

## I. INTRODUCTION<sup>1</sup>

By the year 2050, the energy needs of West Virginians will triple. This exponential increase in baseload energy consumption—a result of population growth, increased regional manufacturing, and higher living standards—requires a concomitant increase in baseload energy generation.<sup>2</sup> At present, West Virginia (WV) is a top-five energy producing state, exporting 40% of the 1,605,590 GWh it generates annually to surrounding states through the PJM interconnection grid. Ninety percent of this power is derived from coal-fired power plants, but meeting the needs of future energy demands will require the state to expand its baseload energy generation portfolio beyond its current scope.

All generation sources in this portfolio must meet four basic criteria specified in the West Virginia Office of Energy's (WVOE) new State Energy Plan, West Virginia REAL: they must be **Reliable**, **Efficient**, **Affordable**, and **Local** (**Figure 1**). During the 2022 California drought, the EIA estimated the state's hydroelectric generation was cut in half, requiring more in-state natural gas-fired generation.<sup>3</sup> Public health and safety needs demand that new generation sources in WV be **Reliable** from the start. These sources must also be **Efficient**. In 2021, 51% of WV's greenhouse gas (GHG) emissions came from the power generation sector, and another 32% from industry. These emissions have an unequal impact on low-income and disadvantaged communities (LIDAC) located near generation sites. By implementing projects and programs that meet WV REAL requirements, the State will reduce GHG emissions in these sectors by 21.2 million metric tons (MMT) CO<sub>2</sub>e through 2030 and 165.5 MMT CO<sub>2</sub>e through 2050. Upgrading currently operating facilities ensures immediate health and economic benefits to state residents, while construction of new, highly efficient baseload generation sources ensures long-term efficiency and reliability for all.

**WV REAL**  
**Energy Policy**  
Reliable  
Efficient  
Affordable  
Local

**Figure 1.** The policy framework informing WV's CPRG proposal.

There is no benefit, however, in creating reliable, efficient systems no one can use. Energy must be **Affordable**. WV's median household income of \$46,711 is 26% below the national average, and more than 839,000 West Virginians (46%) live in LIDACs. Successfully developing new, low-cost, financially sustainable energy sources for state residents requires keeping them **Local**. Energy production is so intrinsic to WV's social, cultural, and economic story that energy comprises a larger share of WV's GDP (23%) than tourism and gambling do in Nevada (19%). WV's cultural and economic prosperity depends on a strong, robust, **REAL** energy economy.

**The goal of the West Virginia CPRG Implementation Proposal is to ensure the security of the State's energy future by laying the groundwork for an expanded portfolio of baseload generation sources that adhere to the principles of WV REAL.**

To achieve this goal, the WVOE is dividing its approach into two objectives, consisting of two State-administered grant programs and four subgrantee-executed projects.

**Objective 1:** Complete efficiency upgrades to existing infrastructure in the industrial, residential, and commercial building sectors to bring all generation sources in line with the WV REAL policy and ensure a healthier, more resilient present for West Virginians.

<sup>1</sup> Throughout this document, double-bracketed text [[ ]] indicates trade secrets, confidential, proprietary, or privileged information exempt from public disclosure.

<sup>2</sup> This increase mirrors the projected global increase in overall energy demand, per the U.S. Energy Information Administration (EIA). [https://www.eia.gov/outlooks/ieo/pdf/IEO2023\\_Narrative.pdf](https://www.eia.gov/outlooks/ieo/pdf/IEO2023_Narrative.pdf)

<sup>3</sup> Debra Warady, "California Drought could reduce hydroelectric generation to half of normal levels." U.S. Energy Information Administration (EIA). <https://www.eia.gov/todayinenergy/detail.php?id=52578>

Program: Efficiency Improvements in Existing Fossil Fuel-Fired Power Plants

Program: Energy Audits and Efficiency Upgrades for Government Buildings

**Objective 2:** Complete generation construction projects for new infrastructure in the power and industrial sectors to expand WV's baseload generation capacity and ensure a healthier, more resilient future for West Virginians.

Project: Dominion Energy Virginia – Small Modular Nuclear Reactor

Project: Mountain State Energy Holdings – Clean Hydrogen ATR

Project: Haney Co. – Combined Cycle Natural Gas with Carbon Capture Sequestration

Project: CNX – Coal Mine Methane Capture and Reuse

These programs and projects cite the strategies outlined by the State in the West Virginia Priority Energy Action Plan (PEAP) (**Figure 2**), the State's response to the EPA PCAP. There, WV outlined the strategies it will take to address the challenges outlined above, covering four major sectors of power generation, industry, construction, and transportation.

The anticipated results of this grant for WV are no less than the transformation of the State's energy and economic future. **The top five outputs and outcomes of the project include:**

- Three new, baseload generation stations creating a combined total of 2,648 MW of power annually
- The reduction of 26 MMT CO<sub>2</sub>e
- Creation of more than 12,170 direct, indirect, and induced quality jobs
- Direct economic benefits reaching 40% of LIDAC communities through projects, and 80% through programs
- Certified energy audits of more than 700 government buildings at state, county, and local government levels

WV is an active and qualified steward of energy grants, receiving \$925M from the U.S. Department of Energy for the ARCH2 Hydrogen Hub and a U.S. Department of Transportation RAISE grant to expand

hydrogen in the state's transit system. With support from the EPA's CPRG program, the Mountain State will continue to build a secure and resilient energy future for all its residents for decades to come.

## II. PROPOSAL ELEMENTS BY SECTOR

The following pages detail the projects and programs selected for submission from the state of WV and are outlined by the emissions sector and corresponding strategy in the PEAP. Details on GHG reductions are included in the Technical Appendix and details on the budget are included in the Budget Narrative.

### West Virginia PEAP: GHG Reduction Measures

#### 1. Power Generation

1.1. Efficiency Improvements in Existing Fossil-Fuel Fired Power Plants

1.2. New Baseload Generation from Lower Carbon Sources Including Nuclear, Geothermal, Hydrogen, Hydropower, and Combined Cycle Gas Turbine Plants

1.3. Carbon Capture and Sequestration Permitting and Geological Studies

#### 2. Industry

1.3. Carbon Capture and Sequestration Permitting and Geological Studies (Cross-Listed)

2.1. Methane Leakage Reduction and Use from Coal Mines

2.2. Methane Leakage Reduction and Use from Oil & Gas Systems

#### 3. Commercial and Residential Construction

3.1. Energy Audits for State, County, and Local Government Buildings

3.2. GHG Reduction Programs for State Government Buildings

3.3. Energy Efficiency in the Residential and Commercial Building and Construction Sector

#### 4. Transportation

4.1. Transportation GHG Emissions Reduction Measures

**Figure 2.** GHG reduction strategies outlined in West Virginia's PCAP, the Priority Energy Action Plan (PEAP). Each program and project in this proposal addresses one or more of the above.

## Section 1. Overall Project Summary and Approach

### a. Description of GHG Reduction Measures:

#### EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM

This program aligns with the State's PEAP strategy to improve energy efficiency of existing coal-fired power plants. Electric power generation makes up over half of all emissions within WV (51%), more than double the national average of 25%. Most of the electric power generation sector emissions are from the state's coal-fired power plants, which contribute 95% of electric power generation emissions (~59.0 MMT CO<sub>2</sub>e in 2021). Many of WV's LIDACs disproportionately live near coal-fired power plants and are therefore most impacted by facility operations.

The goal of this program is to improve the health, economy, and resilience of WV residents, including LIDAC residents, by funding energy efficiency improvements to fossil fuel-fired power plants to produce energy with reduced GHG intensity. To achieve this goal, WVOE will solicit, evaluate, and fund project proposals from electric power utilities to perform fleet-wide efficiency upgrades resulting in cost-effective efficiency gains performed with the consent and partnership of local communities.

Examples of the energy efficiency improvement opportunities include (but are not limited to):

- Boiler feed pumps
- Air heaters and duct leakage control
- Variable frequency drives
- Blade path upgrades
- Redesigned economizers

Milestones for projects under this policy will be project-specific and be submitted as workplans in the project applications. Awardees will be required to demonstrate progress toward achieving targets from the project plan to receive funds for subsequent projects. Required benchmarks for all projects include:

- Implementation of community and workforce development plans within 3 months
- Projects breaking ground within 6 months
- Projects implemented and operational within 18 months

#### DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT

The goal of this project is to install a small modular reactor (SMR) on Dominion Energy Virginia (DEV) - owned property adjacent to the existing Mt. Storm Power Station in Grant County, WV, which will pioneer the permitting and development of nuclear energy in WV. In doing so, the project aligns with the PEAP strategy of new baseload electricity generation in the state. Nuclear power will not only provide clean, reliable electricity to the transmission grid, it will also provide high-paying, high-quality jobs and increased tax revenue to the state's energy communities, leading the way and establishing a framework for new nuclear development in the State.

