Build Sustainable High-Impact Infrastructure Together

Impacts of Delayed Clean Energy and Manufacturing Projects in Washington State

January 2026

Clean & Prosperous

climate solutions

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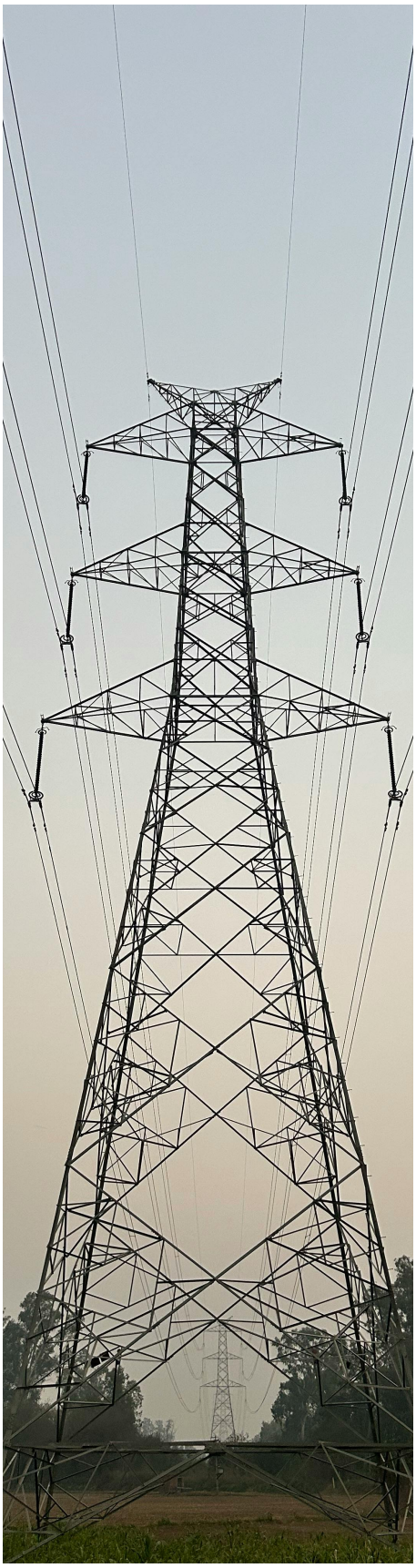

Clean & Prosperous is a Washington–based nonprofit dedicated to fostering the statewide transition to a clean economy through data-driven policy, cross-sector collaboration, and public engagement. Their work supports practical and market-based climate solutions that aim to reduce emissions, while promoting economic growth and community well-being across the state.

Climate Solutions' mission is to accelerate clean energy solutions to the climate crisis. Our vision is a thriving, equitable Northwest, powered by clean energy, inspiring the transition to sustainable prosperity across the nation and beyond. Climate Solutions works for solutions like 100% clean electricity for our grid, cleaner fuels and electrification to power our transportation, and clean and energy smart buildings where we work and live.

Greenline Insights is an analytically driven research firm that specializes in jobs and economic modeling on a variety of policies across all 50 states, spanning topics including energy, climate, transportation, infrastructure, natural resources, and innovation.

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Executive Summary

Introduction

Washington state has established some of the most ambitious pollution reduction goals in the country. Through landmark policies like the Clean Energy Transformation Act and the Climate Commitment Act, the state has laid a strong foundation to transition to a low-carbon economy.

However, Washington's glacial rate of clean energy development has not matched the state's ambitions. This reality places Washington's emissions reduction goals at significant risk of failure and keeps massive economic and employment opportunities out of reach. Falling short in Washington will tarnish its national - and international - reputation while discouraging the adoption of ambitious climate policies by other subnational entities.

Many proposed solar, wind, storage, and transmission projects are progressing far more slowly (or not at all) than expected as they encounter local and state-level siting and permitting barriers. A landmark report from Oregon Public Broadcasting and ProPublica found that Washington state is 50th in the country in renewable growth, experiencing -3% growth between the decades of 2005-2014 and 2015-2024. Other climate-ambitious states have outpaced Washington in renewable energy growth over the past decade, including New Mexico (ranked 3rd nationally), Illinois (9th), Colorado (13th), Minnesota (19th), and California (30th), which continues to add large volumes of renewable capacity and ranks second nationally in total renewable electricity generation.

Added challenges include recent rollbacks in federal clean energy support and the region's interconnection backlog. The Bonneville Power Administration (BPA), the Northwest's nonprofit federal power marketing administration, has approved just 0.2 percent of large renewable energy projects seeking connection since 2015, compared with 28 percent in Texas. BPA has demonstrated its ability to deliver major infrastructure, building more than 4,800 miles of high-voltage transmission lines from 1960 to 1990, but that pace slowed to 500 miles between 1990 and 2020 and has stagnated at just one mile in the past five years. From the report: "Among projects 20 megawatts or bigger that were proposed in the past decade, the only one that made it through Bonneville's waitlist was an add-on to an existing Portland General Electric wind farm that didn't require any major transmission upgrades. It won approval in 2022."

The complete lack of progress is not for want of trying; the scale of what Washington *could* build is enormous. Washington's industrial base, which includes advanced manufacturing and

energy-intensive sectors, positions the state to play a leading role in the emerging clean manufacturing economy.

This study identifies 258 credibly proposed clean energy and industrial projects spanning renewable power, grid-scale storage, manufacturing facilities, and industrial modernization opportunities. Together, these projects represent a substantial near-term buildout pipeline and demonstrate that Washington has a large set of investments ready to advance if development pathways become more efficient and predictable.

The study scenario focuses on the clean energy and industrial projects that could reasonably move forward over the next decade if development processes improve. It encompasses the renewable energy and storage projects currently in the BPA interconnection queue, announced clean energy and manufacturing facilities that have not yet begun construction, and potential modernization investments at industrial facilities subject to the state's cap-and-invest program. Together, these projects provide the basis for a unified assessment of Washington's near-term clean energy and manufacturing pipeline, capturing both projects that are very likely to experience delays under the state's historic business-as-usual development patterns and those that represent forward-looking opportunities for more timely advancement.

Without immediate and comprehensive changes, Washington state will fail to meet its emissions reduction goals, which in turn means worse air quality, worse effects of climate change, reduced grid reliability, and lost economic opportunity for communities throughout the state. However, our study finds that this is a challenge with a solution. The state has a broad project pipeline that could move forward with improved development pathways, strengthening economic competitiveness and delivering meaningful statewide benefits in jobs, investment, and long-term growth. This report assesses the scale of the opportunity and examines how accelerated progress on these projects could shape Washington's economic and clean energy landscape over the next decade.

