Clean Energy: Industry Profile

JULY 2023

State of Maine - DECD

Department of Economic & Community Development

PROJECT OVERVIEW

Report Purpose

This document provides an overview analysis of the Clean Energy Sector in Maine, including its domestic trade activity.

Industry classification ranges from 2-digit industries (most broad) to 6-digit industries (most specific) under the North American Industry Classification System (NAICS). This report focuses on the 3- to 6-digit industry level to give more detailed analysis of Maine's domestic trade activity in the Clean Energy Sector. For details about all industries that are included in this analysis, please see the Appendix.

Data about the clean energy workforce in this report may differ from other Clean Energy metrics reporting produced by the Maine Governor's Energy Office. The analysis of Maine's clean energy domestic trade is based on a compilation of NAICS industry codes rather than a set of occupation codes. Notably, this analysis does not include professional services related to clean energy, nor does it include clean transportation. Instead, it is focuses on the production, infrastructure, and distribution networks related to clean energy. While the two reports have differing objectives, both are important contributions to the state's understanding of clean energy and its planning and implementation of clean energy initiatives.

Project Funding

This project is commissioned by the Office of Business Development through the Domestic Trade Pilot Program and is funded in part by the Maine Jobs and Recovery Plan.

Data

The most recent year of data in this report is 2022. Five-year growth rates refer to changes from 2017-2022, and five-year projections refer to 2022-2027, unless otherwise specified. For more information about the data used in this report, see the Appendix – Data Sources.

Data about Clean Energy in this report is based on a set of NAICS industries that are related to clean energy work but may not be conducting clean energy work currently or exclusively. For example, firms may install both oil furnaces and heat pumps.

Consultant Team

camoin associates

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KEY FINDINGS

Clean Energy

Sector Activity

Clean Energy jobs vital and key for future growth. The sector directly added 2,142 jobs in the last five years, representing one out of six net new jobs in Maine over that period. There are a number of subsectors that are ripe for import substitution as Maine continues to diversify its energy portfolio.

Clean Infrastructure growth garners optimism. The needs for energy transition are evident, creating a welcome environment for investments in expansion to meet surging demand for power generation and HVAC improvements. **Industries related to Clean Infrastructure grew jobs at double digit rates since 2017 (+29% combined).**

Supply chain gaps in Clean Manufacturing represent opportunities for growth. Equipment, devices and battery inputs are essential in growing clean energy provisions. Currently the state has key sectors with no local activity (such as Other Engine Equipment Manufacturing and Storage Battery Manufacturing, among others).

Currently, public institutions and Real Estate are the primary market for the Clean Energy sector. Schools and hospitals make up almost 40% of in-region sales for the sector. State government is the largest consumer at over $55 million or nearly 15% of sales.

While Maine sells most of its Clean Energy exports domestically (91%), international markets favor the state's export of Engines, Turbines and Power Transmission Equipment. Over $10 million of products were sold internationally.

Subsectors included in this report

- **Renewable Power Generation –** establishments engaged in generating, transmitting, and distributing electric power. Involved in operating generation facilities that produce electric energy; operating transmission systems that convey the electricity from the generation facility to the distribution system; and operating distribution systems that convey electric power received from the generation facility or the transmission system to the final consumer.
- **Clean Infrastructure –** establishments engaged in the construction of power lines, plants and towers. Specialty trade contractors are included in this industry if they are engaged in activities primarily related to power and communication line and related structures construction.
- **Clean Energy Manufacturing –** establishments engaged in manufacturing consumer and commercial HVAC, batteries, turbines, generators, power transmission, wire and cable, and electrical equipment products.
- **Clean Energy Wholesalers –** establishments engaged in the merchant wholesale distribution of hardware; plumbing and heating equipment and supplies (hydronics); warm air heating and air-conditioning equipment and supplies; and refrigeration equipment and supplies.

NATIONAL TRENDS

KEY TRENDS

- Inflation Reduction Act of 2022 is a game changer for clean energy and manufacturing
    - The industry outlook is positive but market uncertainty about how it will work and implementation makes winners and losers uncertain
    - Free trade qualification for manufacturers remains unclear
    - Multiplier effect for manufacturing expansion as Clean Energy gets incorporated into US production
- Manufacturing on-shoring will drive demand for electricity
- Tension between slowing macro economy and accelerating environment for Clean Energy
- Fluctuating cost of other sources of power will affect customer interest in alternatives

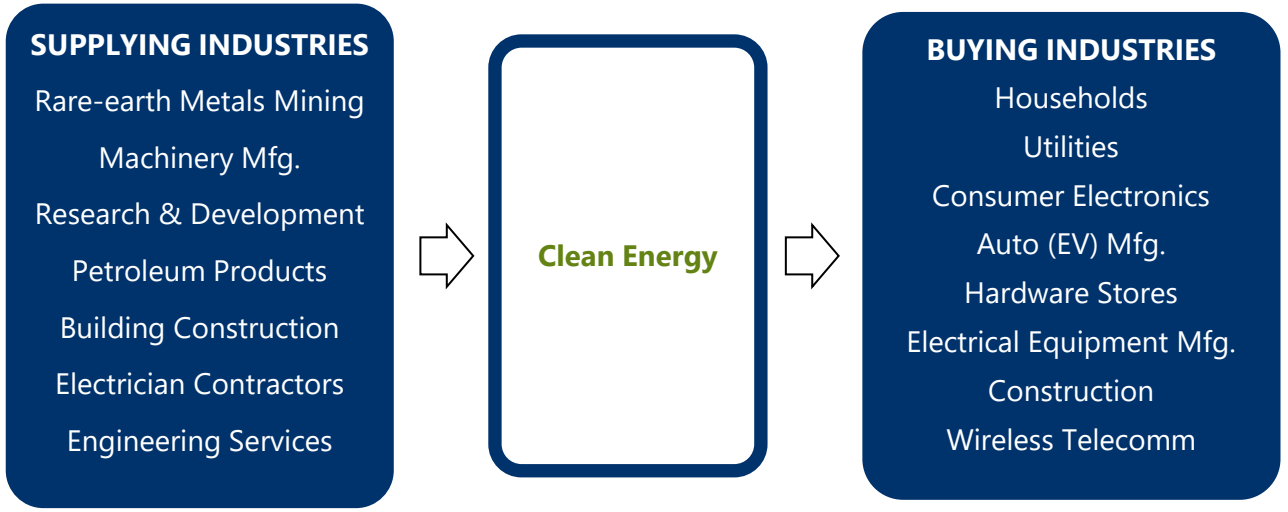
RECENT DEVELOPMENTS

- High interest rates have reduced feasibility for some consumer-grade clean energy investments
- Traditional energy sectors starting to invest in clean tech startups
- First offshore wind development in the Pacific Ocean joins existing projects along the Atlantic in New Jersey, Massachusetts and Maine
    - Maine's recently-published Offshore Wind Roadmap paves the way for future offshore wind development in the state
- Slowing residential values reduce volume for home improvement
- Layoffs in tech are an opportunity to stock up on previously hard to find workforce talent
- High demand and incentives will keep growth and profitability high

INDUSTRY DRIVERS

- Price of other energy sectors
- Price of plastic resins
- Electric power consumption and price
- Average annual climate factors: sunlight, precipitation and temperatures
- Competition within clean energy market alternatives
- Value of non-residential construction
- Per capita disposable income, corporate profit

SUPPLY CHAIN



Source: IBISWorld

DATA NOTE:
This page provides a brief qualitative overview of macro trends facing this sector and structural causes of growth for the sector. A supply chain summary shows key industries upstream and downstream of the sector. Trends and projections noted by IBISWorld typically reflect a period of +/- 5 years

NATIONAL TRENDS

Jobs (2022)
1.9 Million

Job Growth
2017-2022: 16.3%
2022-2027 Projected: 4.7%

Establishments (2022)
303,707

Avg. earnings (2022)
$68,444

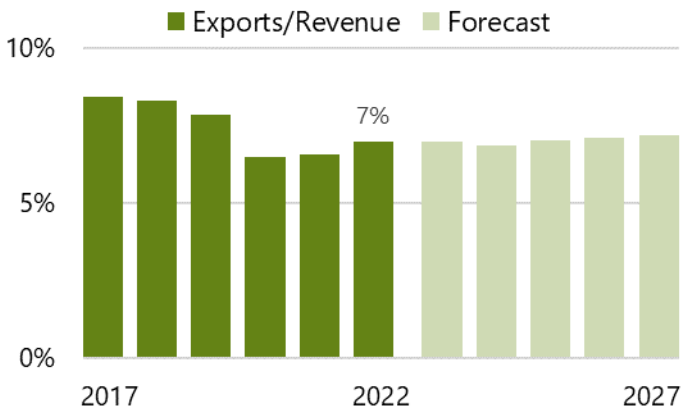
Domestic Demand (2022)
$865 Billion

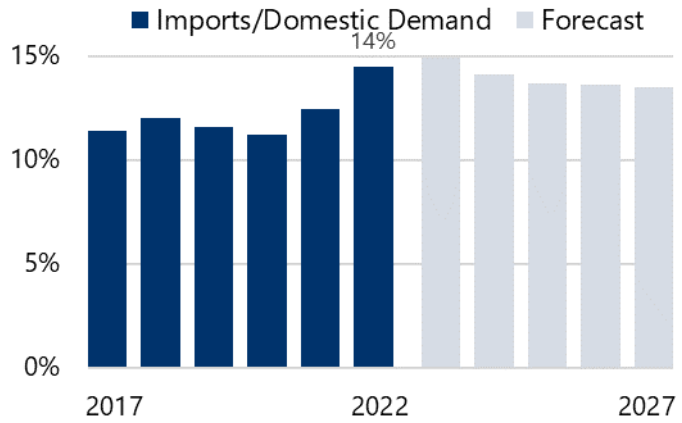
Top Countries (2022)
Imports: China, Mexico, Malaysia, South Korea, Japan
Exports: Canada, Mexico, China, Germany, United Kingdom, Australia

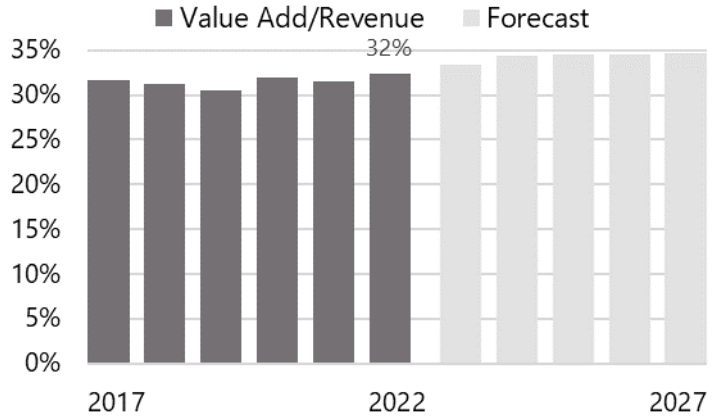
The exports share of revenue is 7% in 2022. This indicator shows the relative importance of exports to the sector's overall revenue strength.