This project will pursue activities related to site development and regulatory site permitting for a [Exemption 4, 5, 7, 8] small modular reactor (SMR) on DEV-owned property adjacent to the existing Mt. Storm Power Station in Grant County, WV. The project will be split into five task categories:

- Initial site characterization
- Detailed site diligence to support U.S. Nuclear Regulatory Commission (NRC) permitting

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- PJM interconnection studies on feasibility, impact, and facility<sup>5</sup>
- Early site preparation and pre-construction
- Community benefits planning

*Risk Assessment:* While DEV has conducted a preliminary siting evaluation for Mt. Storm, it is possible that adverse conditions for SMR deployment at the site could be uncovered during development. This may include environmental, constructability, or other considerations that may otherwise delay or inhibit development at the subject site. The project will continue to mitigate all risks with continues site evaluations and diligence.

#### MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT

The goal of the Clean Hydrogen for Dispatchable Power Generation project is to produce clean hydrogen at a large scale using the autothermal reforming (ATR) process. This project aligns with the PEAP strategy of new baseload electricity generation in the state. The ATR process will use Appalachian-sourced clean natural gas to generate [Exemption 4: CBI  
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Exemption 4: CBI]<sup>6</sup> metric tons (MT) per day of clean hydrogen. [Exemption 4: CBI  
Exemption 4: CBI  
Exemption 4: CBI]]<sup>7</sup> of the carbon dioxide that is generated from the ATR process will be captured and sequestered in appropriate geologic sites in the region, using new pipelines that will also be installed for this project. This clean hydrogen will power a new Mitsubishi combined cycle gas turbine (CCGT) power plant adding approximately 1,100 MW of additional dispatchable power to the PJM grid. This project estimates that it will reduce emissions by about 3.3 MMT of CO<sub>2</sub>e per year, starting in 2029.

*Risk Assessment:* Potential risks for this project include CO<sub>2</sub> sequestration well characterization and permits, pipeline permits and construction, ATR risks such as permit attainment, siting requirements, cost of equipment and materials, and commissioning and operational outputs, and risks associated with the CCGT and ATR material and labor supply, quality risks, and construction risks.

*Project Significance:* This project is significant because it will be one of the first large-scale fully dispatchable power plants that is fully fired by hydrogen and will have a considerable output of carbon free power that will benefit the community.

#### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

The goal of this project is to develop an advanced combined cycle natural gas fired power plant with amine carbon capture and sequestration technology. This project aligns with the PEAP strategy of new baseload electricity generation in the state. The project will provide a large (1,280 MWe) baseload electric generation plant with that will generate millions of MWhs of low carbon electricity each year, using natural gas resources while capturing and sequestering most of the CO<sub>2</sub> produced during operation. It will reduce CO<sub>2</sub> emissions by an estimated 1.9 MMT per year.

The facility will have gas turbines that serve as the heart of the electric generating plant section. There will also be an attached carbon capture facility using amine technology to separate CO<sub>2</sub> from the flue gas stream. Then there will be a high-pressure CO<sub>2</sub> pipeline to transport the captured CO<sub>2</sub> to the sequestration injection site.

*Risk Assessment:* Potential risks in this project include supply chain delays and impacts for construction and power plant materials and technology, delays due to natural gas capacity, delays or issues in obtaining permits for the power plant or CO<sub>2</sub> capture facility and issues with permits and approvals for

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<sup>5</sup> PJM feasibility study is the first step in the interconnection process. It estimates upgrade type, scope, and construction lead time. For more information, see: <https://learn.pjm.com/three-priorities/planning-for-the-future/~media/52AD707F3AED43D98518963504C60130.ashx>

<sup>6</sup> Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure

<sup>7</sup> Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure

CO<sub>2</sub> injection. There are also potential risks in securing the rights-of-way for the CO<sub>2</sub> pipeline and injection facility, securing sequestration rights, or delays in interconnection approval to the electric grid. The project will mitigate these risks by utilizing the expertise and technology of project partners to avoid material or supply chain delays and obtain the correct permits and access rights.

#### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

Under the PEAP strategy of reducing coal mine methane (CMM) emissions in the state, this project requests funding to implement systems to capture methane (CH<sub>4</sub>) and use it as a fuel source at one of two prospective sites: the Marshall County Mine or the Marion County Mine in WV. The project's primary focus is on Marion County Mine; however, CNX will continue evaluating both mines to ensure the project maximizes the cost effectiveness on a dollar investment per MT of CO<sub>2</sub>e abated, which may include some Marshall County Mine investments. The project will install new capture, measurement, and conditioning equipment, and pipeline with interconnections to interstate natural gas transmission systems. The Marshall County Mine and the Marion County Mine have annual net CH<sub>4</sub> emissions of 2.0 and 1.4 MMT CO<sub>2</sub>e respectively and CH<sub>4</sub> capture will significantly reduce future emissions.

*Risk Assessment:* Current risks that this project may face include permitting and regulatory delays in the pipeline installation and construction process. There is also inherent uncertainty associated with mining, geologic conditions, and other variables. For example, the composition and production rate of CH<sub>4</sub> may vary from current estimates. It could be higher or lower resulting in differing levels of CH<sub>4</sub> capture from current estimates. This project will mitigate the identified risks during the process.

#### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

This program aligns with WV's PEAP strategy to conduct energy audits for state, county and local government and to implement GHG reduction programs for state government buildings. House Bill 2667 (c. 2021) promotes cost savings for state taxpayers by implementing an energy savings program that includes assessment and implementation of energy savings goals for state buildings. This bill made WVOE responsible for developing a program to audit the energy metering devices for electricity and natural gas in state buildings. The audits would be a minimum of 20% of energy metering devices each year, with all audits completed no later than January 1, 2027.

The goal of this program is to reduce energy consumption and emissions from State-owned buildings, serving as a model for energy efficiency and GHG reductions in county and local government buildings.

Phase 1: Identifying Energy Conservation Opportunities (ECOs) within State-Owned and Local Government Buildings, consists of two components. The first component creates a database of State-owned building stock that contains building size, age, type, energy source, and energy use intensity. This database will be used to identify buildings with disproportionately high energy usage, allowing WVOE to identify buildings most likely to have cost-effective energy efficiency improvement opportunities.

The second component of Phase 1 performs energy audits of State-owned buildings that have disproportionately high energy use. These audits will analyze the building's current energy consumption trends and equipment performance and identify opportunities to reduce energy losses, serving as a basis for operational improvements and capital projects to reduce energy use GHGs.

Phase 2: Implementing Selected ECOs in State-Owned Buildings, enacts efficiency upgrades based on opportunities identified in Phase 1, for State-owned buildings only. The WVOE will prioritize buildings and projects based upon the audits' identification of the most cost-effective pathways to emissions reduction. The Program will fund efficiency improvement projects such as (but not limited to) green roofing on state universities, lighting upgrades, water conservation, HVAC system repair, replacement, and optimization, energy efficient appliances and equipment, and building automation systems.



b. Demonstration of Funding Need:

**EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

Funding to support any initiative related to existing power plant operations is challenging to identify; however, the state remains committed to reducing emissions impacts from these facilities in the near term, improving the quality of life for LIDACs who live, work, and play nearby. To that end, WVOE has investigated and is pursuing funding from the following sources:

| Funding Source  | Description   | Award Amount  | Award Timeline        |
|---|---|---|-----------------------|
| Energy Efficiency Revolving Loan Fund Capitalization Grant Program (EERLF)<br><br>Formula | The Program helps states provide loans and grants for energy efficiency audits, upgrades, and retrofits to increase energy efficiency and improve the comfort of buildings. Based on community engagements and feedback, WV is targeting the focus of these loans to small/medium-sized businesses in the health and human services sector. | \$5,433,380   | Award expected June 1 |
| State Energy Program – Bipartisan Infrastructure Law (SEP – BIL)<br><br>Formula           | To enhance energy security, advance state-led energy initiatives, increase affordability. WV supports the West Virginia Industrial Assessment Center – the IAC performs industrial energy audits designed to identify opportunities to improve energy efficiency.   | \$4.5 Million: Total SEP BIL Allocation<br>\$450,000: WVU IAC support | Awarded Fall 2023     |

The total cost estimated costs of this program are \$172.5 million: \$170 million for efficiency improvement projects, and \$2.5 million for community engagement planning, support, and monitoring.

**DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

Costs for permitting a site for an SMR are high due to various regulatory requirements and necessary studies to determine if it is suitable to safely accommodate a nuclear reactor. The requirements for receiving an Early Site Permit (ESP) or Construction Permit on mountainous, brownfield lands, and on land adjacent to or directly on formerly mined sites like those at Mt. Storm may be more stringent due to the need for additional sub-surface characterization. EPA funding will support the required diligence, including geotechnical work, needed for regulatory approval of the site. In addition, this funding will support workforce development, economic initiatives, and make a significant contribution to the growth of zero-emission energy in the region and beyond. A large amount of funding is also required to perform a PJM interconnection study to determine the needed infrastructure to connect the SMR to the electric grid. At present, Title 17 Clean Energy Financing has been identified as a way to support the cost of loans, but no other grant opportunities have been identified or applied for.

**MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

Currently, no other funding opportunities or sources for the project initiation and implementation have been identified. When the ATR and power plant are operational, this project will utilize tax credits associated with Section 45 of the Inflation Reduction Act, allowing the H2-powered generation facility to run more economically than a natural gas-fired facility. The total cost of the project is estimated to be <sup>Exemption 4</sup> ~~[[Exemption]]~~<sup>8</sup>, so this funding request would represent approximately <sup>Exemption 4</sup> ~~[[Exemption 4]]~~<sup>9</sup> of the cost of the project.

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<sup>9</sup> Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure

### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

Other funding from private investors and the Department of Energy are being pursued. The project has applied for an 80/20 loan from the DOE under the IRA, while the rest of the project will be funded by the Franklin L. Haney Company. The current projected total project cost is estimated to be \$2.8B, so this funding request would represent approximately 1.8% of the cost of the project.

### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

As there is no federal policy to provide the necessary economic support required for CMM capture investments and project development, CNX has not identified other funding sources. CNX's capital allocation is the only other funding source anticipated for the project. The construction and operation of the system is estimated to be approximately <sup>Exemption 4: CBI</sup> <sup>Exemption 4</sup> <sup>Exemption 4</sup> over the initial 5-year buildout, resulting in a CNX cost share of <sup>Exemption 4</sup> <sup>Exemption 4</sup>.<sup>11</sup> Each year, additional capital expenditure of \$10 million - \$12 million is estimated to be made to keep capturing new CH<sub>4</sub> emissions from the mine as mining progresses. Without funding support, the project will not be economically justifiable.

### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

Funding to support phase II of this program—efficiency upgrades for government buildings—has been secured through the Energy Efficiency and Conservation Block Grants program (EECBG); however, because this program only supports projects at the county and local government level, the State is seeking CPRG funds for efficiency upgrades of state-owned buildings to maximize GHG reductions.

Because this program relies heavily on energy audits, it is also part of a larger effort by the WV Office of Energy to address energy auditor workforce challenges in the state. This broader Energy Workforce Development Plan involves braiding and stacking multiple funding streams to design, pilot, and implement worker training programs for both commercial and energy auditing. The design and piloting are funded by other grants; the implementation phase, a 5-year period, will be funded by CPRG.

| Funding Source           | Description  | Award Amount       | Award Timeline                   |
|--------------------------|--|--------------------|----------------------------------|
| SEP Annual Funds Formula | Funds will go to Residential Energy Auditor Training Program (REATP)                           | \$150,000          | Awarded October 1, 2023          |
| TREC Formula             | Funds to develop/support training for residential energy contractors.                          | \$1.6 Million      | April 2024: Award Expected       |
| EAT Competitive          | Funds to develop/support training for residential and/or commercial energy auditors (2 tracks) | \$1.1 Million each | June 28, 2024: Full Applications |
| EECBG Formula            | CPRG will fund audits and improvements beyond EECBG.   | \$1.8 Million      | Launched March 2024              |

Total estimated costs of this strategy are \$65 million: \$10 million for Phase 1 audits with \$25 million for auditor training implementation, and \$30 million for Phase 2 efficiency improvements.

#### c. Transformative Impact:

### EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM

Counties with coal-fired electricity generation have the largest emissions across the state; coal generation accounts for over 80% of emissions in the three counties where coal-fired plants sit. The communities most impacted by these local GHG emissions are also those that have lived by and worked

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<sup>11</sup> Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure

for coal-fired power plants for generations, powering the state and surrounding region for decades. By implementing energy efficiency measures in local coal-fired power plants, these communities, historically LIDACs, will directly benefit from cleaner air, lower energy costs, and workforce opportunities in construction and trades, specifically in the newest energy efficiency technologies – all within the first two years of program implementation. This funding will also spur a series of additional investments, including workforce opportunities, by the utilities in their other power plants across the fleet, leading to much greater emissions reductions and air quality improvements for years to come.

#### **DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

New nuclear power development will allow WV to develop a low-carbon baseload energy source locally. As SMRs are considered new technology and the first modern SMR is yet to be constructed, the first few successful projects in the U.S. will be transformative. Cost effective construction and operation of a new nuclear technology will be a huge step forward in mass deployment of SMRs allowing for the growth of zero GHG-emitting baseload power sources on a massive scale in the future. This project will allow WV to diversify and decarbonize its energy portfolio with reliable generation and long-term assets that would provide job stability and state and local tax revenue for an anticipated 60 years, or longer.

#### **MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

This project will be one of the first, if not the first, large scale hydrogen-fired fully dispatchable power plants with a significant output of carbon free power. Upon meeting its basic operating goals, it will lead others to consider this carbon free technology, especially since it has attributes that are valued for its overall output capacity, around-the-clock production and affordable output cost. With an expected capacity factor of greater than 90%, this project will produce low-carbon power while still using Appalachia's natural gas supply by capturing and sequestering most of the carbon dioxide produced through this process in the first 10 years. This helps meet the area's energy demand with fossil fuel use but helps to avoid the typical carbon dioxide emissions associated with burning natural gas.

#### **HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT**

The project will prove the economic feasibility of building and operating an advanced combined cycle natural gas fired power plant with amine carbon capture and sequestration technology. This will unlock the potential to use this technology to use the country's vast natural gas reserves to generate needed power to back up intermittent renewable energy while reducing CO<sub>2</sub> emissions to near zero.

#### **CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT**

Coal mines account for 8% of U.S. methane emissions, but less than 1% of coal mines capture or mitigate them. Specifically, WV's coal mines accounted for 14.3 MMT CO<sub>2</sub>e in 2021. Legacy abandoned and inactive mines continue to vent CH<sub>4</sub> to the atmosphere decades after they stop producing coal.

The up-front investment in capture systems for beneficial use is cost prohibitive, but represents a massive, permanent CH<sub>4</sub> abatement opportunity for the energy communities hardest hit by the energy transition. WV is the largest emitter within the Greenhouse Gas Reporting Program (GHGRP) for CMM, accounting for 31% of CMM emissions in the US according to EPA's GHGRP. CNX will drastically reduce the amount of CMM being vented to atmosphere from the largest emitters among GHGRP reporting mines in WV, and use the CH<sub>4</sub> to displace fuels of a higher carbon intensity in hard to abate sectors.

#### **ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM**

Although WV has adopted building codes through 2018, the state's building stock is among the oldest in the Country, with the average housing stock age being between 40-50 years old. This means there is ample opportunity for efficiency improvements in the existing building stock.



The effort to conduct energy audits and building upgrades on state-owned buildings will use local workers and will increase the need for trained energy auditors and local qualified contractors. This need will reinforce efforts to train and certify individuals under the WV Energy Workforce Development Plan. Localities statewide will also benefit from this transformation as the systems WVOE creates through this program can be duplicated or “mirrored” to allow for auditing of building stock at the local level. For example, the City of Charleston Green Team has already established an ordinance mirror, HB 2667, which other localities could mirror as well, increasing the number of energy efficient buildings of the state and continuing to generate work for newly trained energy auditors.

## **Section 2: Impact of GHG Reduction Measures**

### **a. Magnitude of GHG Reductions from 2025 through 2030:**

| Name of Project or Program   | Reductions 2025 – 2030<br>in MT |
|--|---------------------------------|
| Efficiency Improvements in Existing Fossil Fuel Fired Power Plants Program     | 578,750                         |
| Dominion Small Modular Nuclear Reactor Project                                 | 0                               |
| Mountain State Energy Holdings Clean Hydrogen ATR Project                      | 98,805                          |
| Haney Combined Cycle Natural Gas with Carbon Capture and Sequestration Project | 201,734                         |
| CNX Coal Mine Methane Capture and Reuse Project                                | 620,253                         |
| Energy Audits and Efficiency Upgrades for Government Buildings Program         | 619,666                         |
| <i>Total</i>   | <i>2,119,208</i>                |

### **b. Magnitude of GHG Reductions from 2025 through 2050:**

| Name of Project or Program   | Reductions 2025 – 2050<br>in MT |
|--|---------------------------------|
| Efficiency Improvements in Existing Fossil Fuel Fired Power Plants Program     | 5,817,750                       |
| Dominion Small Modular Nuclear Reactor Project                                 | 5,839,595                       |
| Mountain State Energy Holdings Clean Hydrogen ATR Project                      | 1,086,852                       |
| Haney Combined Cycle Natural Gas with Carbon Capture and Sequestration Project | 874,179                         |
| CNX Coal Mine Methane Capture and Reuse Project                                | 9,126,582                       |
| Energy Audits and Efficiency Upgrades for Government Buildings Program         | 3,595,166                       |
| <i>Total</i>   | <i>26,340,124</i>               |

### **c. Cost Effectiveness of GHG Reductions:**

| Name of Project or Program   | 2025 –<br>2030<br>(\$/MT) | 2025-<br>2050<br>(\$/MT) |
|--|---------------------------|--------------------------|
| Efficiency Improvements in Existing Fossil Fuel Fired Power Plants Program | \$75.59                   | \$7.52                   |
| Dominion Small Modular Nuclear Reactor Project                             | N/A                       | \$25.03                  |
| Mountain State Energy Holdings Clean Hydrogen ATR Project                  | \$759.00                  | \$1.08                   |
| Haney Combined Cycle Natural Gas with CCS Project                          | \$248.00                  | \$1.26                   |
| CNX Coal Mine Methane Capture and Reuse Project                            | \$40.31                   | \$2.74                   |
| Energy Audits and Efficiency Upgrades for Government Buildings Program     | \$80.69                   | \$13.91                  |
| <i>Total spend/Total emissions avoided from CPRG funds</i>                 | <i>\$235.73</i>           | <i>\$18.97</i>           |