Study Findings

Washington stands to realize substantial energy and economic benefits if clean energy and industrial projects advance over the next decade. Under the study scenario, representing potential clean energy and manufacturing projects that may move forward in the next decade, the state is projected to see:

- **24 GW** of new electricity generating capacity
- **13 GW** of new storage capacity
- **$149 billion** in new statewide economic output
- **$95 billion** increase in **state GDP**
- **More than 580,000 jobs** created
- **Over $60 billion** in **labor income** earned across Washington households

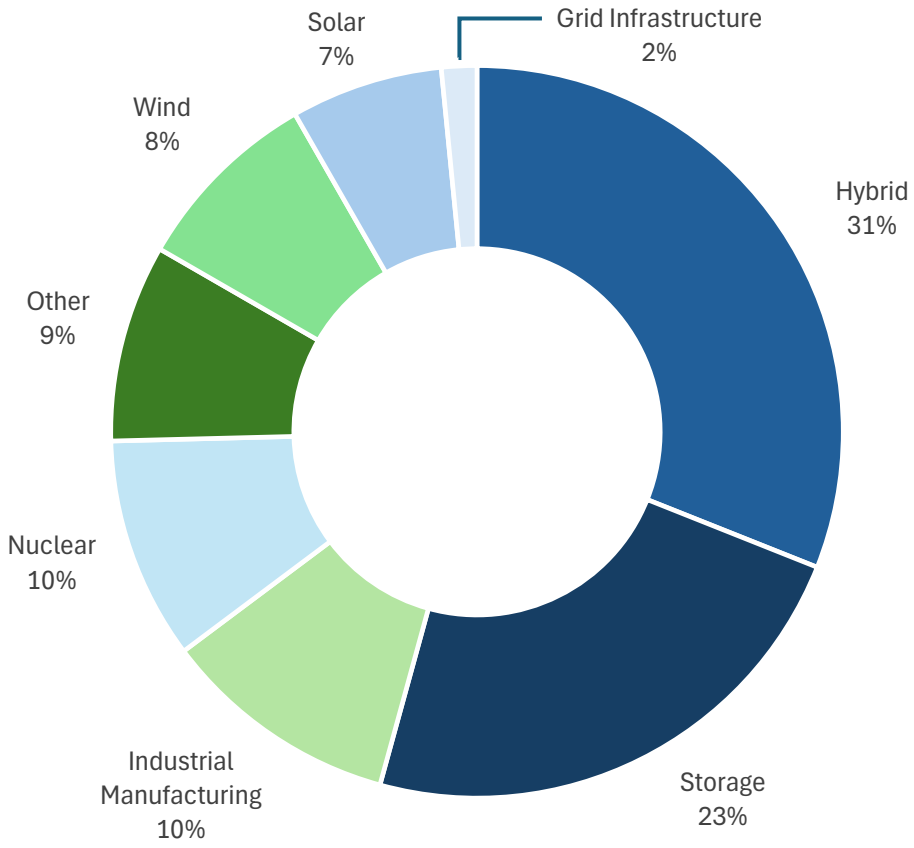
To put these capacity additions in perspective, 24 GW of new clean generation could provide enough electricity to power about **7 million homes each year, nearly twice the number of existing housing units in Washington estimated by the United States census**. The 13 GW of storage, assuming a standard four-hour duration, would be sufficient to power roughly **11 million homes for a four-hour period** during peak demand.

These energy additions also translate directly into large-scale economic impacts. In economic terms, the stakes are substantial. The **$95 billion increase in GDP is equivalent to nearly two years of Washington's typical economic growth**, while the **$99 billion in capital investment is projected to generate approximately $1.50 in statewide economic activity for every dollar invested**. Together, these figures highlight the scale of economic value that hinges on whether Washington can move its clean energy and industrial project pipeline forward.

The capacity additions reflect the combined potential of projects in the study scenario and help form the basis for the economic results presented here. These economic gains are widespread, touching dozens of industries and regions across Washington. They arise from both the scale of clean energy and industrial development and the labor- and capital-intensive nature of building new energy and manufacturing infrastructure. Nearly 60 percent of economic activity occurs directly in industries implementing these investments, such as construction and engineering, with the rest generated through supply-chain activity and increased household spending.

Hybrid solar-plus-storage systems show the largest relative economic growth, followed by standalone storage and industrial manufacturing projects, reflecting statewide and national trends toward grid flexibility, firm clean power, and industrial modernization.

Figure 1. Economic Output by Technology Category



The study scenario is projected to create more than 580,000 jobs and generate over $60 billion in labor income. Most of these jobs occur in construction, engineering, equipment maintenance, and manufacturing, with substantial additional job creation in professional services, retail, hospitality, and healthcare as spending circulates through local economies.

These benefits are felt across the state. In the study scenario, an average of 22 percent of a given region's benefits originate from investments occurring elsewhere in Washington. This interconnectedness is particularly strong in King County, where 75 percent of economic benefits come from out-of-region investments, and in Spokane & Northeast Washington, where out-of-region investments account for 38 percent. These spillovers highlight how clean energy and industrial development strengthens local economies even when individual projects are located in other parts of the state.

Overall, the study findings indicate that accelerating Washington's clean energy and industrial modernization pipeline offers a significant economic opportunity, supporting job creation, driving GDP growth, and ensuring the state can live up to its role as a national climate and clean energy leader.

Introduction

Washington has set some of the most ambitious clean energy and climate goals in the nation, backed by policies such as the Clean Energy Transformation Act and the Climate Commitment Act. Yet the pace of project development has not kept up with the state's aspirations. Many clean energy and manufacturing projects risk delay or cancellation due to siting, permitting, and interconnection challenges, slowing the transition and limiting Washington's ability to meet its growing electricity needs. These challenges are particularly significant as energy demand is projected to rise sharply over the next decade due to electrification, load growth from industry, and new technology deployment.

Recent reporting by Oregon Public Broadcasting and ProPublica found that Washington ranked last nationally in renewable energy growth, experiencing a 3 percent decline in renewable generation growth between the decades of 2005–2014 and 2015–2024. Over the same period, other climate-ambitious states continued to add substantial renewable capacity, including New Mexico, Illinois, Colorado, Minnesota, and California, which ranks second nationally in total renewable electricity generation despite ranking lower in percentage growth.

A notable constraint is the region's interconnection backlog. Since 2015, the Bonneville Power Administration, the Northwest's nonprofit federal power marketing administration that manages much of Washington's high-voltage transmission system, has approved just 0.2 percent of large renewable projects seeking grid connection, compared with 28 percent in Texas under its own interconnection authority.