The imports share of domestic demand is 14% in 2022. This demonstrates how much of demand for the sector's products in the US was met by foreign imports.

The value-add-to-revenue ratio is 32% in 2022. This indicator shows how much value the production process added to products relative to the overall size of the sector.







Source: IBISWorld; Trade Partners from US Census Bureau

SECTOR SUMMARY: MAINE PERFORMANCE

Clean Energy Summary

Jobs: 10,794

- Data for 2022
- 1.5% of the state's total employment

Job Growth: +2,142

- Data for 2017-2022
- Growth driven by Clean Energy Infrastructure subsector, including Plumbing, Heating, and Air Conditioning Contractors (+1,172) and Power and Communication Line & Related Structures Construction (+822)

Job Growth Rate: +25%

- Data compares 2017-2022
- Maine's sector is growing more than twice as fast as the U.S. (+11%)

Concentration: 1.09

- Data for 2022
- Maine's Clean Energy sector is slightly more concentrated than the national sector

Establishments: 992

- Data for 2022
- The average firm size of 10.9 jobs is smaller than the US average for the sector of 15.0

Average Earnings: $72,163

- Data for 2022
- Higher than the state's average earnings for all sectors ($66,730) and also below the U.S. rate for this sector ($85,069)

Competitive Effect: +1,329

- Data compares 2017-2022
- Maine's Clean Energy Sector growth has outpaced industry and national trends for growth, adding 1,329 more jobs than would be expected during this time frame.

Gross Regional Product: $1.2 Billion

- Data for 2022
- 1.5% of Maine's total GRP
- Larger share than the U.S. (1.3% of total GRP)

Productivity: $109,633

- Data for 2022
- GRP per worker
- Lower than the figure for the United States ($127,793)

Total Sales: $2.3 Billion

- Data for 2022
- 41% of sales exported out of state

Demand: $2.1 Billion

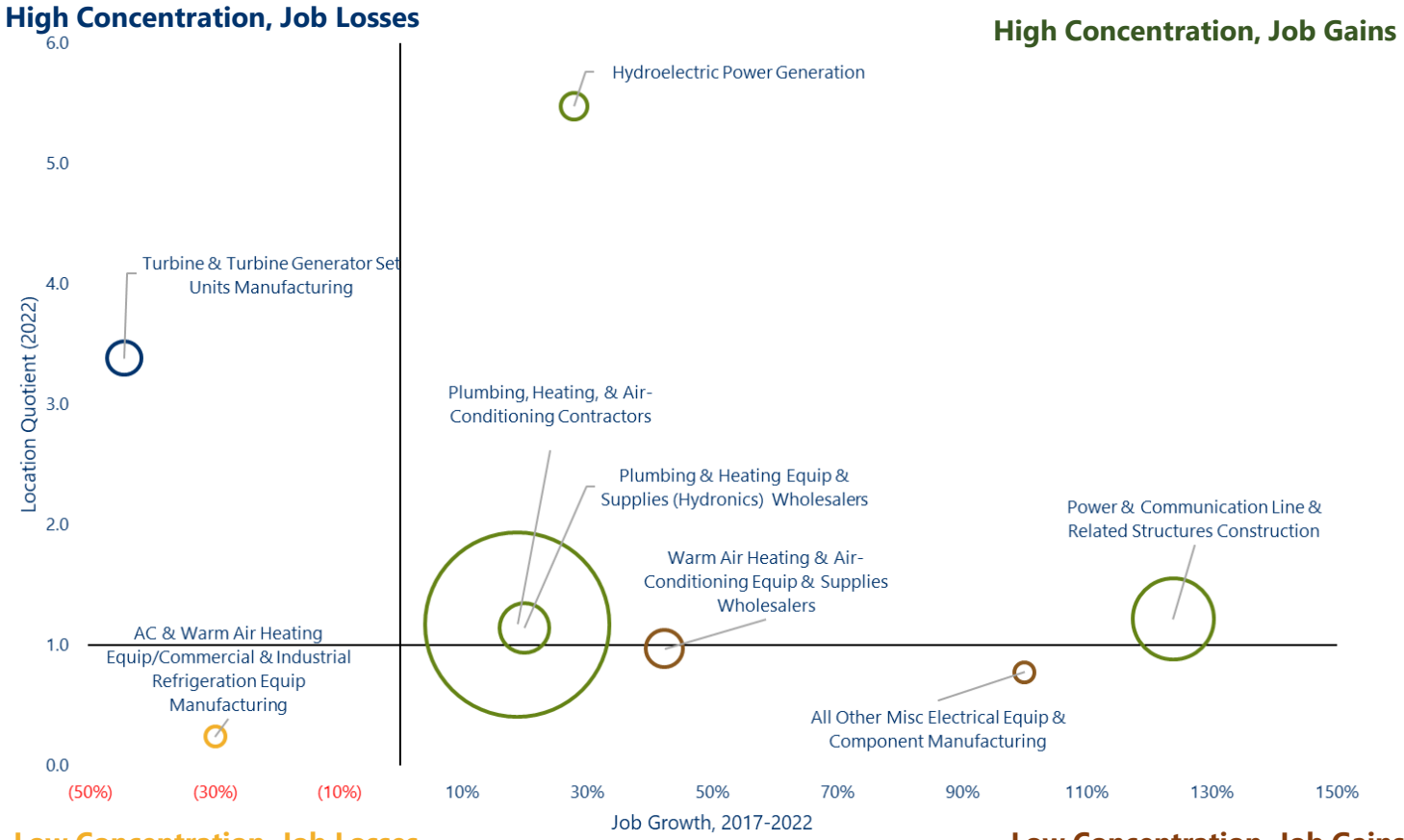
- Data for 2022
- 64% of Maine's demand was met by in-state sources, with the other 36% imported

Leakage: $767 Million

- Data for 2022
- $767 million of demand was met by out-of-state sources

DATA NOTE:
National figures on this page were calculated using a different source than on page 5, which may lead to some discrepancies in other parts of this report.

KEY INDUSTRIES



Bubble size = 2022 jobs

Source: Lightcast, Camoin Associates

Note: Figure includes 6-digit NAICS industries with at least 50 jobs in 2022. For clarity, Biomass Electricity Power Generation and Carbon & Graphite Product Manufacturing are excluded. Biomass Electricity Power Generation has an LQ of 11.3, 990 jobs, and -41% job change. Carbon & Graphite Product Mfg. has an LQ of 3.4, 127 jobs, and 176% job change.

Source: Lightcast, ME Governor's Energy Office

Findings:

- **The Clean Energy sector as a whole is in the 'growth' quadrant.** The last five years saw a 25% increase in jobs created. This rate of growth is double that of the U.S.
- **The core of Clean Energy is Clean Infrastructure which is both growing and highly concentrated in Maine.** Plumbing, Heating, and AC contractors, the largest industry, has both a relatively high LQ and is growing. Other industries that are both strong and growing are Plumbing & Heating Equip. Wholesalers, Power & Communication Line & Related Structures Construction, and Hydroelectric Power Generation.
- **Warm Air Heating and Air Conditioning Wholesalers as well as Other Misc. Electrical Equipment & Component Manufacturing** have relatively low concentration, but have seen significant growth from 2017-2022. These industries can be considered emerging.
- **Turbine & Turbine Generator Manufacturing** has a relatively high LQ of 3.4, but has seen jobs decline in the last five years (-44%).
- Finally, **Air Conditioning and Warm Air Heating Equipment and Commercial/Industrial Refrigeration Equip. Manufacturing** has both relatively low concentration as well as job loss in the last five years. This is a rather small industry, with only 99 jobs in 2022.

DATA NOTE:
There are three performance measures in the chart above that combine to relate the competitiveness of this activity, (1) bubble size is size of industry by jobs, (2) vertical axis measures industry concentration in Maine, (3) horizontal axis measures recent jobs growth.