### **d. Documentation of GHG Reduction Assumptions: All- See Technical Appendix.**

### Section 3: Environmental Results – Outputs, Outcomes, and Performance Measures

#### a. Expected Outputs and Outcomes:

| Project or Program   | Output  | Outcome   |
|--|---|---|
| Efficiency Improvements in Existing Fossil Fuel Fired Power Plants Program | <ul style="list-style-type: none"> <li>Completed site assessments</li> <li>Completed financial analyses (e.g., to compare retrofitting equipment to new purchases)</li> <li>Completed workforce trainings</li> <li>New equipment installed</li> <li>Number of new jobs created</li> </ul>   | <ul style="list-style-type: none"> <li>Reduced emissions per unit of electricity compared to traditional power plants</li> <li>Reduced CO<sub>2</sub> and other GHG emissions linked with electricity generation and fuel combustion</li> <li>Diminished gaseous and particulate emissions related to coal-fired combustion including NO<sub>x</sub>, SO<sub>x</sub>, PM, VOCs</li> <li>Increased number of high-quality jobs</li> <li>Enhanced community engagement</li> </ul> |
| Dominion Small Modular Nuclear Reactor Project                             | <ul style="list-style-type: none"> <li>Phase 1 Environmental Site Assessment</li> <li>Geotechnical drilling and analysis report</li> <li>Wetland delineation and jurisdictional determination</li> <li>Ecological surveys (aquatic and terrestrial)</li> <li>Install ometeorological tower</li> <li>Cultural resources Phase 1 archeological survey</li> <li>Cultural resources historical properties survey</li> <li>Site background noise survey</li> <li>PJM interconnection service agreement</li> <li>Early Site and/or Construction Permit Application</li> </ul> | <ul style="list-style-type: none"> <li>Increased energy capacity for installation size compared to solar PV: 92.7% capacity factor in nuclear vs. 24.4% for solar PV</li> <li>Reduced non-GHG pollutants (PM, NO<sub>x</sub>, SO<sub>2</sub>)</li> <li>380-870 direct, indirect, and induced jobs</li> <li>Addition of nuclear degree program in WV schools</li> <li>Avoidance of over 5,839,595 MT CO<sub>2</sub>e in the lifetime of the SMR</li> </ul>                       |
| Mountain State Energy Holdings Clean Hydrogen ATR Project                  | <ul style="list-style-type: none"> <li>Installation of natural gas pipeline from Waynesburg, PA to Maidsville, WV</li> <li>Installation of pipeline for CO<sub>2</sub> transport</li> <li>Develop H<sub>2</sub> production facility</li> <li>Develop new power plant</li> </ul>   | <ul style="list-style-type: none"> <li>Avoidance of 3.3 MMT of CO<sub>2</sub>e/yr for 10 years from the plant while using hydrogen</li> <li>1,100 MW of dispatch to the PJM grid</li> <li>5,000-10,000 direct and indirect jobs during 3 years of construction</li> <li>165-200 induced jobs</li> <li>Added reliability and resiliency to the grid</li> </ul>   |
| Haney Combined Cycle Natural Gas with CCS Project                          | <ul style="list-style-type: none"> <li>Secure property rights for power plant site</li> <li>Secure property rights for CO<sub>2</sub> injection site</li> <li>Construct power plant</li> </ul>  | <ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub>e by 1,882,848 MT/ year</li> <li>Generate power for 500,000 homes</li> <li>Employ hundreds of workers during construction</li> <li>Employ 30-50 FTEs during operations</li> </ul>   |
| CNX Coal Mine Methane Capture and Reuse Project                            | <ul style="list-style-type: none"> <li>Construction plans including engineering and permitting work</li> </ul>  | <ul style="list-style-type: none"> <li>Up to 1.2 MMT of CO<sub>2</sub>e emissions avoided annually</li> <li>Up to 761,984.60 MWh of energy from captured CH<sub>4</sub> to be utilized annually</li> </ul>  |

|  |  |   |
|--|--|---|
|  | <ul style="list-style-type: none"> <li>Constructed facility and completed tests and safety checks</li> <li>Connecting system to existing natural gas infrastructure</li> <li>Implemented erosion and sedimentation controls</li> </ul>                   | <ul style="list-style-type: none"> <li>Improved air quality</li> <li>Multiple jobs created in LIDACs</li> <li>Regional supply chains and vendors utilized and developed</li> <li>Additional tax revenues generated in the community</li> <li>Partnerships with local landowners, labor</li> <li>Apprenticeship opportunities</li> </ul> |
| Energy Audits and Efficiency Upgrades for Government Buildings Program | <ul style="list-style-type: none"> <li>Database of government buildings integrated an energy performance software</li> <li>Audits of buildings with high energy usage and ECOs identification</li> <li>Energy efficiency improvement projects</li> </ul> | <ul style="list-style-type: none"> <li>100% of government buildings included in database</li> <li>20% of State-owned buildings audited and improved</li> <li>143,000 MT CO<sub>2</sub>e of GHG reduction annually</li> <li>300 Energy Specialists trained for auditing or contracting work</li> </ul>                                   |

b. Performance Measures and Plan

**EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

Administration: The evaluation measures used by the program management team at WVOE to evaluate the administration of the program will be based on the following criteria:

- Number of projects funded
  - Includes assessing reach of funded projects (i.e., number of eligible counties served)
- Amount of funding awarded
  - Includes assessing financial stewardship practices (i.e., spend rate)
- Number of project monitoring visits completed
  - Includes assessing compliance rate (i.e., % compliant projects, % non-compliant projects, % Project Improvement Plans (PIPs) developed and completed)
- Number of reports compiled and submitted for the program (i.e., EPA-required reports, reports to the WV Legislature)

Implementation: The evaluation measures used by the program management team to evaluate the performance of projects awarded through the program will be based on the following criteria:

- Measure GHG reductions over 5 years (2025-2030)
- Evaluate cost effectiveness of GHG reductions as (requested CPRG funding)/(sum of quantified GHG reductions from CPRG funding from 2025-2030)
- Measure of co-pollutant reductions
- Energy savings (MMBtu by fuel or MWh saved)
- Units of equipment installed
- Number of new jobs created
- Power plant financial savings from energy efficiency measures
- Percentage of improved industrial efficiency and process improvements
- Percentage of meaningful engagements held through community engagement plans

A successful evaluation plan will continuously assess program progress and the metrics will help compare progress to overall goals and objectives. To evaluate the success of the program, WVOE will establish metrics that align with program goals and objectives. The evaluations can be categorized as measuring process or impact. Process evaluations assess program delivery and compare planned

performance with actual implementation. This evaluation will be used to identify any issues in program delivery such as bottlenecks or communication issues that should be rectified as the program continues. Impact evaluations describe program effectiveness.

#### DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT

The outputs for this project are either deliverable reports/studies or installation of equipment, all of which contribute to the progress of achieving the Project goal. A contracted engineering firm will make a project plan with the schedule and milestones; they will report progress monthly to DEV and WVOE.

#### MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT

The project goal is to produce clean hydrogen and fuel the power plant on 100% hydrogen at the commercial operation date (COD). If successful, the project will avoid emitting 3.3 MMT CO<sub>2</sub>e per year from the start of facility operation.

#### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

The main overall measure of effectiveness is the total amount of CO<sub>2</sub> captured and sequestered relative to the total net electrical output. This will be closely monitored during operation of the facility and both metrics are required to be reported on an ongoing basis. Other performance metrics include the number of jobs created and the number of community members engaged during the project.

#### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

Project construction progress reports and key subtasks can be provided at regular intervals. The project plans to measure the CH<sub>4</sub> emissions avoided over the life of the project within the extent of the boundary. New gas volume measurement and CH<sub>4</sub> composition analyzers will be installed at CMM ventilation sources and pipelines will be added as the mining progresses to continue capturing the new sources of CH<sub>4</sub> emissions. The measurement device sampling frequency, calibration, and personnel certification would follow established industry standards, or better as required by the program. The amount of CH<sub>4</sub> captured can be reported at regular intervals, (for example monthly) as required by the program. The efficiency of the GHG reduction project can be measured using a dollar investment per metric ton of CO<sub>2</sub>e abated metric.

#### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

Phase 1 primary performance metrics include the adoption rate of the software by various agencies and local governments, number of audits conducted, and projected emissions reduction associated with the projects identified. This will all be tracked via the software.

Phase 2 primary performance metrics include the number of projects implemented, measured emissions reductions associated with the projects implemented, and energy efficiency improvements in energy use intensity. Additional details on the projects implemented such as project type and cost per ton of CO<sub>2</sub> abated, types of buildings audited, and cost per audit, will also be tracked.