This prolonged backlog directly threatens the state's ability to meet rising electricity demand, maintain industrial competitiveness, and capture the full economic and clean energy benefits associated with a modernized power system.

At the same time, Washington has a remarkable opportunity: a broad pipeline of proposed and emerging projects that, if unlocked, could deliver substantial new investment, jobs, and industrial growth while helping the state keep pace with rapidly increasing energy demand.

Study Methodology

A detailed description of the approach is provided in **Appendix A. Study Methodology**.

To evaluate the energy capacity and economic opportunities associated with advancing Washington's clean energy and manufacturing projects, this study combines detailed project data with IMPLAN, a widely used economic input–output modeling system. IMPLAN tracks how investments flow through the state's economy and estimates resulting changes in jobs, labor income, GDP, and overall economic output. Using this framework, we built a comprehensive project-level dataset capturing clean energy installations and industrial modernization opportunities that could advance over the next decade if siting, permitting, and other development processes improve.

The project database integrates multiple sources, including EPA's Climate Pollution Reduction Grants (CPRG), the Bonneville Power Administration (BPA) interconnection queue, a clean energy project dataset obtained via request for records from the Washington Department of Commerce, and RMI's industrial modernization analysis. In total, 258 projects were identified and organized into 35 technology and facility types, shown in the second column of **Figure 2**. The scale of electricity-generating and storage technologies in the database was compared to regional studies to ensure the totals are within a reasonable order of magnitude. See **Appendix B. Potential Clean Energy Buildout Capacity** for further discussion.

For each project, capital investment was either drawn from public disclosures or estimated using standardized methods. Each technology type was then assigned a tailored set of IMPLAN industry codes and cost allocations to represent its underlying economic activities.

Economic impacts were modeled using two complementary IMPLAN runs. The first preserves full project-level granularity, enabling us to estimate jobs and economic value for each project and compare outcomes across technologies and counties. The second aggregates projects into a Multi-Regional Input-Output (MRIO) framework for Washington's 39 counties, grouped into eight regions. The MRIO structure allows the model to trace how investments made in one part of the state generate supply-chain activity and job growth in others. Together, these approaches provide both project-level and regional perspectives on the economic opportunities at risk.

Figure 2: Technology by Technology Category

Technology Category	Technology
Grid Infrastructure	Transmission Line
	Substation
Hybrid	Solar + Storage
	Solar + Wind + Storage
	Wind + Storage
Industrial Manufacturing	Ammonia / Fertilizer Production
	Battery Materials Production
	Biomass Production
	Cement Manufacturing
	Chemicals Manufacturing
	Electronics Manufacturing
	Food Processing
	Glass Manufacturing
	Iron and Steel Manufacturing
	Pulp and Paper Manufacturing
	Sustainable Aviation Fuel (SAF) Production
	Solar Panels Manufacturing
Nuclear	Nuclear
Other	Anaerobic Digesters
	Energy Efficiency & Electrification
	EV Charging Installation
	Fusion R&D
	Hydrogen Electrolyzer Facility
	Hydropower
	Landfill Generator
	Microgrid
	Nuclear Fuel Production
	Petroleum Refineries Retrofit
	Port Charging Installation
	Solar and Steam
	Waste Reduction
Solar	Solar PV
Storage	Pumped Storage
	Battery Storage
Wind	Onshore Wind

Statewide Findings

Economic Growth

This study scenario examines a projected $99 billion in total capital investment across Washington over the next ten years. These investments are anticipated to generate approximately **$149 billion in total economic output**, including a **$95 billion increase in state GDP**. To put this in context, a $95 billion gain is equivalent to nearly two years of Washington's typical GDP growth, representing about a 17 percent increase over what the state would otherwise be expected to add over the next decade. Measured another way, the $99 billion in capital investment is projected to return approximately $1.50 in statewide economic benefits for every dollar invested, underscoring the scale of economic activity associated with advancing the projects in the study scenario.

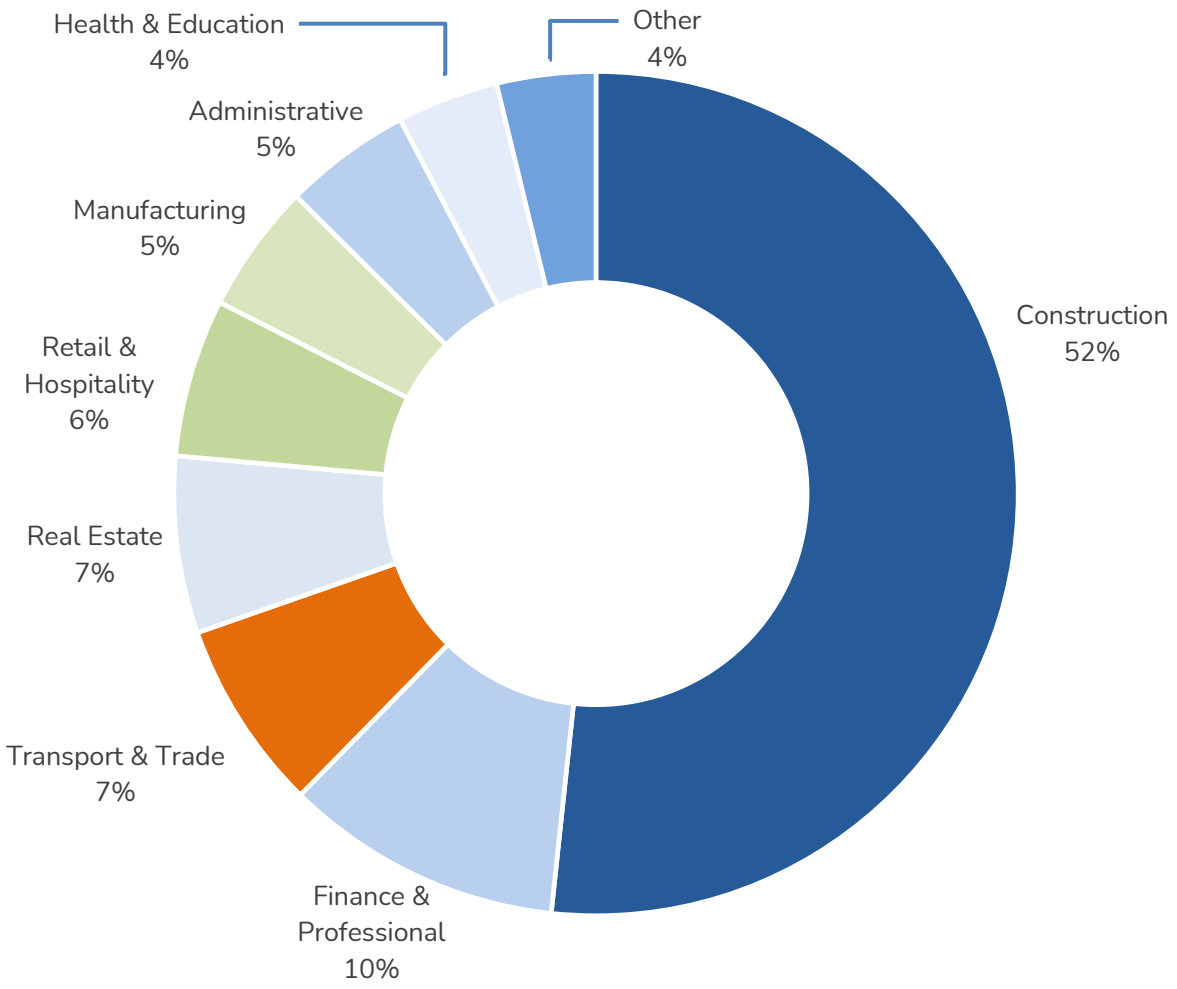
Within the $149 billion in total economic output, approximately **$86 billion (58%) is categorized as a "direct" impact**, representing economic activity in industries directly involved in implementing study scenario projects, such as construction of new power and communications structures, construction of other new nonresidential structures, construction of new manufacturing structures, architectural, engineering and related services, and the commercial and industrial equipment repair and maintenance industry. Collectively, these industries account for 95% of the total direct economic output generated in the study scenario.