SUBSECTOR PERFORMANCE

Key Industry Groups: Summary

Description	Jobs 2017	Jobs 2022	Jobs Change 2017-2022	Jobs Change % 2017-2022	Avg. Earnings Per Job 2022	Location Quotient 2022	Competitive Effect 2017-2022	Payrolled Business Locations 2022
Power Generation	364	336	(28)	- 8%	$123,080	2.66	(93)	41
Clean Infrastructure	6,898	8,891	1,993	+29%	$67,149	1.18	1,211	837
Clean Energy Manufacturing	688	675	(13)	- 2%	$93,206	0.47	126	13
Clean Energy Wholesalers	702	892	191	+27%	$87,017	1.08	85	100
Total for Maine	**8,652**	**10,794**	**2,142**	**+25%**	**$72,163**	**1.09**	**1,329**	**992**
Total for United States	**2.07 M**	**2.3 M**	**+0.22 M**	**+16%**	**$85,069**			**152,768**

Source: Lightcast

Key Industry Groups: Summary (Continued)

Description	Total Demand 2022	Demand met by Imports 2022	Total Sales 2022	GRP 2022	GRP per Job
Power Generation	$153,200,395	$57,219,051	$340,326,550	$199,639,946	$594,101
Clean Infrastructure	$1,315,147,358	$157,963,784	$1,451,794,453	$715,293,573	$80,452
Clean Energy Manufacturing	$438,562,786	$414,245,949	$279,863,302	$120,735,542	$178,841
Clean Energy Wholesalers	$229,077,336	$138,054,303	$265,035,365	$147,753,247	$165,577
Total for Maine	**2,135,987,876**	**767,483,088**	**2,337,019,669**	**1,183,422,308**	**$109,633**
Total for United States	**559,605,727,432**	**-**	**606,371,530,904**	**294,340,829,629**	**$127,793**

Source: Lightcast

The sector had a $1.2 Billion Gross Regional Product in 2022.

- **Clean Energy Infrastructure leads the way**. It accounted for over $715.3 million GRP in 2022. It had a location quotient of 1.18, meaning its employment in Maine is more concentrated than the national average. This subsector added nearly 2,000 jobs (+29%) in the last five years.
- **Clean Energy Wholesalers also grew expansively**, adding 191 jobs (+27%). There are 100 establishments performing this kind of wholesaling in Maine to connect the manufacturers of critical clean energy equipment to other businesses and final users. This subsector did $265 million in sales in 2022.
- **Clean Energy Manufacturing contributed the most to satisfying local demand at over $400 million.** This set of economic activity also added $120 million to gross regional product. It has the largest average firm size with over 50 jobs per establishment.
- **Power Generation was a leader in productivity.** This subsector had the smallest employment footprint of the Clean Energy groups but has a high GRP per job of $594,101. This is more than double the next highest rate within Clean Energy. Power Generation workers also earned the most, with an average salary in 2022 of $123,080. Differences in productivity across subsectors may be due to a multitude of factors relating to how each industry functions. For example, power generation operations often require fewer employees for large operations.

CLEAN ENERGY TRANSITION

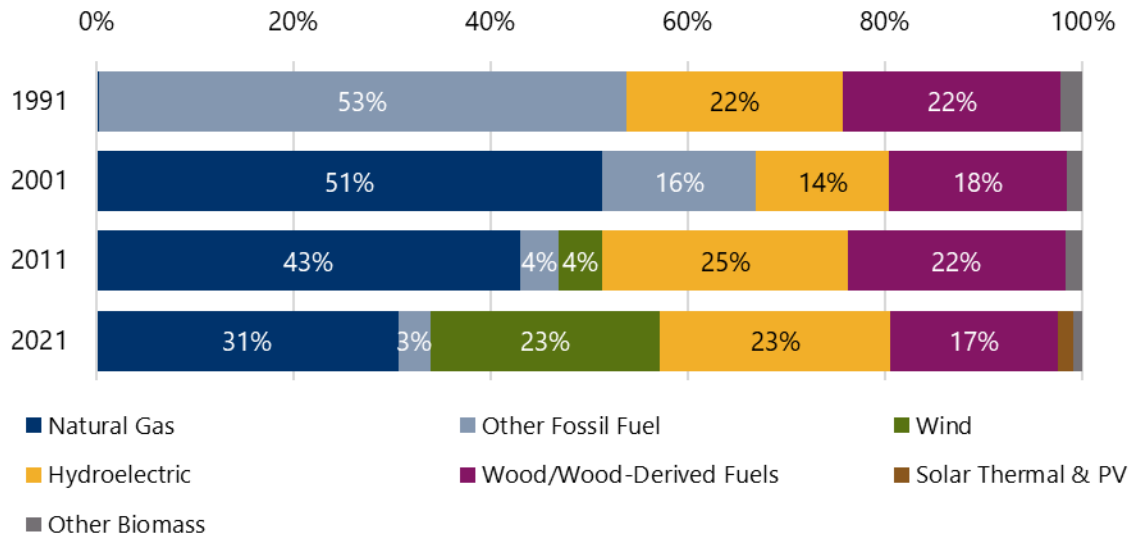
For Maine, a generation of change in electrical power generation.

- **Since 2001, the state has been an innovative leader in evolving its sources for power.** In 2001, two-thirds of electric power in Maine was generated by fossil fuels, driven by petroleum. In 2021, the distribution flipped – two-thirds of electric power generated by renewable sources. Wind and Hydroelectric power each make up almost a quarter of power generation in Maine today. Meanwhile, fossil fuel power generation in 2021 was driven by Natural Gas.

- **In the last two decades, new clean energy sources have been added to Maine's portfolio.** In 2001, Maine had no Wind or Solar power generation. From 2001-2021, Maine grew to over 2,500-gigawatt hours generated by wind and over 157-gigawatt hours generated by solar.

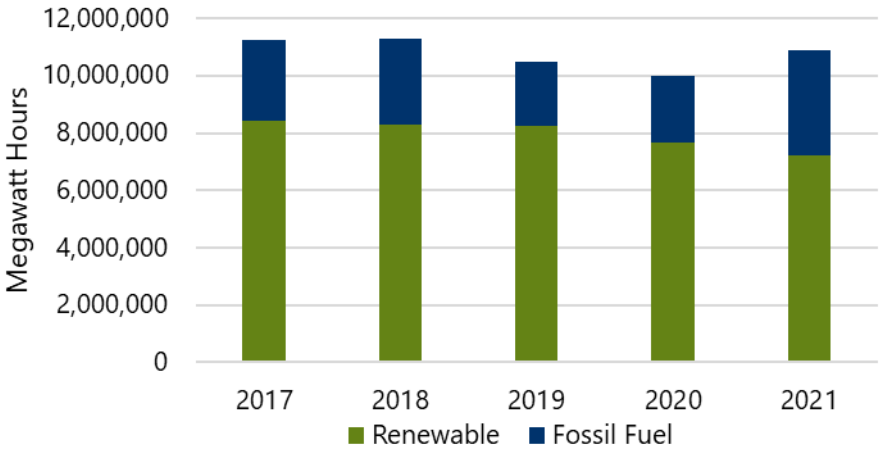
- **The last several years have generally seen declining power generation in Maine.** From 2017-2020, electric power generation in Maine has generally trended down for both renewable and fossil fuel sources, falling from approximately 11.2 million MWh generated in 2017 to 10.0 million MWh generated in 2020. However, 2021 saw a spike in power generated by fossil fuels, driven by significant increase (+1.4 million MWh, +76%) in electricity generated by natural gas. New England as a region is highly reliant on natural gas, which in recent years has caused an increase in the supply cost of electricity. Maine is not immune to these dynamics.

Maine Electric Power Generation by Source



Source: U.S. Energy Information Administration

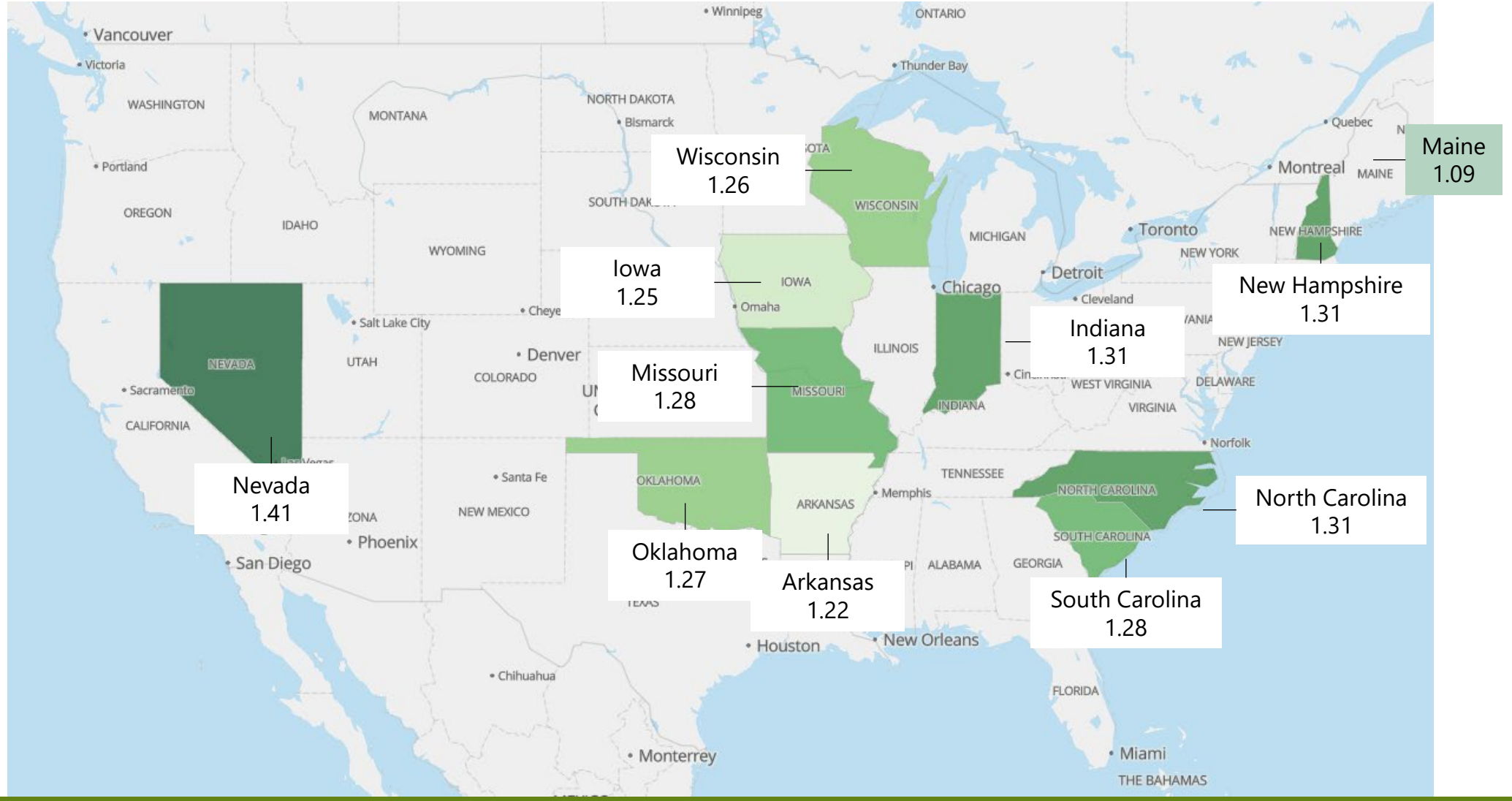
Maine Electric Power Generation, by Source (2017-2021)



Source: U.S. Energy Information Administration

KEY NATIONAL PLAYERS

Top 10 States by Location Quotient for the Clean Energy Sector (2022)



DATA NOTE: Location quotient (LQ) is a measure of industry concentration within a region. An LQ of 1.0 means that an industry is as concentrated within the region as it is on a national level. An LQ greater than 1.0 indicates that an industry is more concentrated in a region than at the national level.