All performance metrics can be tracked and reported on through the software purchased through this project in Phase 1.

#### c. Authorities, Implementation Timeline, and Milestones:

##### EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM

WVOE has the authority to implement this program. It will solicit applications from utilities, review, and approve funding for selected GHG reduction measures. Utilities will be responsible for developing approaches to implement GHG measures that:

- Reduce GHG emissions
- Ensure GHG reductions are sustained and lasting
- Account for workforce needs, job creation
- Projects are not mandated updates in line with current EPA regulations/to bring up to code
- Improvements go beyond maintenance improvements for EE upgrades
- Are feasible to implement within the CPRG timeline.

Utilities must also propose a scope for the projects describing whether the project is fleet-wide or single site (preference will be for fleet-wide projects). The program will review applications twice annually until the end of the five-year grant period or until funds are exhausted. Selected GHG measures must meet program requirements, including completing projects within the five-year program timeframe.

#### DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT

DEV is the sole owner of this Project and has full responsibility and authority to carry out all activities. With DEV's oversight, the Owner's Engineer will develop a detailed integrated project plan that will clearly lay out the schedule for when all the output activities will occur.

The project will be split into five tasks, each with its own activities and milestones. The "Detailed Site Diligence" task includes establishing a licensing strategy and preparation of either an ESP Application or a Construction Permit Application for submittal to the NRC.

A timeline breakdown of the five tasks is shown below:

| Task  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|--------|--------|--------|--------|--------|
| Task 1: Initial Site Characterization                     |        |        |        |        |        |
| Task 2: Detailed Site Diligence to Support NRC Permitting |        |        |        |        |        |
| Task 3: PJM Interconnection Study Process                 |        |        |        |        |        |
| Task 4: Early Site Preparation and Pre-Construction       |        |        |        |        |        |
| Task 5: Community Benefits Planning                       |        |        |        |        |        |

A breakdown of project milestones by task is shown in the table below:

| Task   | Milestones   |
|--------|--|
| Task 1 | <ul style="list-style-type: none"> <li>• Site characterization and feasibility studies</li> <li>• Water resource studies</li> </ul>  |
| Task 2 | <ul style="list-style-type: none"> <li>• Submittal and approval by the NRC of Quality Assurance Program Description</li> <li>• Successful installation of meteorological tower meeting NRC requirements</li> <li>• Successful installation of ground water monitoring wells meeting the NRC requirements</li> <li>• Completion of geotechnical drilling and analysis</li> <li>• Completion of ecological surveys</li> <li>• Compilation and conformance of all surveys, data, and studies into the format required for permit application with the NRC</li> <li>• Submission of an ESP Application or a Construction Permit Application</li> </ul> |
| Task 3 | <ul style="list-style-type: none"> <li>• Submission of interconnection request</li> <li>• Receipt of Phase I System Impact Study</li> <li>• Receipt of Phase II System Impact Study</li> <li>• Receipt of Phase III System Impact Study</li> <li>• Receipt of Final interconnection agreement</li> </ul>   |
| Task 4 | <ul style="list-style-type: none"> <li>• Completion of site design for construction access</li> </ul>  |
| Task 5 | <ul style="list-style-type: none"> <li>• Development of community engagement plan</li> <li>• Development of workforce development plan</li> </ul>  |



## MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT

Mountain State Energy Holdings, LLC is the owner and operator of the Longview Power 710 MW advanced supercritical coal-fired generating station. It is also the developer of the proposed Combined Gas Turbine project under the affiliate company Mountain State Clean Energy, LLC.

DT Midstream Holdings, LLC is an owner, operator and developer of natural gas midstream pipelines, storage and gathering systems, and associated facilities.

Mitsubishi Power is a hydrogen infrastructure development platform, that has completed multiple hydrogen infrastructure projects across the Americas. CO<sub>2</sub> offtake will be contracted with a third party who will be responsible for CO<sub>2</sub> transportation and sequestration.

These three entities signed a Memorandum of Understanding in January 2024 to jointly pursue the development of this large-scale clean hydrogen to power project at Longview Power in Maidsville, WV.

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## HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

This project is a partnership between four entities: Franklin L. Haney Company, ACES Power, GE-Vernova, and Vitis. The Franklin L. Haney team will support project financing, development, construction and operation of power plant assets. GE-Vernova's (GE-V) will lead construction. Vitis will focus on operations and cost management, while ACES Power will focus on power sales. There are also multiple engineering consulting teams that will support the project. These partnerships are all contracted.

<sup>12</sup> Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure

The current estimated timeline for the project is as follows:

- Months 1-7: Secure property rights for power plant site; Confirm sequestration location based on geologic reviews
- Months 7-9: Complete DOE loan program office review; Secure necessary property rights for CO<sub>2</sub> injection station
- Month 9-32: Begin construction
- Months 32-36: Construction completed, begin integrated plant testing
- January 2027: Plant commissioning; begin plant operation

#### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

CNX Resources is a low carbon natural gas development, production, and technology company. ACNR operates the Marshall County Mine and the Marion County Mine. CNX has an existing agreement with ACNR authorizing CNX to develop and operate the proposed CMM capture projects.

Upon finalization of the grant award, the project proposes to initiate engineering, land, and permitting work that is estimated to take approximately one year. The project would then acquire material and equipment, and finalize plans for construction, which is estimated to take about 6 months. Finally, the project would construct, test, commission, perform safety checks & restoration work, and close out any applicable erosion and sedimentation control permits. Although outside of the scope of this award, this process would be repeated as new sources of CMM are connected to the gathering system and would continue to expand as mining operations continued. The first CMM source could be captured for beneficial use as soon as 2 years after finalization of the grant award.

#### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

WVOE is required by House Bill 2667 to develop and administer a program for auditing the energy metering devices for electricity and natural gas in state buildings. It therefore has all authorities to perform these tasks. The implementation schedule is listed below.

##### *Phase 1: Energy Audits for State, County, and Local Government Buildings*

Task 1 Buildings Database: WVOE will acquire automated tracking software and build a database of state government buildings (Milestone 1). Once state buildings are incorporated into the software, WVOE will make the tool available for county and local governments using a phased approach.

Task 2 Energy Audits: After an initial tranche of buildings have been added to the software WVOE will begin energy audits, prioritizing those buildings with high energy intensity for their operational type. Each year, WVOE will perform audits on approximately 20% of the targeted buildings (Milestone 2).

##### *Phase 2: Efficiency Improvements for State-Owned Government Buildings*

Task 3 Project Improvements: Efficiency improvement projects identified as a result of the audits will be implemented through the establishment of an Energy Savings Contracting Program as mandated by HB 2667, which allows state government agencies to enter into energy-savings contracts to reduce utility usage at the state level. Energy service companies currently work on different projects statewide and can be identified through standard procurement methods.

Project improvements will be completed within one year of project initiation. For example, efficiency improvement projects begun in year 1 of the program will be operational by the end of year 2. If projects fail to meet progress benchmarks, funds from those projects will be reallocated to other projects during the next year's project prioritization process.

## **Section 4: Low-Income and Disadvantaged Communities**

### **a. Community Benefits**

#### **EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

The counties with the highest GHG emissions are those in which coal fired power plants are located. This program will target LIDAC communities including the Mountaineer Power Plant in Mason County and the Mitchell Power Plant in Marshall County.

These two plants represent almost a quarter of total coal-fired generating capacity and employ more than 500 workers. The remaining four power plants are located in tracts adjacent to DACs and have significant economic ties to neighboring communities. In Monongalia County, where one of the highest concentrations of GHG emissions from power generation is located in the state, the following CJEST census tracts have been identified: 54061010102 and 54061011200.

#### **DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

DEV's community benefits plan aims to co-create community benefits and achieve community input into project siting through meaningful two-way engagement. Some of the anticipated community benefits from this Project are:

- Increased access to clean energy – the proposed development activities could lead to the deployment of the first SMR in the State, adding GHG-free electricity to WV's portfolio.
- Reduced environmental burdens – Community health benefits from a successful SMR development, such as reduction in cardiovascular and respiratory disease, could be achieved from reduced pollutants exposure from coal mining and utilization.
- Creation of quality jobs – even though the proposed project only includes the SMR development phase, a typical SMR project could create 380-870 direct, indirect, and induced jobs throughout the construction and commissioning of the SMR.
- Workforce Development – Dominion Energy's Just Transition program provides a framework that seeks an equitable transition for workers and communities.

During the development activities, DEV will complete a rigorous assessment of all risks and will design a risk mitigation plan to ensure the lowest negative environmental and social impact to local and disadvantaged communities in the area.

This property falls within two CEJST Census tracts (54023969400, 54093965300) and two EJScreen census blockgroups (540239694004, 540939653002).

#### **MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

The clean hydrogen project is expected to add 5,000 to 10,000 direct and indirect jobs to the local economy during three years of construction and 30-60 permanent jobs to support commercial operation while also creating 165 to 200 induced jobs. In addition, by adding approximately 1,100 MW of dispatchable power to the grid, this project will help to improve the reliability and resiliency of the grid.