Nearly **$26 billion (17%) of the total economic output is categorized as an "indirect" impact**, meaning it occurs within industries that provide goods and services that support direct industries in implementation of projects within the study scenario. This includes a wider range of industries, such as wholesalers, fuel suppliers, real estate, and management of companies and enterprises.

Finally, **$37 billion (25%) is considered an "induced" impact,** which results from an increase in spending power among households, who in turn support local businesses in industries such as real estate, healthcare, and food services. This increase in spending power occurs as worker compensation increases within industries that are directly or indirectly growing in the state.

This study scenario supports economic growth across a diverse range of sectors in Washington, particularly driving significant expansion in Construction, Finance & Professional Services, and Transport & Trade. These three sectors account for 70% of the total economic growth occurring from the study scenario.

Figure 3. Economic Growth by Sector



Construction, which includes repair, installation, and maintenance trades, experiences the greatest economic growth of any sector. This activity is spread across construction of new power and communication structures ($39.3 billion), construction of other new nonresidential structures ($20.5 billion), and construction of new manufacturing structures ($16.9 billion). Within Finance & Professional Services and Transport & Trade, gains are driven by increased demand for technical services, engineering, and other professional activities required to support large-scale construction, infrastructure deployment, and project administration.

Nearly two-thirds of all economic output impacts in the study scenario are concentrated within the top ten industries, with the **top five accounting for 57% alone**. A majority of these industries experience direct growth as a consequence of construction activity and project-specific spending associated with moving these projects forward.

Table 1. Top Industries by Economic Growth

Industry Description	Total Economic Growth
Construction of new power and communication structures	$39.3 billion
Construction of other new nonresidential structures	$20.5 billion
Construction of new manufacturing structures	$16.9 billion
Owner-occupied housing	$4.8 billion
Architectural, engineering, and related services	$3.8 billion
Commercial & industrial machinery & equipment repair & maintenance	$2.9 billion
Retail - Motor vehicle and parts dealers	$2.7 billion
Wholesale - Other durable goods merchant wholesalers	$2.4 billion
Other real estate	$2.3 billion

It is important to note that while these industries experience the largest absolute economic gains, these industries do not necessarily experience the highest growth rates relative to their existing size. Examining top industries in terms of percentage growth can indicate what sectors have the greatest opportunities for change, as well as potential capacity restrictions when implementing future investments.

Construction related industries show the largest percentage increases in economic activity because many of the projects included in the study scenario require substantial upfront capital spending on new physical infrastructure. As a result, sectors tied to the construction of power, nonresidential, and manufacturing facilities absorb a disproportionately large share of investment relative to their current economic baseline. This combination of high project volume and comparatively smaller existing industry size yields outsized percentage growth, signaling a significant opportunity within Washington's construction workforce and supply chains.

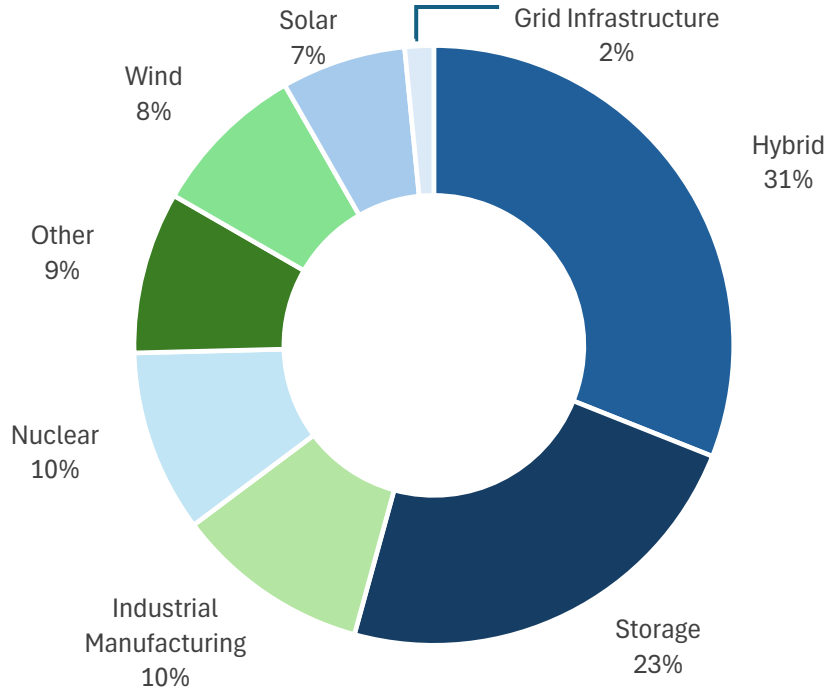
The study scenario shows that the technology categories driving the largest increases in economic activity are **hybrid systems** such as **solar-plus-storage (31%)**, **standalone electricity storage projects (23%)**, and **industrial manufacturing projects (10%)**. These findings align with national and regional trends: hybrid renewable systems and grid-scale storage continue to expand rapidly as developers seek to maximize grid flexibility and take advantage of falling battery costs. At the same time, investments in modernizing industrial manufacturing facilities represent a major economic opportunity for Washington, reflecting both the scale of capital required and the importance of decarbonizing emissions-intensive industrial sectors.