Industry Demand and Purchases

Where is Maine's Clean Energy sector buying from?

PURCHASING INDUSTRIES

Top 25 Sectors the Clean Energy Industry Purchases From, 2022

NAICS	Purchases from	In-region Purchases ($M)	% In-region Purchases	Imported Purchases ($M)	% Imported Purchases	Total Purchases ($M)
324110	Petroleum Refineries	$0.0	0.0%	$33.8	100.0%	$33.8
444110	Home Centers	$12.2	42.2%	$16.7	57.8%	$29.0
551114	Corporate, Subsidiary, and Regional Managing Offices	$19.3	78.0%	$5.5	22.0%	$24.8
541330	Engineering Services	$19.7	82.4%	$4.2	17.6%	$23.9
327320	Ready-Mix Concrete Manufacturing	$12.5	57.9%	$9.1	42.1%	$21.6
444190	Other Building Material Dealers	$8.9	49.3%	$9.1	50.7%	$18.0
561320	Temporary Help Services	$13.1	87.1%	$1.9	12.9%	$15.0
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	$11.0	75.9%	$3.5	24.1%	$14.5
484121	General Freight Trucking, Long-Distance, Truckload	$9.3	72.6%	$3.5	27.4%	$12.8
221122	Electric Power Distribution	$11.6	92.3%	$1.0	7.7%	$12.6
332322	Sheet Metal Work Manufacturing	$1.9	17.2%	$9.3	82.8%	$11.2
332312	Fabricated Structural Metal Manufacturing	$5.6	51.2%	$5.4	48.8%	$11.0
522110	Commercial Banking	$3.5	33.5%	$7.0	66.5%	$10.6
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	$0.7	7.3%	$9.2	92.7%	$9.9
531110	Lessors of Residential Buildings and Dwellings	$8.5	86.8%	$1.3	13.2%	$9.8
541110	Offices of Lawyers	$5.4	59.1%	$3.8	40.9%	$9.2
211120	Crude Petroleum Extraction	$0.5	5.2%	$8.5	94.8%	$8.9
326199	All Other Plastics Product Manufacturing	$1.6	18.6%	$7.2	81.4%	$8.8
531210	Offices of Real Estate Agents and Brokers	$6.1	75.0%	$2.0	25.0%	$8.1
331110	Iron and Steel Mills and Ferroalloy Manufacturing	$0.1	0.7%	$7.8	99.3%	$7.8
324122	Asphalt Shingle and Coating Materials Manufacturing	$0.0	0.0%	$7.8	100.0%	$7.8
327390	Other Concrete Product Manufacturing	$4.8	63.0%	$2.8	37.0%	$7.6
423690	Other Electronic Parts and Equipment Merchant Wholesalers	$0.7	9.5%	$6.8	90.5%	$7.5
324121	Asphalt Paving Mixture and Block Manufacturing	$6.1	81.9%	$1.3	18.1%	$7.4
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	$1.4	19.6%	$5.8	80.4%	$7.3

Source: Lightcast

- **Maine imports 100% of the petroleum purchased by the sector.** At just under $34 million in purchases, Petroleum Refineries is the largest good that is used by the Clean Energy sector. Although it is the largest purchase, it still only represents 3.4% of the total goods purchased for this sector.
- **Professional, Scientific and Technical Services are a key local source of purchases.** There are a cluster of industries that make up some of the top purchases while also being heavily sourced within the state. Corporate, Subsidiary, and Regional Managing Offices, Engineering Services, Temporary Help Services, and Commercial Banking all make up over $10 million in total purchases for Clean Energy. Except for Banking, these industries are 75%+ sourced from within Maine.
- **Air Conditioning Equipment is a major purchase from out of state.** The Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing subsector is one of the larger purchases for Clean Energy, at just under $10 million. This is also the only key purchasing sector that is also part of the Clean Energy sector itself, perhaps indicating an opportunity for import substitution.
- **It's not just refining; oil products are important in other ways.** The top spot of Petroleum Refineries isn't the only major input for Clean Energy. There are three other subsectors (including Plastics) that are primarily related to petroleum derivatives that are major purchases for Clean Energy.

DATA NOTE:
This table gives greater insight into supply chain gaps within the sector. Industries that have low shares of in-region purchases indicate opportunities where Maine relies heavily on imported supply, but where Maine businesses could potentially expand to recapture transactions. The figure above is sorted by Total Purchases, from greatest to least.

DEMAND

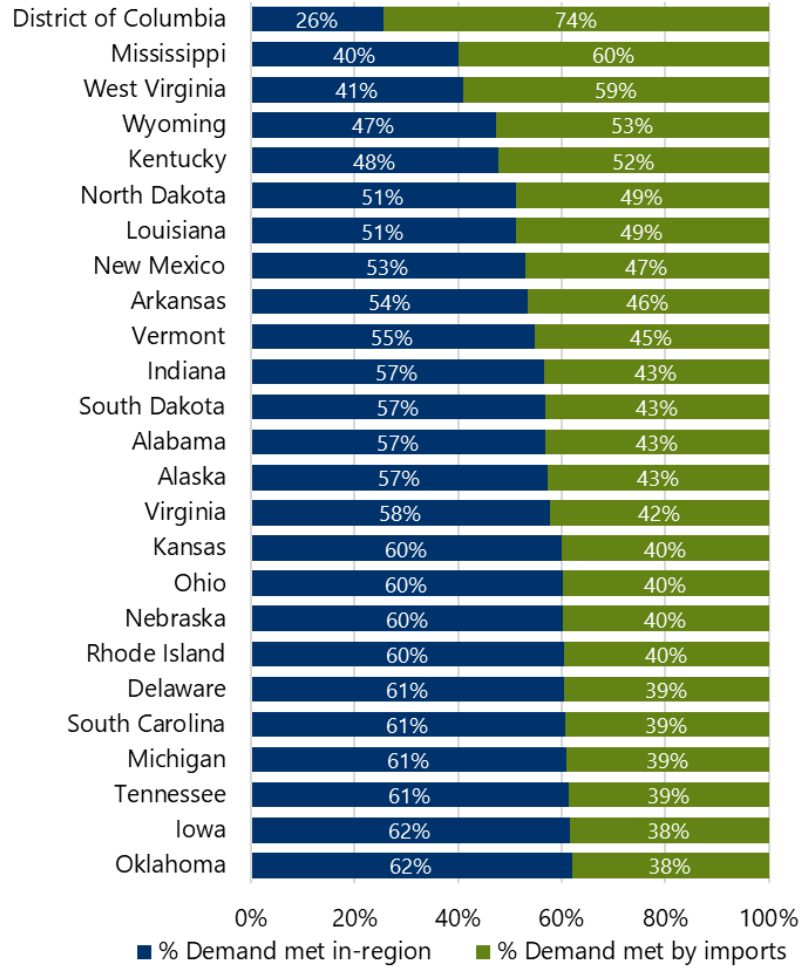
Top 10 States by Total Demand for the Clean Energy Sector (2022)

State	Payrolled Business Locations	Demand met in-region	% Demand met in-region	Demand met by imports	% Demand met by imports	Total Demand
California	14,824	$55,859,817,800	80%	$13,554,037,126	20%	$69,413,854,926
Texas	12,121	$39,636,446,415	81%	$9,051,564,695	19%	$48,688,011,111
New York	8,571	$23,752,038,126	65%	$12,771,785,807	35%	$36,523,823,933
Florida	12,637	$25,384,161,263	78%	$7,114,093,998	22%	$32,498,255,261
Illinois	5,613	$14,240,005,966	66%	$7,184,626,559	34%	$21,424,632,524
Ohio	4,641	$12,457,173,738	60%	$8,248,713,418	40%	$20,705,887,156
Pennsylvania	5,304	$13,027,192,723	63%	$7,513,831,920	37%	$20,541,024,643
Michigan	3,615	$11,073,642,810	61%	$7,092,834,337	39%	$18,166,477,147
North Carolina	5,794	$12,423,718,509	73%	$4,630,621,238	27%	$17,054,339,747
Georgia	4,456	$11,358,755,947	67%	$5,575,569,875	33%	$16,934,325,823

Source: Lightcast

- **Maine ranks 43rd among all states for total demand**, at $2.1 billion in 2022.
- The states with the highest overall demand for the sector's products tend to be those with the largest economies in the nation. These states also tend to have relatively low shares of demand met my imports, with most of the top 10 for total demand ranking in the bottom half for the share of demand met by imports
- **The largest importer of the Clean Energy sector is the District of Columbia**, with 74% of total demand met by imports in 2022.
- **Maine ranks 30th overall for percent of demand met by imports**, putting it in the middle of the pack in terms of meeting its demand for Clean Energy.
- **Southern States** (DC, MS, WV, KY, LA, AR) make up more than half of the top 10 for their share of demand for Clean Energy demand met by imports. **Kentucky, Indiana, Alabama, Virginia, Ohio, South Carolina, Michigan, and Tennessee** all rank in the top half for both total demand and the share met by imports, making these states potential market opportunities.