#### **HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT**

This project will employ hundreds of workers during construction and 30-50 full-time employees during operation, which is estimated at 40 years. The roll-out impact will provide hundreds of supplier and service jobs to a community adversely impacted by the closure of the Kanawha plant. The low-carbon electricity produced will help reduce the greenhouse gas intensity of the WV grid. The success of this project will point the way to more future low-carbon baseload generating plants in WV.

The economic benefits go far beyond direct job creation. The rollout impact from the construction project and ongoing operation will boost the local economy by millions of dollars. The non-economic benefits are similarly consequential. Lower emission electricity for the community, lower air emissions, and opportunities for local participation in internships to learn technical job skills are among many benefits of this project, which are particularly significant given the long (40 year) operating life of the project.

#### **CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT**

Projects to capture CMM can make a noticeable contribution to the growth of a clean energy economy. This project can address multiple EPA and Justice40 priorities by supporting good-paying CH<sub>4</sub> capture jobs and decreasing the environmental exposures and burdens in disadvantaged regions of WV. Both the Marion County Mine and the Marshall County Mine are located in disadvantaged communities, as marked by the CJEST. The project will provide direct jobs in key energy communities and low-income, disadvantaged, communities, with an emphasis on hiring the workforce directly from these communities rather than just completing the work in the communities. CNX will also maintain requirements to hire or use supply chain and vendors from the region, helping to promote economic benefits within the impacted communities. Finally, the project will contribute to generating general tax revenues in the communities, which will foster economic growth and sustainability.

#### **ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM**

This program will be launched across all 55 counties of WV, of which 20 counties are identified as entirely disadvantaged in Climate & Economic Justice Screening Tool dataset and another 22 counties are majority disadvantaged. The energy audits and efficiency improvements of buildings in these regions will result in substantial benefits for these communities. The lower energy consumption will save money for these communities and mitigate impacts on the grid.

The program will also help develop the workforce in schools and communities. WVOE has partnered with the West Virginia University Benjamin M. Statler College of Engineering and Mineral Resources and the Industrial Assessment Center since the 1990s. The college utilizes senior level engineering students to perform energy audits and evaluations at K-12 schools and other companies as requested. These programs have trained over 500 undergraduate and graduate level engineering students in detailed energy auditing best practices and analysis. Many students who audit commercial and industrial businesses are often hired by those companies upon graduation.

#### **b. Community Engagement**

##### **EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

WVOE will review each submitted proposal for the suitability of its community engagement plans, with each plan tailored to suit the scope and scale of the proposed project. WVOE also will welcome community engagement plans integrated into larger community engagement efforts and will work with applicants to meet their execution goals for individual projects. Examples of appropriate and expected community engagement activities for this program include, but are not limited to:

- Convening community and/or employee advisory boards to help determine which potential projects should be prioritized
- Hosting community forums to present information on upcoming projects and discuss potential benefits or potential disbenefits (permanent or temporary) for the community
- Integrating information on efficiency upgrade projects into existing static or push communications (websites, written materials, digital media, text or social media campaigns)

WVOE will also conduct active community engagement work on the larger program, in line with its Community Engagement Strategic Plan (due Fall 2024).

#### **DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

Through continuous, two-way community engagement, DEV will ensure the social, environmental, and economic needs of LIDACs are reflected in our decision-making and project outcomes. DEV will create a community engagement plan and the strategy will focus on intentional dialogue with residents and additional stakeholders to help identify their goals and concerns, ensure transparency, and understand potential barriers to engagement. DEV plans to enlist the assistance of a third party with experience, trust, and recognition in the region, to plan and implement the community engagement plan. DEV has already identified key stakeholders that they will engage to help design project criteria. Examples of stakeholders include environmental groups such as Friends of Blackwater, WV Rivers Coalition, West Virginia Highlands Conservancy, The Sierra Club, and The Nature Conservancy along with federal, state, and local representatives and organizations. Additionally, DEV plans to engage with educational institutions such as Eastern WV Community and Technical College, Blue Ridge Community and Technical College, and WVU- Potomac State College along with Grant, Mineral, and Randolph County Schools.

#### **MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

Mitsubishi Power will create a community benefits plan which includes workforce development and labor outreach. The Mitsubishi Power Proposal Team has developed a set of principles to guide meaningful engagement with local organizations to increase investment in America's workforce, with benefits including good-paying jobs, the free and fair choice to join a union, and advancement of diversity, equity, inclusion, and accessibility (DEIA), and Justice40 initiative priorities. These principles serve as a guide for creating quality jobs and workforce training opportunities throughout construction and subsequent operations and maintenance of the Mitsubishi Power project.

Mitsubishi Power will commit to making a good faith effort to providing the maximum practicable opportunity for Small, HUB Zone, Small Disadvantaged, Women-Owned and Veteran/Service-Disabled Veteran- Owned, Minority Owned businesses to participate in Mitsubishi Power's acquisition process for goods and services on a fair and equal basis with all businesses. Mitsubishi Power will identify, certify and select qualified businesses in these categories, and encourage their participation by familiarizing them with the Mitsubishi Power procurement requirements. Mitsubishi Power's goal is to include the community and the diverse and unique businesses that support them.

#### **HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT**

The project team will engage with local communities through direct outreach (public meeting forums, stakeholder group interface, among other methods) as well as through partnerships with local education institutions such as Community Colleges and Trade Apprenticeship programs, to maximize the positive contribution of the project to the local area.

#### **CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT**

CNX intends to engage with the local stakeholders such as the communities and local, state, and federal elected officials. The project will provide community education on the ways that the project reduces emissions and improves air quality. The team will work closely with local community organizations to ensure that it is recruiting and training the local population to fill the jobs created. CNX intends to explore partnerships and conduct stakeholder engagement with local community colleges, development boards, and chambers of commerce to train workers for future clean energy jobs. This will allow CNX to identify other needs the region has to ensure students can remain in the area and work family sustaining jobs, while developing a career path that provides upward mobility for the region.



## **ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM**

Community engagement strategy for this program aligns with the programs two phases:

Phase 1 is engagement with state agencies, counties, municipalities. This group will focus on providing training on the adoption and use of the automated tracking software for building utility data, accessing and troubleshooting energy auditing services, and connecting with either energy service contractors (in the case of state agencies) or braided and stacked funding (in the case of county and local governments) to fund efficiency upgrades.

Phase 2 is engagement with workforce development stakeholders for the energy specialist training program, including potential energy specialists, their local communities and personal support systems (family and friends), curriculum developers and training providers, employers, and clients.

For both phases, the Program Manager will host standing working groups that include diverse stakeholder representation; host community meetings in-person and online to discuss regular program updates and topics of special concern; share information on the WVOE website and through listserv communications; and conduct targeted outreach to identified stakeholders to engage them in program implementation, summative evaluations, and continuous improvement.

### **Section 5: Job Quality**

## **EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

WVOE will review each submitted proposal for the suitability of its current workforce in achieving the goals of the proposed project and will apply the criteria outlined in the CPRG NOFO to ensure the jobs offered by the applicant are of suitable quality. If there are gaps in skills or force, WVOE will review the proposed workforce development plan for filling the gap, again welcoming plans integrated into the applicant's larger workforce development efforts. Examples of appropriate and expected workforce development activities for this program include, but are not limited to:

- Assessing the existing workforce to identify opportunities to upskill existing workers
- Recruiting new employees through registered apprenticeships, registered trainee programs, and other verified pathways to quality workforce development
- Engaging with community labor organizations, such as the West Virginia Association of Construction Trades, to develop local labor hiring agreements

## **DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

Anticipating that nuclear power will require new skills to support the technology coming to the State, DEV will actively support State initiatives such as the education consortium led by the WV Higher Education Policy Commission, as well as engaging all institutions of higher education. DEV will leverage WV Community College system's experience adapting curriculum and training programs for new skills. DEV, in partnership with these and other stakeholders, will develop and implement programs focused on new workforce development, job upskilling for communities transitioning from fossil fuel, and workforce retention. DEV will also support and engage with institutions of higher education to assess the potential for dual degree nuclear programs between WV institutions and existing nuclear engineering programs.

## **MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

This project has a labor agreement with the Building and Trades union WV chapter that provides training under its partnering trade unions, such as boilermakers, pipefitters, carpenters, labors, among others. These unions have extensive apprenticeship programs and workmen classifications commensurate with years of experience and qualification processes. The Engineering/Procurement contractors that would

be the point responsibility for the construction of these facilities are well aligned to effectively work with these trade unions and have all the quality control and quality assurance requirements to attain quality and productivity requirements that this project will expect of the work force.

#### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

The Department of Energy funding will require Davis Bacon commitments and other project requirements that ensure strong labor standards and use of a diverse workforce. The technologies of both the combined cycle power plant and the Amine Carbon Capture Island require a highly skilled workforce for successful operation. As such, development and employment of highly skilled team members and commitment to the highest standards of safety, quality and team effectiveness will be built into the operating team development from the beginning.

#### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

The project will form partnerships with labor and create apprenticeship opportunities. This collaboration and effort to improve apprenticeship opportunities for local students will ensure skill development and increase employment prospects in the community.