Table 2. Top Industries by Economic Growth Rate

Industry Description	Current Annual Economic Output in Washington	Annual Impact Output	Percentage Increase
Construction of new power and communication structures	$3.9 billion	$3.9 billion	100.3%
Construction of other new nonresidential structures	$4.1 billion	$2 billion	50.5%
Construction of new manufacturing structures	$4.8 billion	$1.7 billion	35.5%
Forestry, forest products, and timber tract production	$43 million	$9 million	21.2%
Prefabricated metal buildings and components manufacturing	$154 million	$30 million	19.5%
Commercial & industrial machinery & equipment repair & maintenance	$1.6 billion	$287 million	17.7%
Ready-mix concrete manufacturing	$1.6 billion	$107 million	6.9%
Other concrete product manufacturing	$492 million	$33 million	6.6%
Cement manufacturing	$315 million	$20 million	6.5%
Concrete pipe manufacturing	$60 million	$4 million	6.2%

The “Other” category includes a diverse set of project types, such as building electrification, fusion R&D, and landfill generators, which together contribute measurable but more diffuse economic gains. A full list of technology types and their grouping into Technology Categories is available in the Study Methodology section.

Figure 4. Economic Output by Technology Category



In addition to supporting economic growth, the study scenario generates significant public revenue at all levels of government. Total tax revenues amount to $20.4 billion, including $14.0 billion in federal tax receipts, $4.0 billion for the State of Washington, and $1.8 billion in combined sub-county revenues collected by counties, cities, and special districts. These revenues arise from both the direct economic activity associated with project construction and operation and the broader indirect and induced gains that expand the statewide tax base. The resulting fiscal benefits strengthen local services, state programs, and federal priorities, underscoring the wide-ranging value of accelerating clean energy and industrial development across Washington.

Job Creation

The study scenario is projected to **create over 580,000 jobs across Washington**, generating more than **$60 billion** in total labor income. This equates to approximately **5.9 jobs for every $1 million of investment**, underscoring the strong labor intensity associated with advancing large-scale clean energy and industrial projects in the state. A prior Washington-focused economic analysis estimated that a typical $1 million invested across the top ten state industries yields only about **4.3 jobs**, illustrating that the investments modeled in this report deliver nearly 40% stronger employment intensity than the statewide baseline.

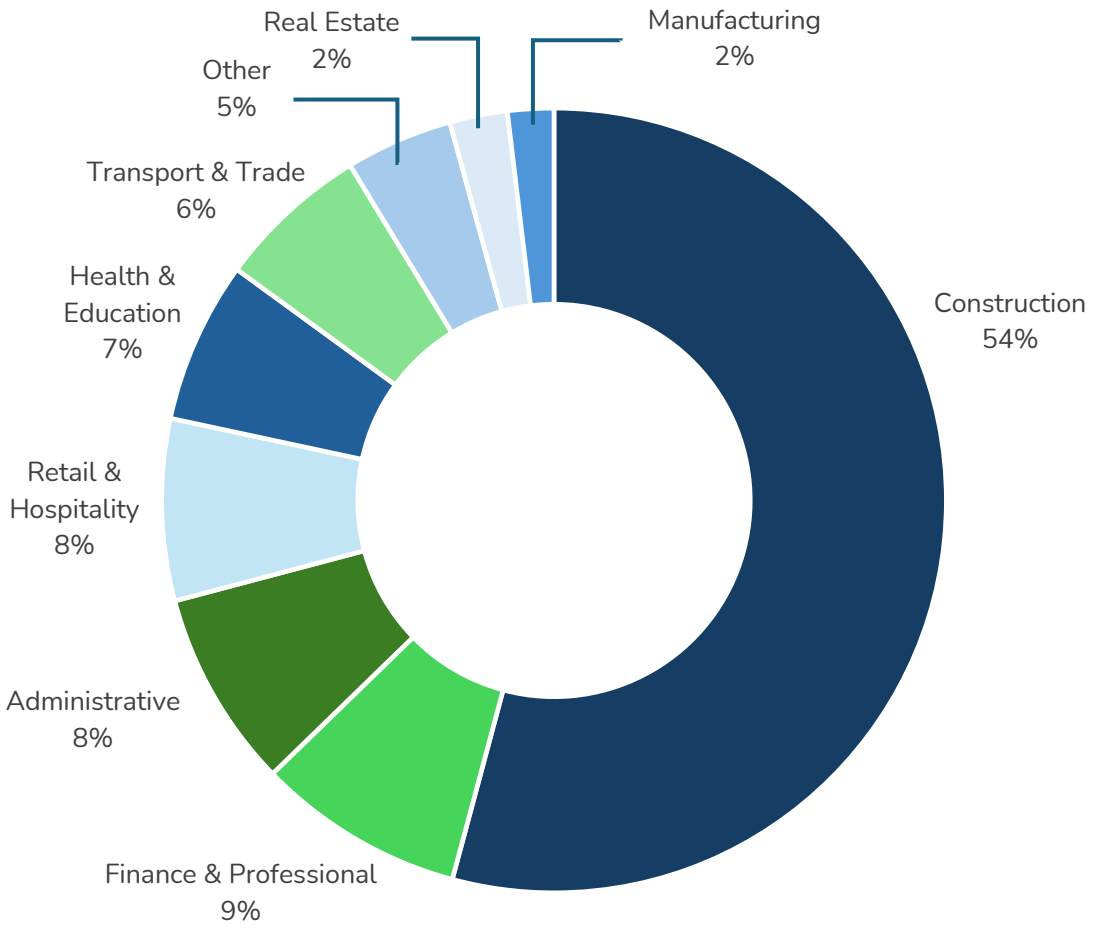
Within the total jobs created, **358,700 jobs (61%) are considered "direct" jobs**, meaning they occur within industries that are directly involved in implementing projects considered in the study scenario, such as construction of new power and communication structures, construction of other new nonresidential structures, construction of new manufacturing structures, commercial and industrial equipment repair and maintenance, and architectural, engineering, and related services. Combined, these industries account for 96% of total direct employment benefits from the study scenario.

An additional **78,500 jobs (13%) are considered "indirect" jobs**, meaning they occur within industries that provide goods and services that are required by direct industries in order to implement projects in the interconnection queue. These indirect impacts are distributed across a wider range of sectors than direct jobs. The top five industries to experience indirect employment — durable goods merchant wholesalers, management of companies and enterprises, real estate, architectural, engineering, and related services, and couriers and messengers — account for 15% of indirect employment benefits from the study scenario.

Finally, **151,600 jobs (26%) are considered "induced" jobs**, meaning they occur as a result of an increase in spending power for households in the state, who spend money on a wide variety

of local goods and services such as food services, personal services, and healthcare services. These sectors combine for 22% of all induced job creation from the study scenario.