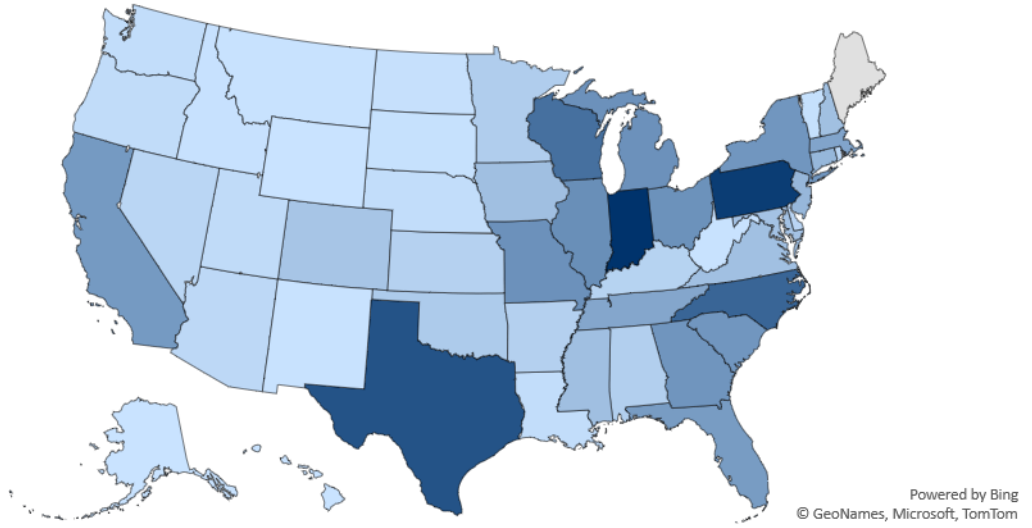
Top 25 States by Share of Demand Met by Imports (2022)



Source: Lightcast

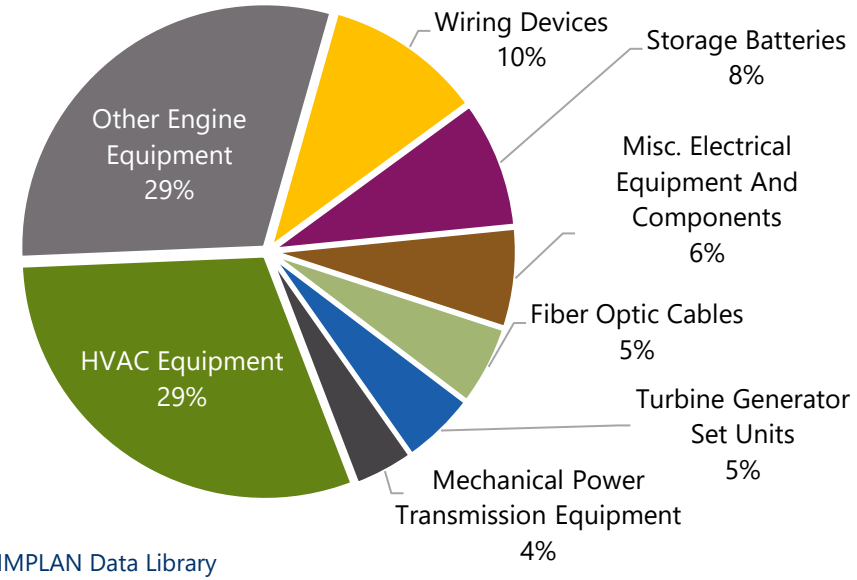
DOMESTIC IMPORTS – CLEAN ENERGY PRODUCTS

Out-of-State Suppliers of Clean Energy Imports to Maine (2021)



Source: IMPLAN Data Library

Import Summary for Clean Energy Products (2021)



Source: IMPLAN Data Library

Every state supplied Maine with Clean Energy products in 2021 and almost 80% supplied imports greater than $1 Million.

- **Indiana ($41.4 million), Pennsylvania ($39.1 million), Texas ($33.9 million), and North Carolina ($29.7 million) were the four largest suppliers to Maine's markets**. These states supplied Maine with over $144 million each of Clean Energy products in 2021, or nearly 30% of out-of-state imports from this sector.
- **Other Engine Equipment and HVAC Equipment made up nearly 60% of Clean Energy commodities that Maine imports**. Along with other Clean Energy equipment components, the other commodities being imported included wiring devices, batteries, cables and turbines.
- **The import value of Clean Energy products decreased slightly at a compound annual growth rate of -0.3% from 2011-2021**. Imports of Turbine Generator Set Units products have contributed the most to this decline. Imports of this product have declined by over $59 million in ten years (-12% annually), from over $80 million to just $22.8 million in 2021.

DATA NOTE: Figures on this page are from IMPLAN's Data Library and may not match other data in this report. IMPLAN domestic trade flows data covers commodities, or the products and services that are produced by a sector. This differs from other data in this report, which covers NAICS industries. Industries often produce more than one commodity.

DEMAND & IMPORTS

TOTAL DEMAND (2022)
Maine: $2.1 Billion
United States: $559.6 Billion

MET BY IMPORTS (2022)
Maine: $767 Million
United States: NA

FOREIGN IMPORTS (2022)
Maine: $82.6 Million
United States: $132.6 Billion

Source: Lightcast, US Census Bureau

- The Clean Energy sector had a total demand of $2.1 billion in 2022, of which 36% ($767 million) was met by out of state sources.
- According to US Census data, the foreign import value of the sector to Maine was $82.6 million.
- Foreign imports accounted for 10.8% of all demand met by foreign imports, meaning that 89.8% of imported demand was met by domestic sources.

Total Demand for Clean Energy In Maine, 2022

Source: Lightcast

Foreign Imports by Value for Maine Clean Energy Sector, 2022

NAICS	Commodity	Total Imports Value ($US)	Foreign Share of Total Imports	Industry Share of Total Foreign Imports
3336	Engines, Turbines, and Power Transmsn Equip	36,199,856	4.7%	0.4%
3359	Electrical Equipment & Components, Not Elsewhere Specified	24,474,066	3.2%	0.3%
3334	HVAC & Commercial Refrigeration Equipment	21,917,457	2.9%	0.3%
	Total	**82,591,379**	**10.8%**	**1.0%**

Source: US Census Bureau

DATA NOTE: Figures on this page are from IMPLAN's Data Library and may not match other data in this report. IMPLAN domestic trade flows data covers commodities, or the products and services that are produced by a sector. This differs from other data in this report, which covers NAICS industries. Industries often produce more than one commodity.

Industry Sales and Exports

Where is Maine's Clean Energy sector selling to?

IN-REGION SALES INDUSTRIES

Top 25 Sectors the Clean Energy Industry Sells To, 2022

NAICS	Sales to	Total In-Region Sales	Total In-Region Sales, %
902999	State Government, Excluding Education and Hospitals	$55,830,311	14.8%
903999	Local Government, Excluding Education and Hospitals	$51,602,893	13.7%
903611	Elementary and Secondary Schools (Local Government)	$40,808,958	10.8%
531110	Lessors of Residential Buildings and Dwellings	$15,576,423	4.1%
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	$13,832,106	3.7%
901199	Federal Government, Civilian, Excluding Postal Service	$12,372,976	3.3%
531210	Offices of Real Estate Agents and Brokers	$11,492,015	3.1%
902612	Colleges, Universities, and Professional Schools (State Government)	$11,223,132	3.0%
531390	Other Activities Related to Real Estate	$6,837,737	1.8%
531190	Lessors of Other Real Estate Property	$5,773,238	1.5%
221122	**Electric Power Distribution**	$5,596,961	1.5%
531311	Residential Property Managers	$5,542,001	1.5%
901200	Federal Government, Military	$4,821,000	1.3%
321113	Sawmills	$4,263,188	1.1%
531130	Lessors of Miniwarehouses and Self-Storage Units	$3,424,356	0.9%
322121	Paper (except Newsprint) Mills	$3,325,828	0.9%
447110	Gasoline Stations with Convenience Stores	$3,184,012	0.8%
333611	**Turbine and Turbine Generator Set Units Manufacturing**	$3,151,945	0.8%
622110	General Medical and Surgical Hospitals	$3,088,364	0.8%
902622	Hospitals (State Government)	$3,000,959	0.8%
722511	Full-Service Restaurants	$2,998,384	0.8%
722513	Limited-Service Restaurants	$2,900,595	0.8%
238220	**Plumbing, Heating, and Air-Conditioning Contractors**	$2,801,993	0.7%
551114	Corporate, Subsidiary, and Regional Managing Offices	$2,793,011	0.7%
445110	Supermarkets and Other Grocery (except Convenience) Stores	$2,706,074	0.7%