It is anticipated that the project will create 100-200 high-quality jobs. For the benefits of the proposed CH<sub>4</sub> capture project to flow to the local residents and nearby communities, it is important to hire local candidates. CNX intends to hire local, and currently has a 100% local employee base. It is also important for contractors and other suppliers during construction and operations to prioritize the surrounding communities. In recognition of this, CNX has an internal target of purchasing services and materials from providers that, in the aggregate, maintain at least a 90 percent local employee base, ensuring that benefits of corporate spending remain in the local communities to the extent possible. For a diverse workforce, CNX has an internal DEIA target of 40% by 2026. Its focus on DEIA extends to suppliers as well as CNX has established goals for supplier diversity by committing 6% of spending to Diverse Business Enterprises (DBE) and by maintaining 7% DBE representation on its approved vendor list.

#### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

The workforce development activities associated with this program will all be structured under the terms of the WV Energy Workforce Development Plan, which requires compliance with all federal funding terms and conditions. This includes Davis-Bacon prevailing wage laws, Justice40 benefits provisions, and the free and fair choice to join a union. In addition, the WV EWDP mandates a local focus on recruitment, training, and job placement activities, and close collaboration whenever possible with community- and trade-based organizations capable of offering the kind of high-touch, 1:1 mentorship experience required for high job quality and worker retention in WV.

For program activities requiring contractor hiring, such as energy audits and efficiency upgrades, WVOE will create a roster of pre-screened energy service companies that comply with the above listed federal and state requirements and are able to provide Energy Service Contracts (ESCs) to government agencies.

### Section 6: Programmatic Capability and Past Performance

#### a. Past Performance

#### EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM

|   | Title  | Agreement    | Agency   | CDFA   | Contact  |
|---|--|--------------|----------|--------|--|
| 1 | State Energy Program, "WVU Industrial Assessment Center" | DE-EE0007991 | DOE SCEP | 81.041 | Justin Fisher,<br><a href="mailto:justin.fisher@hq.doe.gov">justin.fisher@hq.doe.gov</a> |

|   |   |              |          |        |  |
|---|---|--------------|----------|--------|--|
| 2 | GRID, “Enhancing the Resilience of the Electric Grid in WV”           | DE-GD0000049 | DOE GDO  | 81.254 | Joshua Metz,<br><a href="mailto:Joshua.metz@hq.doe.gov">Joshua.metz@hq.doe.gov</a>       |
| 3 | SEP, State Energy Security Plan “WV Energy Security Plan Development” | DE-EE0010108 | DOE EERE | 81.041 | Justin Fisher,<br><a href="mailto:justin.fisher@hq.doe.gov">justin.fisher@hq.doe.gov</a> |
| 4 | SEP, “WVOE Communications Planning”                                   | DE-SE0000006 | DOE SCEP | 81.041 | Jason Nguyen,<br><a href="mailto:Jason.nguyen@hq.doe.gov">Jason.nguyen@hq.doe.gov</a>    |
| 5 | SEP, “WV Energy Efficiency Revolving Loan Fund”                       | DE-EE0010375 | DOE SCEP | 81.041 | Joshua Metz,<br><a href="mailto:Joshua.metz@hq.doe.gov">Joshua.metz@hq.doe.gov</a>       |

#### Assistance Agreement Descriptions

1. Completed. Provided three years of support (PY 20-23) to the state IAC for industrial energy audits and on-site training of WVU students. A total of 28 energy assessments were conducted over a combined 4.3 million square feet of facilities, with a recommended savings of 121,126 MMBtu and 7.3 million KWh per year. 45 students and 90 business participants were trained.
2. In-progress. Grant to reduce outages and enhance the resiliency of the electric grid.
3. Completed. Grant to develop the State’s first comprehensive, interagency energy security plan. Created in collaboration with the Midwest Energy Efficiency Alliance. Involved engagement with stakeholder groups from utilities, state, county, and local government, and community nonprofits, and private industry to identify sources of critical concern to state energy security.
4. In-progress. Development of a WVOE Strategic Plan for Community Engagement, to be compliant with all federal and state guidelines on meaningful and sustained engagement with communities at local, county, and statewide levels. Anticipated completion is fall 2024.
5. Pending. Funds will leverage private capital by functioning as a loan-loss reserve in partnership with a private financial entity contributing approximately \$25 million in capitol. The program will fund a pre-selected menu of energy efficiency upgrades at small- and medium-sized businesses in the health and human services sector. Award is expected July 2024.

#### DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT

The Dominion Energy Grants Office was formed in early 2022 in response to the Infrastructure Investment and Jobs Act. It has recently received two award selection notices and is in negotiation for these selected projects.

#### MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT

In 2022, Mitsubishi Power was successful in securing over \$500M in loan guarantees from DOE’s Loan Program Office (LPO) for the Advanced Clean Energy Storage (ACES) project in Delta, UT. Mitsubishi Power and its partner Chevron are currently executing that project. Mitsubishi Power has been involved in a significant amount of work in the Ohio-Pennsylvania-West Virginia area in the last five years. Two major projects were completed, whose total construction value exceeded one billion dollars. The Middletown Energy Center is a 475 MW state-of-the-art natural gas-fired power plant facility in Middletown, Ohio. Mitsubishi Power also participated in a large project for Tenaska Power Partners on the Westmoreland Generating Station, a 926-megawatt natural gas-fueled power plant. The station is located near Pittsburgh and supplies electricity to customers in Pennsylvania and 12 other northeastern states that operate in the PJM market.

#### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

Four entities make up the project team. ACES Power is a leading provider of power management and trading services to utility and merchant power providers. The Franklin L Haney team provides expertise in project financing, development, construction and operation of power plant assets. GE-Vernova (GE-V)

brings experience in engineering and manufacturing equipment for all phases of the power generation business. GE-V sets the benchmark for the power generation industry with their aeroderivative gas turbine technology. GE-Vernova has successfully partnered in projects of this magnitude throughout the US and worldwide. Vitis has successfully completed similar combined cycle generation projects in multiple locations in the US.

#### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

CNX continually executes pipeline and compression projects in PA and WV to capture, transport, and process the natural gas from the Marcellus and Utica shales. CNX recently designed and built two large midstream gathering systems for new Marcellus and Utica well development in PA and WV. They are also currently working through the design of a greenfield gathering system in PA for new production.

#### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

|   | Title   | Agreement    | Agency   | CDFA   | Contact  |
|---|---|--------------|----------|--------|--|
| 1 | State Energy Program, "WV ASHRAE Smart Start Program"                               | DE-EE0007991 | DOE SCEP | 81.041 | Justin Fisher,<br><a href="mailto:justin.fisher@hq.doe.gov">justin.fisher@hq.doe.gov</a> |
| 2 | "WV Home Energy Rebates Program" Administrative Advance                             | DE-SE0000128 | DOE EERE | 81.041 | Matthew Rivas,<br><a href="mailto:matthew.rivas@hq.doe.gov">matthew.rivas@hq.doe.gov</a> |
| 3 | Energy Efficiency and Conservation Block Grant                                      | DE-SE0000207 | DOE EERE | 81.128 | Jason Nguyen<br><a href="mailto:Jason.Nguyen@hq.doe.gov">Jason.Nguyen@hq.doe.gov</a>     |
| 4 | Solar for All, "West Virginia Resilient Roofs Program"                              | Pending      | EPA GGRF | 66.959 | <a href="mailto:ggrf@epa.gov">ggrf@epa.gov</a>   |
| 5 | Training for Residential Energy Contractors, "WV Statewide Energy Auditor Training" | DE-SE0000810 | DOE SCEP | 81.041 | Matthew Rivas,<br><a href="mailto:Matthew.Rivas@hq.doe.gov">Matthew.Rivas@hq.doe.gov</a> |

#### Assistance Agreement Descriptions

1. Completed. 3 years of support (PY 20-23) to WV ASHRAE to establish benchmarking, auditing, and training programs in the state's two largest cities and to develop bidding rules on Energy Savings Contracts for public projects. Led to the passage of HB 2667 in the State Legislature, mandating an energy savings goal of 25% below 2018 levels by 2030 for all State-owned buildings. 30 of 55 county school districts are now benchmarked and regularly tracked for energy usage and savings.
2. In Progress. Planning phase of the Efficiency and Electrification/Appliance Rebates, involving the development of rebate eligibility/use guidelines, contractor registration procedures, and program monitoring/improvement frameworks. Full program launch anticipated August 2024.
3. In Progress. Implementation of 30 energy efficiency retrofit grants to eligible local governments and 24 energy efficiency retrofit grants to rural community serving nonprofits. WVOE is providing energy technical assistance and audit services through our partnership with the WV IAC and WV ASHRAE Chapter to assist applicants in identifying energy efficiency projects at their facility.
4. Pending. \$125M to implement 20,000 residential solar installations over 5 years, including earmarked funds for colleges/universities and other social service facilities (e.g., shelters), and funds for essential roofing construction to support solar infrastructure. Additional \$30M to establish community solar programs, and \$15M for education, training, and administration.
5. Pending. Formula funds for creating a statewide workforce training program for residential energy auditors, to be mirrored with commercial energy auditors using DOE EAT funds.