Figure 5. Job Creation by Sector



Construction experiences the greatest employment growth of any sector (318,963 jobs), a significant portion of which focus on the construction of new power and communication structures (167,155 jobs), or construction of other new nonresidential structures (96,914 jobs). Architectural, engineering, and related services (16,585 jobs) are the largest industry of jobs created within the Finance & Professional Services sector.

Construction and Finance & Professional Services sectors experience notable direct job growth from investments, whereas administrative, retail & hospitality, and health & education services experience induced employment growth due to increases in household and worker spending.

Table 3. Top Industries by Job Growth

Industry	Total Jobs
Construction of new power and communication structures	167,155
Construction of other new nonresidential structures	96,914
Construction of new manufacturing structures	52,739
Architectural, engineering, and related services	16,585
Commercial & industrial machinery & equipment repair & maintenance	15,972
Other real estate	8,629
Full-service restaurants	8,103
Management of companies and enterprises	7,514
Limited-service restaurants	7,209
Individual and family services	6,806

Nearly two-thirds (66%) of all job creation from the study scenario occurs within just ten industries, with the **top five industries accounting for 59% alone**. A majority of these industries experience a direct and rapid increase in employment, driven by the labor-intensive nature of large-scale project development. Many of these top industries already have substantial workforces, whereas other industries may experience smaller absolute levels of employment growth, but higher levels of employment growth as a percentage of the existing workforce.

Table 4. Top Industries, Percentage Growth in Annual Employment

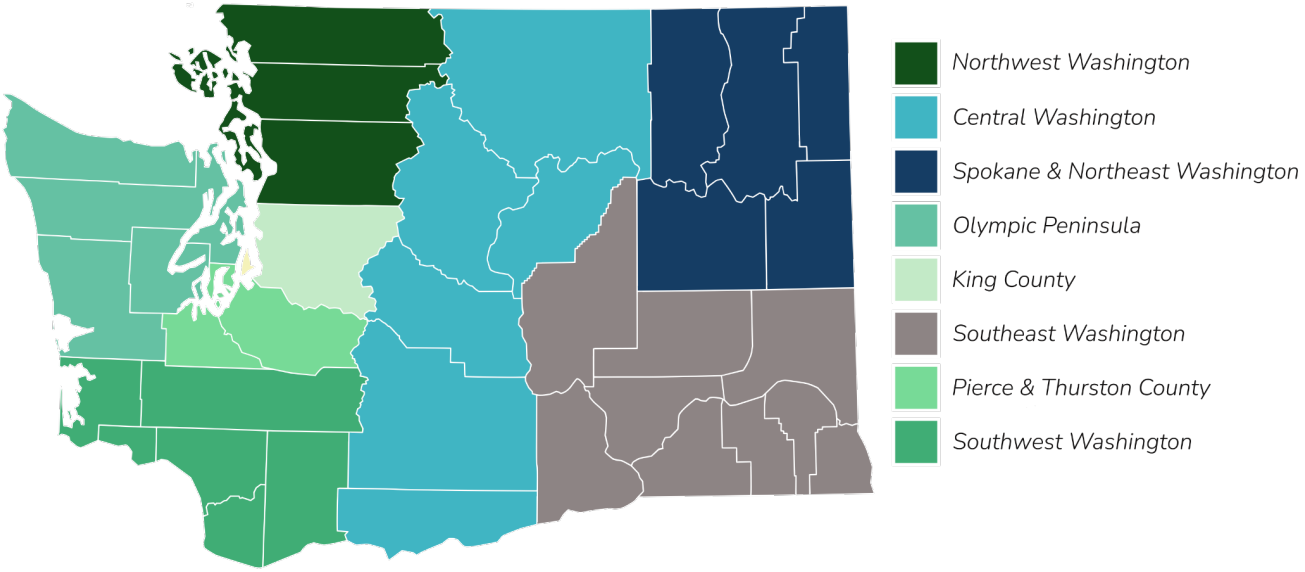
Industry	Total Growth
Construction of new power and communication structures	96.5%
Construction of other new nonresidential structures	48.6%
Construction of new manufacturing structures	34.1%
Forestry, forest products, and timber tract production	20.7%
Prefabricated metal buildings and components manufacturing	18.8%
Commercial and industrial machinery & equipment repair & maintenance	17.2%
Ready-mix concrete manufacturing	6.7%
Other concrete product manufacturing	6.4%
Cement manufacturing	6.3%
Concrete pipe manufacturing	6.0%

Regional Analysis

Summary

To further analyze the impacts of the study scenario, the investments are allocated across eight custom regions representing all 39 counties in Washington, and then modeled in IMPLAN using Multi-Regional Input-Output (MRIO) analysis. MRIO analysis makes it possible to track how the impact of an investment in one region affects industries and households in any other region. This allows for impacts to disburse across regions, creating benefits that can be traced with geographic specificity.

Figure 6. Regions of Washington



Investments in this study scenario are distributed using a unified project-level database compiled at the county level across publicly available datasets, including interconnection queue records, federal grant inventories, state-identified projects, and industrial modernization opportunities. This enables direct modeling of where capital spending occurs across the eight custom regions.

Building on this regional framework, the distribution of investment across technology categories varies significantly across the state. Southeast Washington has the highest concentration of potential investment at $52.2 billion, driven largely by hybrid electricity projects ($19.3 billion), nuclear development ($9.2 billion), and storage ($6.9 billion). Central Washington follows with $21.5 billion, with more than 80% of its investment concentrated in large storage and hybrid projects. Southwest Washington shows meaningful concentrations in industrial manufacturing and hybrid energy development, while regions such as King County and Spokane & Northeast

Washington exhibit more targeted investments focused on storage, solar, and grid-infrastructure projects.

Table 5. Investment by Region

Region	Investment
Southeast Washington	$52.2 billion
Central Washington	$21.5 billion
Southwest Washington	$7.3 billion
Olympic Peninsula	$6.2 billion
Northwest Washington	$3.7 billion
Spokane & Northeast Washington	$3.3 billion
Pierce & Thurston County	$3.1 billion
King County	$1.7 billion

Economic Growth

In absolute terms, growth in economic output from the study scenario is greatest in Southeast Washington ($72.8 billion), Central Washington ($32.5 billion), King County ($10.1 billion), Southwest Washington ($9.2 billion), and Olympic Peninsula ($7 billion).

GDP impacts follow a similar pattern, with Southeast Washington ($47 billion), Central Washington ($20.5 billion), King County ($7 billion), Southwest Washington ($5.8 billion), and the Olympic Peninsula (approximately $4.2 billion) experiencing the largest growth.

