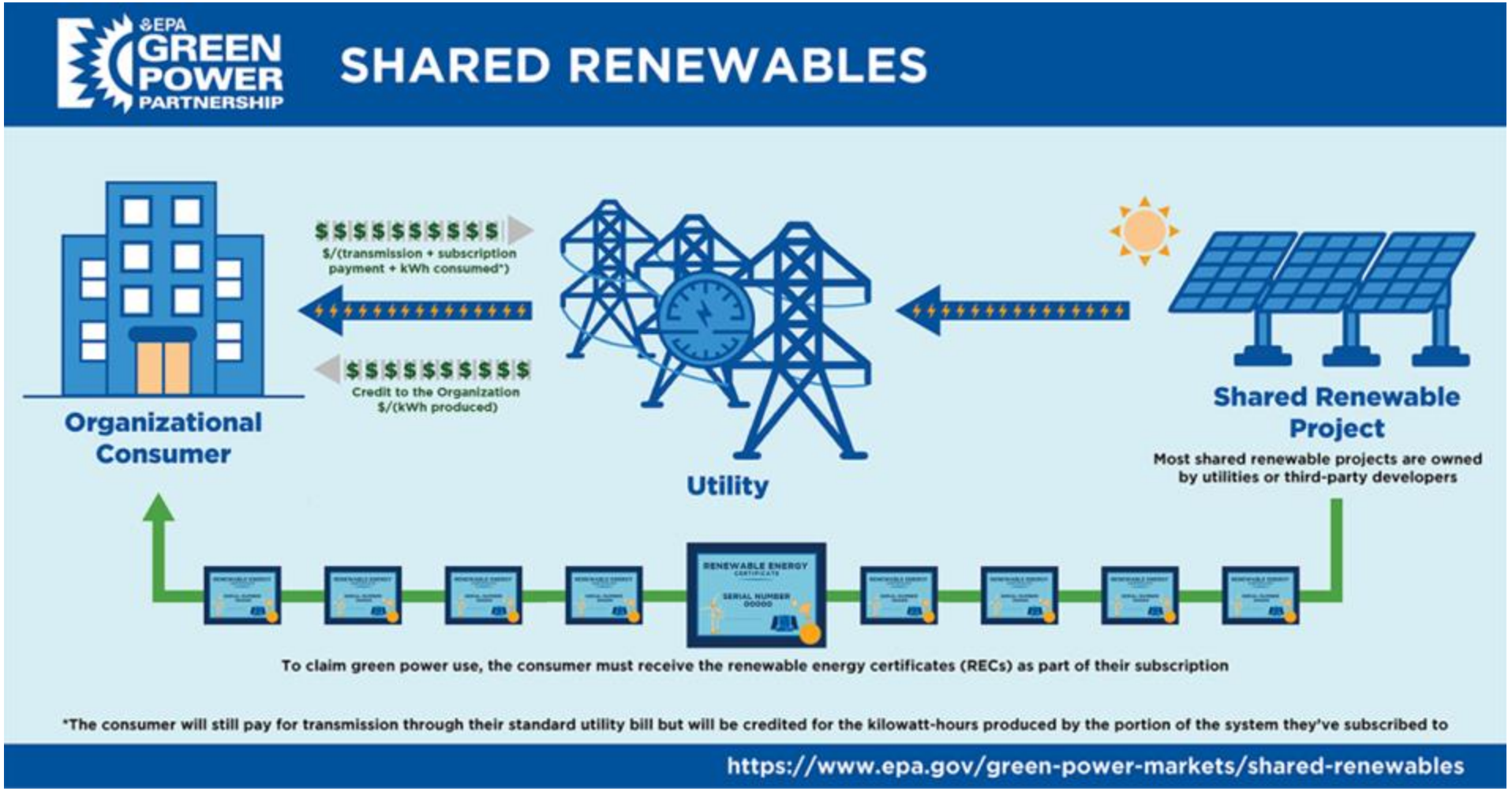
Map of states where community scale solar is mandated or enabled.

- These are targets for Community Solar scale development.
- Ideal for CS: 30+ acres, <1 mile from substation, low slope, no trees (cleared). In a state w/ net metering.



Community Solar States

How does CS work?