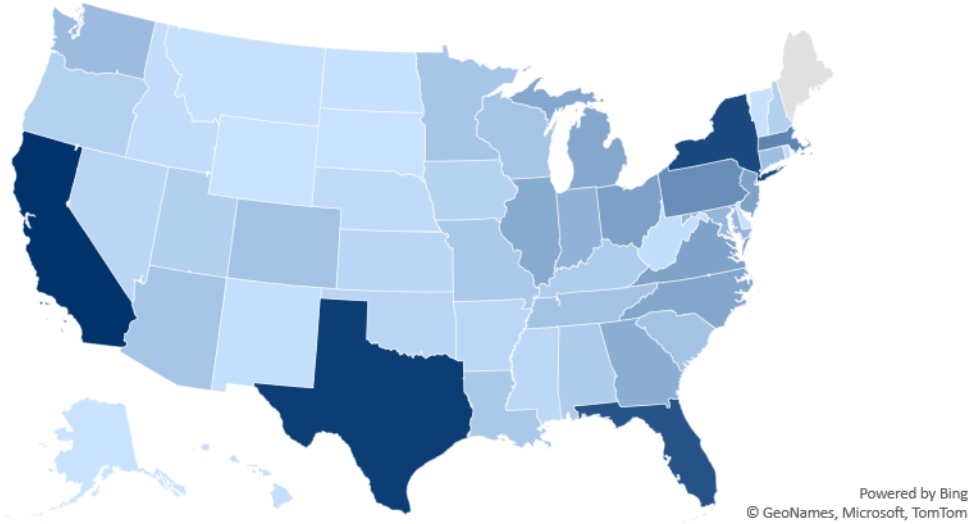
Source: Lightcast

- **Governmental entities are the primary consumer of Clean Energy products and services.** The top three in-region industries buying Clean Energy products and services are local or state government industries. These make up nearly 40% of the total sales in 2022. The federal government and institutions of higher education are also among the top 10 in-region sales industries.
- **Real Estate services are a second key market**. Real estate-related services make up a total 16.6% of sales.
- **Maine's Clean Energy sector relies on intra-industry supply linkages.** Electric Power Distribution, Turbine and Turbine Generator Set Units Manufacturing, and Plumbing, Heating, and Air-Conditioning Contractors are all among the top 25 industries that the Clean Energy sector sells to within Maine.

DATA NOTE:
The sales in this table do not add up to total in-region sales because it only captures sales to other industries, and not other entities like consumers. The Percent of Total In-Region Sector Sales shows the portion of sales to a given industry as it relates to total sales to *all industries*, not total in-region sales including sales to consumers.

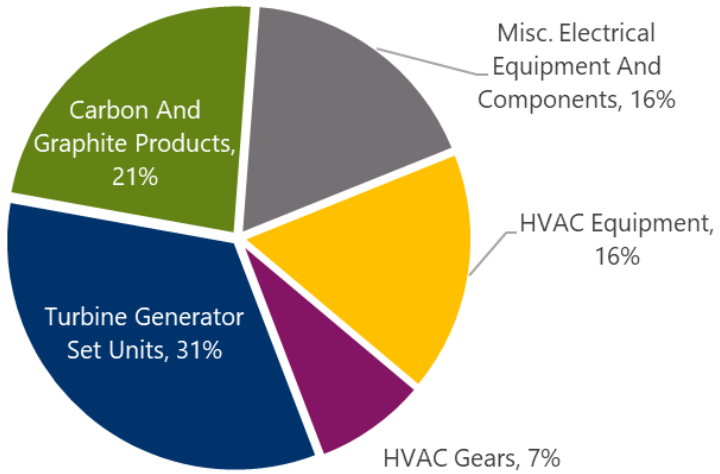
DOMESTIC EXPORTS – CLEAN ENERGY PRODUCTS

Out-of-State Buyers of Clean Energy products from Maine (2021)



Source: IMPLAN Data Library

Export Summary for Clean Energy Products (2021)



Source: IMPLAN Data Library

Maine exported Clean Energy products to every state in 2021.

- **California, Texas, and New York were the largest buyers of Maine's Clean Energy products in 2021, each buying over $10 million in exports.**
- **Maine's Clean Energy exports were evenly distributed throughout the rest of the US.** Nearly three-out-of-four states (73%) bought over $1 million of exports.
- **Turbine Generator Set Units was the largest export,** accounting for 31% of total exports. California was the largest buyer of these products.
- **Carbon and Graphite Products** was the next largest export and accounted for a significant portion of Maine's Clean Energy export trade.
- Exports of Clean Energy commodities **decreased at an annual rate of -5.4% from 2011-2021.** The commodities primarily causing this decrease were Turbine Generator Set Units and HVAC Equipment which together saw their trade volume decrease by almost $140 million since 2011.

DATA NOTE: Figures on this page are from IMPLAN's Data Library and may not match other data in this report. IMPLAN domestic trade flows data covers commodities, or the products and services that are produced by a sector. This differs from other data in this report, which covers NAICS industries. Industries often produce more than one commodity.

SALES & EXPORTS

TOTAL SALES (2022)
Maine: $2.3 Billion
United States: $606 Billion

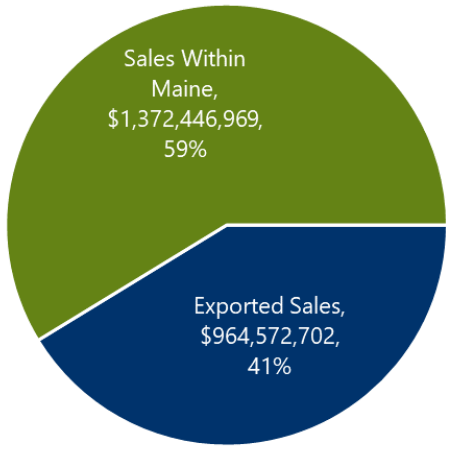
EXPORTED SALES (2022)
Maine: $964 Million
United States: N/A

FOREIGN EXPORTS (2022)
Maine: $89.3 Million
United States: $120.4 Billion

Source: Lightcast, US Census Bureau

- Clean Energy in Maine had total sales of $2.3 billion in 2022, of which 41.3% were exported out of state ($964 million).
- Foreign exports were valued at $50.3 million in 2022 based on US Census data, leading to foreign export value of 1.5% of total exported sales. Therefore, domestic exports accounted for an estimated 98.5% of all sector exports.
- Top exports in Maine's Clean Energy sector are displayed in the table below. The top foreign export was Engines, Turbines & Power Transmission Equipment at $33.5 million in 2022, accounting for 1.0% of total exports for the sector.

Total Clean Energy Sales in Maine, 2022



Source: Lightcast

Foreign Exports by Value for Maine Clean Energy Sector, 2022

NAICS	Commodity	Total Exports Value ($US)	Foreign Share of Total Exports	Industry Share of Total Foreign Exports
3336	Engines, Turbines, and Power Transmsn Equip	33,491,206	1.0%	1.0%
3359	Electrical Equipment & Components, Not Elsewhere Specified	12,683,828	0.4%	0.4%
3334	HVAC & Commercial Refrigeration Equipment	4,091,802	0.1%	0.1%
	Total	**50,266,836**	**1.6%**	**1.5%**

Source: US Census Bureau

EMERGING TRENDS

Clean Energy investments play a key role in recent federal and state policy

Major recent policy initiatives such as the federal Bipartisan Infrastructure Law (BIL), Inflation Reduction Act (IRA), The Maine Jobs and Recovery Plan[1] (MJRP), and others put a focus on energy efficiency and clean energy expansion. These initiatives span from commercial and industrial decarbonization, residential energy efficiency and weatherization, expansion of electric vehicle infrastructure, and more.

In Maine, emerging opportunities for clean energy are abundant, and include efforts such as:

- Expansion of electric vehicle infrastructure
- Industrial decarbonization
- Modernization of the electrical grid
- Residential and commercial weatherization
- Distributed generation of electricity
- Clean energy workforce development and planning
- Expansion of onshore and offshore wind power generation
- Expansion of solar power generation
- Expansion of biofuels and biomass
- Expansion of tidal power generation

These investments create opportunities across all industries. Job creation, new business opportunities, and domestic trade activity stemming from reduced reliance on fossil fuels are key objectives of these policy initiatives. In particular, industries like construction and trades, manufacturing, and professional services will see major impacts related to commercial and industrial decarbonization efforts.

1: The MJRP is funded by the American Rescue Plan.

ONGOING STATE EFFORTS

Major policy drivers

Maine Jobs and Recovery Plan (MJRP)
The MJRP invests nearly $1 billion in federal American Rescue Plan funds throughout the state. Among other initiatives, a key component of the MJRP is longer-term investment in the state's infrastructure, including energy efficiency and clean energy.

Maine Climate Action Plan – Maine Won't Wait
Maine's Climate Action Plan is regarded as the best sustainability plan in the country, according to the American Planning Association. The plan's 2022 progress report notes that Maine is currently at 48% clean energy use, with a goal of 80% by 2030. The state also has over 14,000 clean energy jobs, nearly halfway to the goal of 30,000. Other notable clean energy gains include the installation of over 82,000 new heat pumps and the weatherization of over 9,000 homes since 2019.

Maine Offshore Wind Roadmap
This stakeholder-driven comprehensive plan lays the groundwork for Maine's strategy for realizing the benefits of offshore wind. Its objectives are organized around supporting economic growth and resiliency, harnessing renewable energy, advancing Maine-based innovation, supporting Maine's seafood industry, and protecting the Gulf of Maine ecosystem.

Clean Energy Partnership
As part of the MJRP, the Clean Energy Partnership is a public-private partnership that convenes leading experts to address emerging needs, build new and expand existing supply chains, and support opportunities for Maine in fast-growing clean energy fields. It was established to advanced Maine's clean energy, climate, economic development, and workforce goals.

Federal Bipartisan Infrastructure Bill (BIL) Implementation Committee
The Federal Bipartisan Infrastructure Bill provides 375 funding opportunities across various project categories, including transportation, climate resistance, and clean energy. Maine's implementation will prioritize strategic alignment with the state's existing Climate Action Plan (Maine Won't Wait), MaineDOT's Workplan, and Maine's 10-Year Economic Strategy.

Other related ongoing climate work:

Distributed Generation Stakeholder Group
Distributed Generation is the term used to describe electricity that is generated from sources close to the point of use instead of centralized generation from power plants, commonly used for renewable energy such as Solar. This stakeholder group will issue recommendations that support development of renewable energy in Maine through cost-effective distributed generation.