Southeast Washington, Central Washington, and the Olympic Peninsula see the largest industry growth in the construction of new power and communication structures, driven by a substantial volume of project development occurring in these regions.

Other areas such as Spokane and Northeast Washington experience their greatest increases in water, sewage, and other systems construction, reflecting the region's specific project mix, which includes hydropower, multiple wind installations, substations, and efficiency upgrades.

IMPLAN analysis is able to capture the flow of benefits across jurisdictions, which is an important factor in measuring region-level impacts. Investment dollars, services, and benefits often cross

counties and regions, as the state's economy is deeply interconnected. **On average, approximately 22% of the economic output benefits in a given region originate from investments in other regions.** This estimate is as high as 75% in King County, and 38% in Spokane and Northeast Washington.

Table 6. Top Economic Growth Benefits from Out-of-Region Activity

Region	% of Total Economic Growth from Out-of-Region Activity
King County	74.8%
Spokane & Northeast Washington	37.8%
Northwest Washington	26.3%
Pierce & Thurston County	24.5%

In addition to economic growth, the study scenario generates substantial tax revenue across all eight regions. Southeast Washington sees the highest regional tax impacts at approximately $254 million, followed by Central Washington ($134 million), King County ($38 million), Southwest Washington ($34 million), and the Olympic Peninsula ($30 million). These results reflect the regions where labor income increases most sharply, as construction activity and associated workforce earnings drive corresponding tax contributions.

Job Creation

In absolute terms, employment growth aligns similarly with economic growth patterns. The largest increases occur in Southeast Washington (287,300 jobs), Central Washington (135,300 jobs), Southwest Washington (36,200 jobs), King County (30,900 jobs), and Olympic Peninsula (25,000 jobs). These gains are driven primarily by strong growth in construction and supporting industries, with additional induced job creation in healthcare and food service industries due to increased local spending.

Labor income follows a similar distribution to GDP, with the largest increases in Southeast Washington ($29.2 billion), Central Washington ($13.1 billion), King County ($5.3 billion), Southwest Washington ($3.6 billion), and the Olympic Peninsula ($2.7 billion).

On a per-capita basis, Southeast Washington, Central Washington, and Pierce and Thurston County experience the most notable job growth, reflecting particularly strong employment impacts in the state's lower-population regions.

Regions experiencing the largest volumes of investment often draw on labor from other parts of Washington to meet elevated demand. **On average, regions receive approximately 18% of their total employment gains from investments occurring outside of their borders.** Job creation from out-of-region investments reaches over 71% in King County and over 25% in Spokane and Northeast Washington, indicating that a notable portion of job creation in these areas is driven by investment activity initiated elsewhere in the state.

Table 7. Top Job Creation Benefits from Out-of-Region Activity

Region	% of Total Job Creation from Out-of-Region Activity
King County	71.3%
Spokane & Northeast Washington	25.3%
Pierce & Thurston County	22.8%
Northwest Washington	15.0%

Tax Revenue

In addition to employment gains, the study scenario generates substantial tax revenue across all eight regions. Southeast Washington sees the highest regional tax impacts at approximately $254 million, followed by Central Washington ($134 million), King County ($38 million), Southwest Washington ($34 million), and the Olympic Peninsula ($30 million). These results reflect the regions where labor income increases most sharply, as construction activity and associated workforce earnings drive corresponding tax contributions.

Conclusion

Washington has a significant pipeline of projects that could facilitate the transition to a modern clean energy economy. The state has strong climate policies and goals, an established industrial base, and abundant clean power resources. But the opportunity ahead is increasingly at risk. After two decades of net negative renewable growth, Washington risks continuing to fall behind other states and missing its emissions reduction goals unless it can turn its large pipeline of proposed clean energy and industrial projects into real progress on the ground.

The findings in this report show what is at stake. Advancing these projects would deliver substantial energy and economic benefits across Washington, including tens of gigawatts of new clean generation and storage capacity, hundreds of thousands of jobs, billions in new economic activity, and significant investment in infrastructure and industry. While this study

does not model electricity rates directly, research shows that expanding clean generation and storage can improve grid reliability and reduce exposure to fuel price volatility, helping support more stable electricity costs for customers over time.

Industrial modernization also offers a critical pathway for strengthening Washington's manufacturing leadership at a moment when rising electricity demand and national competition for clean manufacturing investment are intensifying. Without meaningful progress, Washington risks missing its clean power targets, weakening grid reliability, and losing out to faster-moving states such as Texas and Colorado.

The state faces a critical juncture as requirements from CETA and the CCA approach seminal milestones. Nearly annually the state legislature has passed legislation intended to streamline processes and support effective implementation of the state's clean energy laws. Efforts undertaken by the Interagency Clean Energy Siting Coordinating Council have sought to improve collaboration in state and local siting and permitting. The intention of this report is not to duplicate or comment on the robustness of recommendations that have been offered in other forums. The report findings demonstrate the urgency of continuously improving permitting, siting, and interconnection processes and the severe consequences and risks of failing to dramatically change the course of business as usual.

Appendix A. Study Methodology

Scenario Development

This study employs a multi-phased approach, using IMPLAN modeling software, to project the economic impact and job creation outcomes created by the study scenario. IMPLAN (Impact Analysis for Planning) is an economic input-output model that creates detailed representations of how capital, labor, and goods flow through a given state's economy, capturing the interactions between different industries, households, and institutions. Each dollar invested in IMPLAN ripples throughout the state economy, with resulting measures of increased employment, economic output, labor income, and other fiscal impacts.

To estimate the scale of the clean energy and manufacturing investment opportunity in Washington state, a unified project-level database was constructed to represent potential development over roughly the next decade. This database integrates multiple sources, including federal grant programs, interconnection queues, state-identified projects, and industrial modernization analysis, to capture both near-term and forward-looking investment potential. The interconnection data used in this analysis comes primarily from the Bonneville Power Administration (BPA) interconnection queue, which includes the majority of large, utility-scale renewable and storage projects proposed in the state. This dataset alone constitutes nearly 60% of total investment captured in the study.

Each dataset was systematically reviewed, filtered, and normalized to support consistent treatment of project attributes such as technology type, development status, and potential capital investment. The resulting project database reflects the best available information as of November 2025. Subsequent project cancellations, modifications, or new announcements occurring after this date are not reflected in the analysis.