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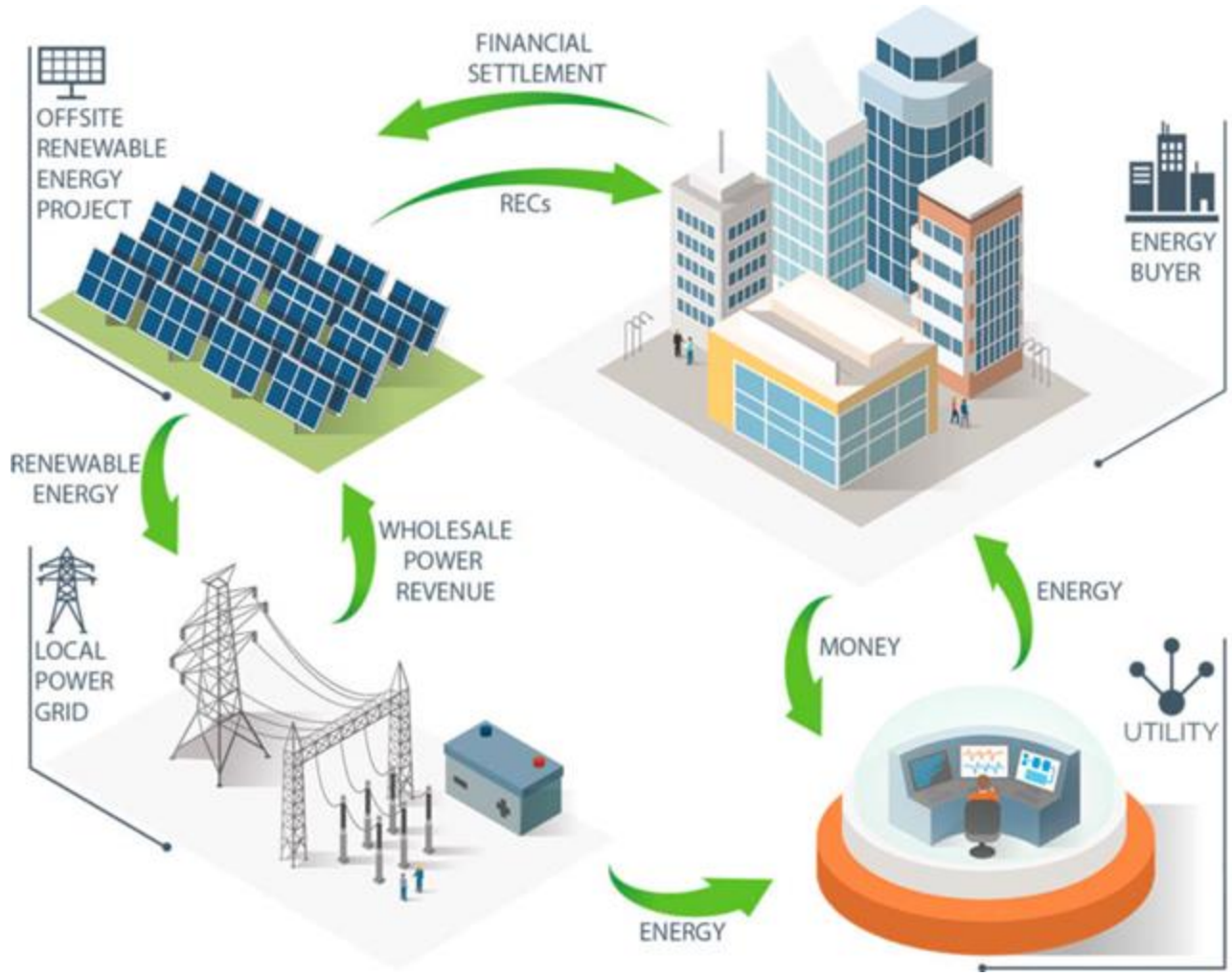
VPPAs

Virtual Power Purchase Agreement (VPPA)

- A contract structure in which a power buyer (or offtaker) agrees to purchase a project's renewable energy for a pre-agreed price.
- In this agreement, the utility-scale solar project receives the market price at the time the energy is sold.



RECs

Renewable energy certificate (REC) - A market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource.

- Value attributes: RECs have value and may be sold, traded, held, retired
- Because the physical electricity we receive through the utility grid says nothing of its origin or how it was generated, RECs play an important role in accounting, tracking, and assigning ownership to renewable electricity generation and use.
- On a shared grid—whether the electricity comes from on-site or off-site resources—RECs are the instrument that electricity consumers must use to substantiate renewable electricity use claims.