Grid Planning Stakeholder Process
This stakeholder group is focused on planning and modernization of Maine's power grid in an effort to address challenges posed by the state's aging infrastructure and create a more resilient, modern, clean, and affordable grid.

Clean Transportation Roadmap
The Clean Transportation Roadmap is focused on reducing emissions from transportation in Maine, which is the source of more than half of all greenhouse gas emissions in the state. Recommendations included enhancing the EV market, expanding charging infrastructure, evaluating effects on electric utilities and the grid, and ensuring an equitable and affordable transition to clean transportation throughout the state.

Community Resilience Partnership
This initiative works to help Maine municipal and tribal governments and unorganized territories reduce carbon emissions, transition to clean energy, and become more resilient to climate change effects.

RECENT INVESTMENTS

MJRP Expansion of Electric Vehicle Charging Network
The Maine Department of Transportation and the Efficiency Maine Trust were allocated $8 million through the Maine Jobs and Recovery Plan to support the continued expansion of electric vehicle charging stations at town buildings, school buildings, State facilities, and public locations.

MJRP Energy Efficiency Programs
The MJRP allocates $50 million to energy efficiency upgrades and home weatherization initiatives throughout the state via the Efficiency Maine Trust. $25 million is allocated to residential weatherization, while the remaining $25 million is allocated to municipal, county, and school buildings, along with small businesses, community organizations, and industrial buildings.

MJRP Clean Energy Partnership
The Clean Energy Partnership is a workforce initiative that focuses on preparing Mainers for jobs in clean energy and energy efficiency fields, providing avenues for business support, advancing innovation in the clean energy sector, and achieving Maine's goal of 30,000 clean energy jobs in Maine by 2030. This initiative was allocated $8 million total to the Governor's Energy Office and Maine Department of Labor through the Maine Jobs and Recovery Plan.

Community Resilience Partnership Grants
Through the Community Resilience Partnership, $2.9 million in grants will be awarded to support 91 Maine Cities, towns, and tribal governments to reduce carbon emissions, transition to clean energy, and increase resilience to the effects of climate change.

Federal Bipartisan Infrastructure Bill
The Federal Bipartisan Infrastructure bill contributes an estimated $2.5 billion of funding to Maine for a multitude of purposes. This includes an expected $19 million to expand EV charging infrastructure, $29.9 billion for the new Department of Transportation Carbon Reduction Program, $31 million for weatherization, and $18 million for other energy-related programs.

Rural Energy for America Program (REAP)
This program, administered by the US Department of Agriculture, provides guaranteed loan and grant financing to agriculture producers and rural small businesses for renewable energy systems, to make energy efficient improvements, and for producers to apply for new energy efficient equipment.

OTHER RESOURCES

Clean Energy Partnership (CEP)
The CEP was established to advance the State's clean energy, climate, economic development, and workforce goals. It is a public-private partnership that will convene leading experts to "sustain attention and promote collaboration to address emerging needs, build new and expand existing supply chains, and support opportunities for Maine in these fast-growing fields."

ClimateWork Maine
ClimateWork is an organization that offers information and support to small and medium businesses in Maine to help them better understand the effects of climate change, plan for the future, and be part of the solution.

Efficiency Maine
The Efficiency Maine Trust (Efficiency Maine) is the independent, quasi-state agency established to plan and implement energy efficiency programs in Maine. Through its suite of nationally recognized programs, Efficiency Maine provides consumer information, marketing support, demonstration pilots, discounts, rebates, loans, and other initiatives to promote high-efficiency equipment and operations that help Maine's homes, businesses, and institutions reduce their energy costs and lower their greenhouse gas emissions. Efficiency Maine serves residential, commercial, industrial, and institutional clients, and offers financing for energy projects through the Efficiency Maine Green Bank.

Environmental and Energy Technology Council of Maine (E2Tech)
E2Tech is a member-based organization comprised of individuals, businesses, and organizations that seek to build Maine's environmental and energy technology economy, including renewable energy companies, environmental engineers, emerging entrepreneurs, innovators and designers, as well as government agencies, educational institutions, non-profit organizations, and businesses that see the economic promise of Cleantech for Maine.

Maine Governor's Energy Office
The Governor's Energy Office develops policies and programs to advance energy solutions for Maine. It serves as Maine's foremost source for research and data relating to Maine's energy production, consumption, workforce, and energy-related initiatives.

Maine Renewable Energy Association
The Maine Renewable Energy Association (MREA) is a not-for-profit association of renewable energy producers, suppliers of goods and services to those producers, and other supporters of this industry. Its power producer members sustainably manufacture electricity from solar, wind, hydro and tidal. MREA represents the renewable power industry at the State Legislature and before the Maine Public Utilities Commission.

TRADE SHOWS & MEETINGS

Trade shows and resources included in this report have been vetted by industry professionals and trade show specialists.

GLOBAL ENERGY SHOW EXHIBITION & CONFERENCE

As North America's Leading Energy Event, the Global Energy Show is the largest B2B exhibition and conference engaging with industry buyers and sellers, stakeholders and partners, CEOs, and young professionals together to share knowledge and fuel innovation in the ever-changing energy landscape. Together at the Global Energy Show in 2023, energy professionals will come together to lead the path of meeting energy demand, discussing energy transition, showcasing technology and innovation, and discovering the role of all energy sources in the greater energy system.

SOLAR 2023 (52ND ANNUAL NATIONAL SOLAR CONFERENCE)

For more than five decades, ASES has organized and delivered the National Solar Conference. What began as an idea to bring the industry's brightest together to drive progress and re-imagine the energy economy of the future continues today as a unique blending of science, business, policy and industry. While it is now one of many annual conferences in the field, the National Solar Conference remains unique in its delivery of cutting-edge research, trends and analysis, the likes of which continue to affect the solar energy landscape in the U.S.

THE ENERGY EXPO

The Energy Expo (5th edition) in Miami, Florida, comes as an in-person physical tradeshow to serve your energy clean needs, in the proper place, at the proper time. Equipment, technologies, products, and education will be presented for the SOLAR, ENERGY STORAGE, EV CHARGING, CLEAN ENERGY, ENERGY SAVING & SMART TECH industries. It is the only tradeshow and conference in the western hemisphere serving United States PLUS Latin American / Caribbean markets (comprised by more of 45 countries). It works to CONNECT Manufacturers & Distributors with Buyers, Professionals, Dealers, Municipalities, Contractors, Installers and Potential Reps. from the served markets.

CLEANPOWER CONFERENCE & EXHIBITION

CLEANPOWER unites the most knowledgeable minds in clean energy to chart the future of this powerful industry and discuss the opportunities ahead. As previous attendees attest, the conference grows clean energy businesses by gathering key decision makers and stakeholders across the wind, solar, storage, hydrogen, and transmission industries for discussion, deal making, networking and fun. CLEANPOWER's mission is to not only bring together the different technologies that make up the renewables mix; onshore wind, offshore wind, solar, storage, and transmission, but also the different segments within the industries; manufacturers, construction firms, owner operators, utilities, financial firms, corporate buyers, and more.

TRADE SHOWS & MEETINGS

RE+

Industry leaders SEIA (Solar Energy Industries Association) and SEPA (Smart Electric Power Alliance) produce RE+ (formerly Solar Power International, Energy Storage International, and Smart Energy Week). RE+ is the evolution of SPI, ESI, and Smart Energy Week. RE+ reflects an ongoing entrepreneurial approach to renew best practices across the clean energy landscape as the marketplace evolves. Registration to RE+ gives you access to solar, energy storage, hydrogen, EV infrastructure, grid edge technology, and wind power education sessions and exhibiting companies, along with multiple days packed with networking events.

GLOBAL ENERGY TRANSITION 2023

As one of Reuters flagship events, Global Energy Transition 2023 is a multifunctional platform carefully designed for the global energy executive community, providing you with a comprehensive, multi-layered experience. Over two days, executives will have a unique opportunity to establish benchmarks, break news and strategize meaningful models to deliver the transition. Alongside a 750+ congress, the event will offer a series of executive receptions and networking functions, in-depth roundtable and workshop sessions, and an exclusive net zero showcase and innovation zone.

POWERGEN INTERNATIONAL

POWERGEN International® is the largest networking and business hub for electricity generators and solution providers engaged in power generation. Power producers, utilities, EPCs, consultants, OEMs, and large-scale energy users gather at POWERGEN International® to discover new solutions as large centralized power generation business models evolve into cleaner and more sustainable energy sources. POWERGEN creates a progressive environment for our core audience looking to evolve while attracting new energy professionals embracing the clean movement towards Destination 2050.

INTERSOLAR NORTH AMERICA AND ENERGY STORAGE NORTH AMERICA

Intersolar North America and Energy Storage North America highlights the latest energy technologies, services, companies, and organizations striving to create positive impacts on climate change and support our planet's transition into a more sustainable energy future. It focuses on photovoltaics, solar thermal technology, and solar architecture. Exhibitors include PV cell, module and inverter manufacturers, components and mounting systems suppliers, manufacturing system suppliers, service companies, and manufacturers of solar thermal applications including heating and cooling.

OFFSHORE WINDPOWER CONFERENCE & EXHIBITION

Offshore wind is an abundant clean energy solution for large population centers looking to source more of their power from clean sources, and falling costs make it increasingly economical. Offshore wind is a once-in-a-generation opportunity, and its momentum forward continues leading into ACP's Offshore Wind power Conference & Exhibition this fall. The event has cultivated a dedicated and thriving global community of top developers and experts. As more steel goes in the water, this event will only continue to grow in value and scope.

