

# CHARTING VIRGINIA'S CLEAN ENERGY PATH

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## WHY IT MATTERS

Experts around the world continue to warn that governments must rapidly reduce greenhouse gas emissions to ensure a stable, healthy climate for current and future generations.<sup>1</sup> In Virginia, nearly one-third of all carbon pollution comes from the electricity sector.<sup>2</sup> The Virginia Clean Economy Act (VCEA), passed in 2020, outlines a path for Virginia's two largest electric utilities—Dominion Energy and Appalachian Power Company—to transition to clean energy by 2045 and 2050, respectively.

Shifting to clean energy will protect Virginia's health, climate, and communities. Fossil fuel pollution has been linked to asthma, heart disease, and premature death—especially in vulnerable populations.<sup>3</sup> Transitioning to clean electricity reduces harmful emissions, improves air quality, and can even improve grid stability amid increasingly severe climate events. The VCEA also supports energy independence, local job creation, and community resilience.

The VCEA sets targets for clean energy resources, including solar, wind, energy efficiency, and battery storage, to replace retiring fossil fuel power plants and complement Virginia's existing nuclear power. The impacts are already visible. Solar and wind represented 6.95% of Virginia's electricity generation in 2024, a fivefold increase from 2020 (1.33%).<sup>4</sup> Virginia's GDP has grown by 11% during that same period,<sup>5</sup> and the clean energy sector now supports more than 118,000 jobs across the Commonwealth.<sup>6</sup>

Looking ahead, Dominion Energy projects that its latest Renewable Portfolio Standard (RPS) plan will save customers \$118.5 billion in fuel costs over the lifetime of its clean energy investments.<sup>7</sup> Additionally, Virginia's transition to clean energy is expected to reduce health-related costs by up to \$7 billion over the next 20 years.<sup>8</sup> While electricity demand is expected to increase significantly over the next decade, modeling shows that zero-carbon energy can meet this projected increase in a more cost-effective, reliable way than proposals that include fossil generation.<sup>9</sup>

## CURRENT LANDSCAPE

The VCEA makes Virginia a leader in the clean energy transition and puts the Commonwealth in a position to meet future **load growth** in a way that is more affordable than building out new fossil fuel generation. The VCEA requires Virginia's monopoly utilities to plan to build over 25 GW of new clean energy capacity by 2035—including 16.7 GW of solar and onshore wind, 3.1 GW of battery storage, and 5.2 GW

of offshore wind.<sup>10</sup> These new generation resources will replace the utilities' existing fossil fuel plants, which Dominion and Appalachian Power must retire by 2045 and 2050, respectively.<sup>11</sup> Other VCEA provisions, including the Renewable Portfolio Standard (RPS) and Energy Efficiency Resource Standard (EERS), ensure the utilities remain on track to meet those retirement targets by gradually requiring them to rely on more renewable, zero-carbon sources and to meaningfully utilize energy efficiency measures to reduce their energy load.<sup>12</sup>

Both utilities are well on their way to meeting those clean energy development goals. Construction of Dominion's 2.6 GW Coastal Virginia Offshore Wind (CVOW) project—the largest such project in the U.S.—is underway and on track to begin producing energy by 2026. Once complete, CVOW will generate enough power for about 660,000 homes. To date, Dominion and Appalachian Power also have collectively petitioned the State Corporation Commission for approval of projects totaling more than 5 GW of new solar and onshore wind and over 600 MW of new batteries, with many projects already operational or under construction.<sup>13</sup>

In addition to improved air quality, these efforts have also generated many new jobs and significant economic development. For example, the construction of CVOW has resulted in over \$200 million in annual economic output, wages, and revenue, and supported nearly 1,000 jobs—with similar numbers expected once it's operational.<sup>14</sup>

## OPPORTUNITIES

The clean energy path laid out in the VCEA makes economic and strategic sense. While the VCEA has had adjustments made almost every year since its original passage, further opportunities for improvement remain. For example, a recent report by Virginia's Joint Legislative Audit and Review Commission (JLARC) found that data centers, if left unregulated, could almost double the state's energy use in the next decade.<sup>15</sup> Increasing demand makes the VCEA more important than ever, because the data is clear: the least expensive and most reliable path forward to meet this demand is with clean energy.<sup>16</sup> Solar and wind—especially when paired with battery storage—are now consistently less expensive than gas.<sup>17</sup>

Given this load growth, it may be prudent to view the VCEA's build requirements as a floor, rather than a ceiling—particularly for battery storage. Utilities could be encouraged or required to develop storage

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beyond the 3.1 GW required by the VCEA. Increasing battery storage in combination with existing wind and solar targets will improve grid resiliency and reduce system upgrade costs.<sup>18</sup> More storage is particularly valuable because it has a small physical footprint and can back up vital infrastructure, like hospitals and emergency response centers.

Being a clean energy leader also makes Virginia an attractive place for business development, particularly industries with environmental commitments.<sup>19</sup> As seen with CVOW, more solar, wind, and storage

projects will result in continued job creation and significant economic development, including in related industries. For example, an undersea cable manufacturer recently broke ground on a \$700 million facility in Chesapeake, following the development of CVOW.<sup>20</sup> The VCEA charts a bold, shared vision for Virginia's energy future—one that embraces more affordable, more reliable, and cleaner energy sources to power our homes and businesses.

## TOP TAKEAWAYS

The Virginia Clean Economy Act is reducing air pollution that is harmful to public health and our climate, creating economic growth, and benefiting communities.

The VCEA has made Virginia a leader in the clean energy transition and sets the Commonwealth up to meet increasing demand affordably and reliably, particularly if the state leans into battery storage to support clean energy in the near term.

Solar, wind, and battery storage are faster to deploy and more affordable than new fossil fuel generation.

## ENDNOTES

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