**b. Reporting Requirements****EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM**

|   | Title   | Adequate   | Reports           |
|---|---|--|-------------------|
| 1 | State Energy Program, "WVU Industrial Assessment Center"              | No stated deficiencies from funder.  | On time, Accepted |
| 2 | GRID, "Enhancing the Resilience of the Electric Grid in WV"           | Additional details on program structure requested and provided for first QPR | On time, Accepted |
| 3 | SEP, State Energy Security Plan "WV Energy Security Plan Development" | No stated deficiencies from funder.  | On time, Accepted |
| 4 | SEP, "WVOE Communications Planning"                                   | No stated deficiencies from funder.  | On time, Accepted |
| 5 | SEP, "WV Energy Efficiency Revolving Loan Fund"                       | Pending  | Pending           |

*Explanation of Delays:* In July of 2023, Nicholas Preservati was appointed as Director of the West Virginia Office of Energy. Since then the office has undergone extensive reorganization involving development of a new State Energy Plan (the first in 10 years) and State Energy Security Plan (the first), changes to 75% of staff positions, and re-evaluation of every active and pending grant, program, and policy in the Office. This reorganization has recently concluded and programs are now executing according to the new structure. Delays in funding disbursements and post-award budget adjustments were communicated to funder representatives, and representatives from DOE's State Energy Program recently completed a successful monitoring visit in March 2024 to discuss progress and opportunities for future collaboration.

**DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT**

There is no recent history of federal funding in the Company. However, the Company is creating a grant compliance program to ensure compliance with reporting requirements as necessary.

**MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT**

ACES has successfully developed a very effective multi-tiered, "zipper" plan across the ACES-Chevron team and the DOE team, including their consultants, enabling efficient communication to occur. Any questions or concerns are addressed rapidly. In addition, ACES has hired and retained a consultant who specializes in government reporting for Davis Bacon, Cargo Preference Act, and others, specifically for meeting the reporting requirements of the ACES project.

**HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT**

Project partners GE-Vernova and Vitis have a successful track record of project success while working on projects with federal and non-federal assistance agreements.

**CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT**

CNX is a project developer in the ARCH2 hydrogen hub which is currently overseen by the US Department of Energy. CNX has been successful in providing DOE the requested information in a timely manner as CNX continues to work through the Phase 1 award negotiation. To this point, CNX has compiled budget estimates, budget justifications, community engagement plans, and preliminary estimates of community, environmental and economic impacts. CNX and its predecessor company have worked on a variety of federal funding opportunities and grants through our former R&D department and currently under our New Technologies function. CNX enlists several qualified technical experts and consultants to assist with grant management and project deliverables.



## ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

|   | Title   | Adequate                            | Reports           |
|---|---|-------------------------------------|-------------------|
| 1 | State Energy Program, "WV ASHRAE Smart Start Program"                               | No stated deficiencies from funder. | On time, Accepted |
| 2 | "WV Home Energy Rebates Program" Administrative Advance                             | No stated deficiencies from funder. | On time, Accepted |
| 3 | Energy Efficiency and Conservation Block Grant                                      | No stated deficiencies from funder. | On time, Accepted |
| 4 | Solar for All, "West Virginia Resilient Roofs Program"                              | Pending                             | Pending           |
| 5 | Training for Residential Energy Contractors, "WV Statewide Energy Auditor Training" | Pending                             | Pending           |

*Explanation of Delays:* See "Efficiency Improvements in Existing Fossil Fuel-Fired Power Plants Program."

c. Staff Expertise

## EFFICIENCY IMPROVEMENTS IN EXISTING FOSSIL FUEL-FIRED POWER PLANTS PROGRAM

The West Virginia Office of Energy has been in operation for over three decades, offering policy, programmatic, and strategic services to strengthen the economy and resiliency of West Virginia's energy ecosystem. Nicholas S. Preservati, WVOE Director, brings an expert focus in the field of energy law with more than thirty years of experience in the private and public sectors. Sarah Messbauer, Ph.D., WVOE Deputy Director, brings more than fifteen years of grant administration, science communication, and business operations experience to WVOE. This collaboration has brought about a new, "all of the above and more" approach to energy generation and WVOE office functions, supporting and pursuing any project at any scale that produces REAL energy (see Fig. 1). Through a focus on continuous improvement and stakeholder-focused strategic planning, this team is executing a redesigned State Energy Policy that exceeds anticipated outputs and outcomes with outstanding quality management.

## DOMINION SMALL MODULAR NUCLEAR REACTOR PROJECT

DEV has extensive experience in managing nuclear projects and owns and operates seven nuclear reactors in three states. In the Commonwealth of Virginia, DEV has continuously and safely operated nuclear reactors for over 50 years. As an operator of 4 nuclear power stations, the company has over 50 years of experience in managing nuclear plant operations and construction through numerous capital improvement projects. This includes major equipment replacements, power uprates, and other critical station projects. To support these efforts, the company utilizes a suite of internal resources including project management, licensing, and engineering organizations across the corporation.

A recent major project includes the Subsequent License Renewal (SLR) for both the Surry and North Anna power stations, a process that involved rigorous project management, nuclear licensing evaluations, and thorough environmental and environmental justice site assessments, including seismic and geotechnical considerations. The company managed the application and licensing submittals to the NRC, the completion of the Safety Evaluation Report and Environmental Impact Statement, project engineering for numerous facility upgrades and projects, and project management of all station activities and the SLR review schedule. The Surry Power Station is the only nuclear facility in the United States that has received its second license extension from the NRC to operate to 80 years of plant life. With respect to new nuclear construction, the company managed the North Anna Unit 3 development and licensing which included obtaining an ESP and a Combined Operating License (COL).

### MOUNTAIN STATE ENERGY HOLDINGS CLEAN HYDROGEN ATR PROJECT

Mitsubishi Power is leading a hydrogen infrastructure development platform and has advanced hydrogen infrastructure projects across the Americas. Recently Mitsubishi Power began construction of the first large-scale hydrogen infrastructure project in the world, the ACES Delta, in Delta, Utah. Through this project, Mitsubishi Power established partnerships with key technology, industry, and capital partners and seeks to repeat its success across the U.S. with clean hydrogen production & storage methods. Since 2019, Mitsubishi Power has been furthering this strategy through Joint Development Agreements in the Hydrogen space, ranging from regional demand to utilities to joint ventures in manufacturing and technology. They have collaborated with stakeholders such as Magnum Development, Haddington Ventures, LLC, Entergy, Puget Sound Energy, DT Midstream, Texas Brine; MOU partners CCNG, Inc; Alliances including the Green Hydrogen Coalition, Renewable Hydrogen Alliance, In-2-Market and Appalachian Energy Future, and other entities including IPA and SoCalGas.

DT Midstream's modern assets include over 900 miles of FERC-regulated interstate pipelines, 290 miles of lateral pipelines, gas storage assets with capacity of 94 Bcf, and more than 1,000 miles of gathering pipelines. DT Midstream is active in the decarbonization sector with expertise in infrastructure project development involving CO<sub>2</sub> pipelines and sequestration.

### HANEY COMBINED CYCLE NATURAL GAS WITH CARBON CAPTURE AND SEQUESTRATION PROJECT

GE-V has a history of successful power plant project development around the world. Vitis has experience and success in building and operating combined cycle gas power plants in the US. ACES has built a successful management model around adding value in the management of power generation assets in the US, with strength in the MISO and PJM markets. The teams at Vitis Energy and GE-Vernova have successfully completed large projects in the US. The team members at Vitis and GE-Vernova possess hundreds of years of collective experience in the development and execution of large, complex projects.

### CNX COAL MINE METHANE CAPTURE AND REUSE PROJECT

CNX employs over 400 direct employees and over one thousand contractor employees. CNX owns and operates an existing CMM capture for beneficial use project in VA where over 5 MMT CO<sub>2</sub>e/year is abated, employing over 70 direct and 400 contract employees. The CNX team has decades of experience and knowledge with designing, building, and operating these types of facilities that will leveraged for this project. In addition, CNX has a teams of geologists, production engineers, midstream engineers, and operators that will ensure successful completion of the goals of the project.

### ENERGY AUDITS AND EFFICIENCY UPGRADES FOR GOVERNMENT BUILDINGS PROGRAM

Staff with the West Virginia Office of Energy have been intimately involved with the creation and passage of WV House Bill 2667—the state legislation mandating benchmarking and efficiency improvements to state owned buildings—and continue to maintain close relationships with the state agencies and professional associations that will partner on the execution of this program.

Garrett Weaver (Senior Program Manager - WVOE) offers four years of staff expertise in utility auditing of government buildings for energy reduction and efficiency gains, technical knowledge of energy management tracking software including Energy Star Portfolio Manager, and best practices in energy auditing for building performance. He also has established professional relationships with the WV Office of Administration, which oversees contracting and capital improvement projects of State buildings; the WV ASHRAE chapter, who helped author the energy benchmarking legislation; and the WV Building Professionals Association and WV Industrial Assessment Center, both of which will collaborate on the energy audits, efficiency improvements, and workforce development portions of the program.