



## Energy & Sustainability

Maryland’s natural gas, electricity and nuclear power companies are joined by solar, wind, geothermal and biomass enterprises with a shared vision toward the state’s “smart, green and growing” energy future. The state receives electric power via North America’s largest power pool, the PJM Interconnection. Calvert Cliffs Nuclear Power plant, in operation since 1975, supplies all of Maryland’s nuclear power and accounts for more than 30 percent of total electric generation. Further, Maryland’s Renewable Portfolio Standard (RPS) was recently increased to require 50 percent renewable sources by 2030. The state’s 1,300 energy and sustainability businesses generate \$9.05 billion in gross state product.

### Major Energy & Sustainability Employers in Maryland

Employer	Employment	Product / Service
Exelon	5,200	Energy services
Washington Suburban Sanitary Commission	1,580	Water and wastewater services
W.R. Grace & Company	1,100	Petroleum refining technologies
SolarCity	1,000	Solar energy contractor
Johnson, Mirmiran & Thompson (JMT)	600	Environmental planning and engineering services
Rummel Klepper & Kahl (RK&K)	550	Water and wastewater services
Siemens	500	Environmental controls
Southern Maryland Electric Cooperative (SMECO)	460	Energy products and services
Washington Gas	400	Natural gas distribution
Waste Management	370	Waste treatment and disposal
KCI Technologies	325	Environmental planning and engineering services
NRG	185	Energy services

Note: Numbers are rounded.

Source: Maryland Department of Commerce, July 2017.

### Selected Rankings

- Maryland ranks 10th among the states in the square footage of LEED-certified commercial and institutional green buildings per capita for 2018.
- Maryland ranks seventh in the 2019 State Energy Efficiency Scorecard compiled by the American Council for an Energy-Efficient Economy. The report ranks states on the adoption and implementation of energy efficient policies which reduce energy costs, spur job growth, and benefit the environment. Furthermore, Maryland is the most improved state in the 2019 report.
- According to the Gridwise Alliance, Maryland places third in the 2018 Grid Modernization Index, which ranks states on the degree to which they are moving toward a modernized electric grid. The index evaluates grid operations, state support and customer engagement.
- Maryland ranks third per capita and fourth overall in Small Business Innovation Research Program (SBIR) awards for 2018. Small businesses in Maryland received \$132.6 million from the U.S. Small Business Administration through the highly competitive SBIR Program.

### Industry Snapshot – Energy & Sustainability in Maryland

- Employment (2018) – 27,540 private sector jobs (36,710 including public sector)  
Leading subsectors:
  - Waste management and remediation – 10,330 jobs

- Electric and gas power generation, transmission and distribution – 9,400 jobs
- Administration of environmental quality programs – 4,320 jobs
- Power and communication line construction – 3,740 jobs
- Business establishments (2018) – 1,300
- Total wages (2018) – \$3.19 billion
- Average salary (2018) – \$86,830
- Gross state product (2017) – \$9.05 billion
- Federal procurement (FY2018) – \$380 million

Sources: Maryland Department of Labor; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

## Employment by Occupation

### Maryland Employment – May 2018

Selected Occupations	Employment	Location Quotient*	
		Index	Rank
Atmospheric and space scientists	500	2.90	6
Biochemists and biophysicists	970	1.83	5
Cartographers and photogrammetrists	450	2.22	10
Computer network support specialists	8,130	2.42	1
Computer programmers	4,790	1.12	15
Computer systems analysts	18,340	1.68	2
Electrical and electronic engineering technicians	3,380	1.44	8
Electrical engineers	4,550	1.38	8
Electronics engineers, except computer	4,760	1.68	6
Environmental engineering technicians	560	1.74	6
Environmental engineers	1,540	1.56	6
Environmental scientists and specialists, including health	2,560	1.71	7
Geoscientists, except hydrologists and geographers	600	1.10	15
Marine engineers and naval architects	500	2.38	2
Materials engineers	920	1.85	5
Mechanical engineers	5,670	1.01	16
Microbiologists	1,820	4.91	1

\* Location Quotient index indicates concentration of the occupation in Maryland, with national average equal to 1.0. Rank indicates Maryland's rank among the 50 states.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

## Assets & Resources

- **Maryland Clean Energy Center** – Advances clean energy and energy efficiency products, services, and technologies. [mdcleanenergy.org](http://mdcleanenergy.org)
- **Maryland Clean Energy Technology Incubator @ bwtech** - Designed for early-stage companies working with clean energy, as well as energy management and storage technologies. A joint venture with the Maryland Clean Energy Center, the incubator is the first in a planned statewide network of clean energy incubators.
- **University of Maryland Center for Environmental Sciences (UMCES)** – The premier research and educational institute working to understand and manage the world's natural resources. With locations strategically placed between the mountains and sea, UMCES research laboratories provide scientists direct access to Maryland's diverse natural ecosystems.

- **University of Maryland Energy Research Center** – Focuses on energy science and technology with a special focus on alternative energy generation and storage.
- **Maryland Energy Innovation Institute** - Catalyzing energy research and innovation to develop commercially viable energy technologies and spin-offs. [energy.umd.edu](http://energy.umd.edu)
- **University of Maryland College Park** – Other research assets include the Center for Environmental Energy Engineering, the Center for Energetic Concepts Development, and the Harry R. Hughes Center for Agro-Ecology, Inc.

## New & Expanding Businesses

- **Orsted U.S. Offshore Wind** (Baltimore County) – In partnership with Tradepoint Atlantic, Orsted will invest \$13.2 million to develop a 50 acre staging center for offshore wind energy, with future plans to develop a 15-turbine, 120-megawatt wind farm called Skipjack off the coast of Maryland.
- **BTS Bioenergy** (Howard County) – Bioenergy company will invest \$40 million in a North American headquarters and two bio-digestion recycling plants that will allow residual fruit and vegetable scraps to be fermented into methane for energy needs. A total of 20 jobs will be created.
- **Logistec** (Baltimore City) – The new Sanexen Water Technology Center in Baltimore, a collaboration between Canadian-based Logistec and the state of Maryland, supports water infrastructure through new cutting edge technology.
- **Oceaneering International Technologies** (Anne Arundel County) – Subsea engineering and applied technology company based in Houston has expanded into a 74,600-square-foot building in Hanover.

## Programs & Incentives

- **Maryland Small Business Development Financing Authority** – Assists small businesses that are unable to qualify for business financing through normal financing channels, including businesses owned by economically and socially disadvantaged entrepreneurs.
- **Maryland Industrial Partnerships** – Accelerates commercialization of technology by jointly funding collaborative R&D projects between companies and University System of Maryland faculty.
- **Enterprise Zone Tax Credit** – Real property and state income tax credits for businesses locating in zones making capital investments and creating new jobs.
- **Research & Development Tax Credit** – Credit for R&D expenses for certified businesses.
- **Maryland Energy Administration** – Manages grants, loans, rebates, and tax incentives designed to help attain Maryland's goals in energy reduction, renewable energy, climate action, and green jobs.
- **Maryland Technology Development Corporation (TEDCO)** – Facilitates technology transfer from academic and federal labs into the private sector with seed funding, technical assistance and entrepreneurial support programs.
- **Maryland Venture Fund (TEDCO)** – State funded seed and early-stage equity fund.
- **Maryland Innovation Initiative (TEDCO)** – Funds tech transfer to bridge the gap between universities and commercial businesses. [www.tedcomd.com/funding/tech-transfer/maryland-innovation-initiative](http://www.tedcomd.com/funding/tech-transfer/maryland-innovation-initiative)

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