The scenario development process draws from the following primary datasets:

- **EPA Climate Pollution Reduction Grants (CPRG)** implementation grant inventory, compiled by RMI. Projects located in Washington were isolated, with a focus on unawarded proposals related to infrastructure buildout. These projects were advanced enough to be submitted for federal funding but ultimately not selected, making them particularly relevant as state-level opportunities for potential support. The CPRG records include project descriptions, requested funding levels, and, in cases where the federal request represented only partial support, information that allows capital investments to be scaled to total project costs.

- **Bonneville Power Administration (BPA) Interconnection Queue -** BPA's publicly available queue offers detailed information on proposed renewable energy, storage, and clean-energy-related loads seeking transmission access. For this analysis, active projects that entered the queue in mid-2020 or later and remain in early-to-mid development stages, such as initiation, authorization, design, or construction study phases, were included. Projects that had been withdrawn, reached commercial operation, or entered the queue prior to mid-2020 were removed. These filters focus the analysis on the portion of the interconnection queue that reflects current, at-risk development.

- **Lawrence Berkeley National Lab (LBNL) Queued Up -** LBNL's national interconnection queue dataset was used to supplement BPA's project data and ensure broader coverage of proposed clean energy development in Washington. Only projects that were active at the time of the data release and had expected completion dates in 2026 or later were included. Entries from the LBNL dataset were cross-checked and de-duplicated against the BPA queue to avoid double counting while incorporating additional relevant, recent projects not yet captured in BPA's updates.

- **Industrial Facility Modernization Opportunities -** Using 2023 emissions data from EPA's Greenhouse Gas Reporting Program (GHGRP), RMI analysis on industrial modernization in Washington, and IMPLAN, decarbonization pathways for industrial facilities across the state were evaluated. These opportunities reflect forward-looking scenarios in which state policies enable investment in low-carbon upgrades at sites that have historically contributed substantially to Washington's industrial emissions profile. Though these upgrades represent only about 3 percent of total modeled investment, they have the potential to deliver disproportionately large emissions reductions.

- **Big Green Machine North American Clean Energy Supply Chain tracker -** This dataset provides information on announced and prospective investments across the North American clean energy supply chain. The tracker was filtered to include only projects located in Washington that are expected to come online in 2026 or later. These projects were screened for completeness and cross-referenced with other datasets in the project database to avoid duplication.

- **Washington State Department of Commerce project list** (provided via request for records). This dataset identifies additional clean energy and industrial projects under consideration or early development within the state. These entries were screened for completeness and cross-referenced against CPRG and BPA datasets to avoid duplication.

When project-level capital investment was not reported, it was estimated using one of two standardized approaches:

- **Standardized cost benchmarks for electricity-sector technologies.** For utility-scale solar, wind, battery storage, and hybrid systems, capital cost forecasts from the NREL Annual Technology Baseline (ATB) were applied. ATB's regionalized cost trajectories enable an estimation of 2030-era investment values using project capacity (MW) as the primary scaling factor.

- **Bespoke scaling for industrial or demand-side projects.** For non-standard or one-off projects, such as clean fuels production, industrial retrofits, or facility modernizations, investment values from reported federal grant amounts and public disclosures were derived, or comparable projects that include capital investment information.

Input Assembly

Once the project-level database was fully compiled, the 258 projects were organized into 35 distinct technology and facility types, including solar PV, onshore wind, battery storage, hybrid systems (such as solar-plus-storage), EV charging installation, sustainable aviation fuel production, and industrial retrofits. All IMPLAN modeling occurs at this technology/facility level, which provides a consistent unit of analysis across highly heterogeneous project types. At this stage, the relevant component of the IMPLAN input structure (Industry Codes) was defined.

Each of the 35 technology or facility categories was then assigned a tailored set of IMPLAN event codes that most accurately reflect the economic activities involved. These sets function as custom templates, ensuring that each project's modeled spending pattern captures the appropriate mix of construction activity, equipment procurement, manufacturing, or engineering services associated with that technology.

Model Execution

To quantify the statewide and regional economic impacts of the study scenario, two complementary IMPLAN modeling runs were conducted. Each run was designed to answer a distinct analytical question and to provide different levels of spatial and project-level resolution.

- **Project-Level** preserves full project-level granularity, modeling each of the 258 projects individually using the technology-specific IMPLAN industry codes and cost allocations developed in the Input Assembly phase. This run enables the study to capture the unique economic structure of each project type, estimate job creation, labor income, GDP, and

output for each discrete facility or installation, and allow project-by-project comparisons and aggregation across any custom grouping (e.g., technology type, project category, county).

- **Multi-Regional Input-Output (MRIO)** aggregates projects for Washington's 39 counties, which were combined into eight regions. This run is designed to capture how economic activity moves through an interconnected state economy. This enables the model to trace economic impacts as they ripple across county and regional boundaries, to explicitly measure the interregional flow of goods, services, labor, and supply-chain activity, and quantify how investment in one region generates additional employment, income, and output in another.

Appendix B. Potential Clean Energy Buildout Capacity

Electricity capacity values were taken directly from project records and used as inputs to the economic modeling. Nevertheless, the combined capacities of projects in the database offer a useful indication of potential clean energy growth in Washington state. These capacities serve as inputs to the economic modeling and should be interpreted as scenario-based potential, not forecasts of what will ultimately be built.

After filtering the interconnection queue for recent, active projects, removing withdrawals, cancellations, and likely duplicates, and allocating hybrid project capacities into generation and storage components, the project pipeline includes approximately:

- 24 GW of new electricity-generating capacity, and
- 13 GW of new storage capacity (including both battery and pumped storage).

To assess whether these values fall within a plausible range for Washington, they were compared to resource expansion trajectories presented in 2021 analysis by the Northwest Power and Conservation Council (NW Council). In the NW Council's "partial decarbonization" scenario and associated resource expansion modeling, regional renewable capacity additions total approximately 36 GW between 2021 and 2041 across the Northwest. Washington's share of this buildout varies, but the analysis suggests that 20–25 GW of new in-state generation capacity over the next 15–20 years is a reasonable benchmark, particularly as electricity demand has surged across the region since 2021.

In addition to the Northwest Power and Conservation Council benchmarks, the aggregate capacity totals were compared to findings from other regional analyses. The Clean Energy Transition Institute's Net-Zero Northwest modeling indicates that achieving deep decarbonization would drive steep growth in electricity demand in Washington, leading to in-state generation rising by roughly 54 percent, from approximately 104 TWh in 2021 to about 160 TWh by 2045. Meeting this level of growth would require significant additions of clean generation, including approximately 7 GW of onshore wind and 15 GW of solar between 2021 and 2050. These values are broadly consistent with the scale of potential generation represented in the BPA queue.

The 13 GW of potential storage capacity similarly reflects national trends toward rapid growth in utility-scale storage, as storage becomes increasingly important for meeting rising load and providing system flexibility.