APPENDIX

Sectors Included in the Clean Energy Sector

NAICS	Description
Power Generation	
221111	Hydroelectric Power Generation
221114	Solar Electric Power Generation
221115	Wind Electric Power Generation
221116	Geothermal Electric Power Generation
221117	Biomass Electric Power Generation
221118	Other Electric Power Generation
Clean Energy Infrastructure	
237130	Power and Communication Line and Related Structures Construction
238220	Plumbing, Heating, and Air-Conditioning Contractors
Clean Energy Equipment Manufacturing	
333415	Air-Conditioning and Warm Air Heating Equipment and
333611	Turbine and Turbine Generator Set Units Manufacturing
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing
333613	Mechanical Power Transmission Equipment Manufacturing
333618	Other Engine Equipment Manufacturing
335911	Storage Battery Manufacturing
335912	Primary Battery Manufacturing
335921	Fiber Optic Cable Manufacturing
335929	Other Communication and Energy Wire Manufacturing
335931	Current-Carrying Wiring Device Manufacturing
335932	Noncurrent-Carrying Wiring Device Manufacturing
335991	Carbon and Graphite Product Manufacturing
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing
Clean Energy Wholesalers	
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers

APPENDIX

Summary Metrics for the Clean Energy Sector

NAICS	Description	Jobs 2017	Jobs 2022	Jobs Change 2017-2022	Jobs Change % 2017-2022	Avg. Earnings Per Job 2022	Location Quotient 2022	Competitive Effect 2017-2022	Payrolled Business Locations 2022	Total Demand 2022	Demand met by Imports 2022	Total Sales 2022	GRP 2022	GRP per Job
Power Generation		364	336	(28)	-8%	$123,080	2.66	(93)	41	$153,200,395	$57,219,051	$340,326,550	$199,639,946	$594,101
221111	Hydroelectric Power Generation	138	176	38	+28%	$117,906	5.48	20	19	$44,240,487	$4,712,391	$172,915,298	$101,735,770	$576,485
221114	Solar Electric Power Generation	-	19	-	-	$174,192	0.57	17	4	$37,668,214	$19,806,547	$24,666,928	$14,447,692	$777,369
221115	Wind Electric Power Generation	53	30	(23)	-44%	$131,968	0.88	(39)	10	$36,449,869	$18,028,462	$36,225,820	$21,272,618	$715,335
221116	Geothermal Electric Power Generation	-	-	-	-	-	-	-	-	$5,539,008	$5,539,008	-	-	-
221117	Biomass Electric Power Generation	168	99	(69)	-41%	$118,077	11.29	(92)	7	$9,202,017	$1,824,781	$88,732,772	$51,780,544	$523,791
221118	Other Electric Power Generation	6	12	7	+116%	$138,694	0.90	1	1	$20,100,799	$7,307,864	$17,785,733	$10,403,322	$840,304
Clean Energy Infrastructure		6,898	8,891	1,993	+29%	$67,149	1.18	1,211	837	1,315,147,358	157,963,784	1,451,794,453	715,293,573	$80,452
237130	Power and Communication Line and Related Structures Construction	664	1,485	822	+124%	$81,053	1.22	676	78	$259,175,358	$49,933,739	$298,827,687	$146,358,240	$98,540
238220	Plumbing, Heating, and Air-Conditioning Contractors	6,234	7,406	1,172	+19%	$64,361	1.18	535	760	$1,055,972,001	$108,030,045	$1,152,966,766	$568,935,332	$76,825
Clean Energy Equipment Manufacturing		688	675	(13)	-2%	$93,379	0.47	126	13	438,562,786	414,245,949	279,863,302	120,735,542	$178,841
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	140	99	(42)	-30%	$65,680	0.24	(52)	3	$123,328,962	$118,678,348	$31,826,567	$13,639,346	$138,124
333611	Turbine and Turbine Generator Set Units Manufacturing	484	270	(214)	-44%	$101,714	3.39	(62)	2	$30,425,412	$21,945,757	$130,246,254	$52,373,135	$193,916
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	1	40	39	+7,539%	$79,942	0.84	39	1	$6,660,704	$5,506,649	$11,906,972	$5,779,362	$145,252
333613	Mechanical Power Transmission Equipment Manufacturing	-	-	-	-	-	-	-	-	$16,464,373	$16,362,517	$205,086	$106,339	-
333618	Other Engine Equipment Manufacturing	-	-	-	-	-	-	-	-	$72,167,966	$72,167,966	-	-	-
335911	Storage Battery Manufacturing	-	-	-	-	-	-	-	-	$61,085,634	$61,085,634	-	-	-
335912	Primary Battery Manufacturing	-	-	-	-	-	-	-	-	$7,149,894	$7,149,894	-	-	-
335921	Fiber Optic Cable Manufacturing	-	-	-	-	-	-	-	-	$20,708,414	$20,708,414	-	-	-
335929	Other Communication and Energy Wire Manufacturing	2	12	10	+599%	$78,999	0.23	10	1	$17,468,163	$16,911,558	$6,509,944	$2,124,300	$177,161
335931	Current-Carrying Wiring Device Manufacturing	13	20	6	+46%	$105,065	0.16	8	1	$27,308,779	$26,306,740	$6,291,946	$3,618,307	$185,478
335932	Noncurrent-Carrying Wiring Device Manufacturing	-	-	-	-	-	-	-	-	$9,466,727	$9,466,727	-	-	-
335991	Carbon and Graphite Product Manufacturing	46	127	81	+176%	$86,695	3.42	77	2	$8,825,887	$5,320,127	$52,327,365	$26,036,302	$204,258
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	2	108	105	+4,603%	$109,178	0.78	105	3	$37,501,871	$32,635,618	$40,549,168	$17,058,451	$158,660
Clean Energy Wholesalers		702	892	191	+27%	$87,017	1.08	85	100	$229,077,336	$138,054,303	$265,035,365	$147,753,247	$165,577
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	475	570	95	+20%	$77,025	1.14	31	54	$129,970,565	$78,027,121	$150,094,144	$83,703,452	$146,786
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	226	322	96	+42%	$104,707	0.97	55	47	$99,106,771	$60,027,182	$114,941,221	$64,049,795	$198,844
	Total for Maine	**8,652**	**10,794**	**2,142**	**+25%**	**$72,163**	**1.09**	**1,329**	**992**	**2,135,987,876**	**767,483,088**	**2,337,019,669**	**1,183,422,308**	**$109,633**
	Total for United States	**2,071,505**	**2,303,263**	**231,758**	**+11%**	**$85,069**	**-**	**-**	**152,768**	**559,605,727,432**	**-**	**606,371,530,904**	**294,340,829,629**	**$127,793**

Source: Lightcast

GLOSSARY

Competitive Effect: Competitive effect indicates how much of the job change within a given region is the result of some unique competitive advantage of the region. This is because the competitive effect, by definition, measures the job change that occurs within a regional industry that cannot be explained by broader trends (i.e. the National Growth Effect and the Industrial Mix Effect). It's important to note that this effect can be positive even if regional employment is declining. This would indicate that regional employment is declining *less* than national employment.

Demand: Regional sales demand for sales of Industry

Earnings: Industry earnings are the total industry wages, salaries, supplements, and proprietor income in the region, divided by the number of jobs in the region.

Exports: The amount of money that is spent by industries located outside the region in exchange for goods or services produced by an industry located in the region. Exports can be either foreign or domestic.

Gross Regional Product (GRP): Gross Regional Product (GRP) is simply GDP (Gross Domestic Product) for the region of study. More commonly, GRP is GDP for any region smaller than the United States, such as a state or metro. GRP measures the final market value of all goods and services produced in the region of study. GRP is the sum of total industry earnings, taxes on production & imports, and profits, less subsidies

Jobs: A job is any position in which a worker provides labor in exchange for monetary compensation. This includes those who work as employees for businesses (a.k.a. "wage and salary" employees) and proprietors who work for themselves. Lightcast reports employment as annual averages. Employment averages represent jobs, not workers, since one individual may hold multiple jobs. Due to limitations of source data, both full- and part-time jobs are included and counted equally, i.e., job counts are not adjusted to full-time equivalents. Geographically, payroll jobs are always reported by the place of work rather than the worker's place of residence.

Location quotient: Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region "unique." For example, if the leather products Construction industry accounts for 10% of jobs in your area but 1% of jobs nationally, then the area's leather-producing industry has an LQ of 10. So, in your area, leather Construction accounts for a larger than average "share" of total jobs—the share is ten times larger than normal.

Payrolled Business Locations: Also referred to as a "Establishments", is a single physical location of some type of economic activity (a business), used for reporting purposes in government data sources. A single company may have multiple establishments.

Source: Lightcast Knowledge Base, IBIS World

DATA SOURCES

Lightcast (formerly Emsi Burning Glass) is a global leader in labor market analytics, offering a data platform that gives a comprehensive, nuanced, and up-to-date picture of labor markets at all scales from national to local. Key components of the platform include traditional labor market information, job postings analytics, talent profile data, compensation data, and skills analytics. Lightcast integrates government data with information from online job postings, talent profiles, and resumes to produce timely intelligence on the state of the labor market. Job and compensation data is available by industry, occupation, educational program, and skill type. Click to learn more.

TradeStats Express (TSE) National and State Dashboards present data on US exports and imports by trade partner and product for 2009 forward. Data are presented using two classification systems: the Harmonized System (HS) and the North American Industrial Classification System (NAICS). National trade statistics in TSE cover the physical movement of merchandise between the United States and foreign regions. State trade statistics cover the physical movement of merchandise between a given state and foreign regions. Click to learn more.

IBISWorld is a leading provider of expert industry research and analysis for broad sectors and niche industries across the economy. Thoroughly researched industry reports from IBISWorld leverage economic, demographic, and market data into forward-looking insight, providing detailed data and narrative on current and historic trends, as well as future outlook and projections. Topics covered include products and services, major markets, upstream and downstream supply chain industries, performance drivers, factors for competitiveness, operating conditions, major players, and key statistics on industry performance. Reports are available by industry at the global, national, and state level. Click to learn more.

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