



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 one-fourth of total electric generation. Further, Maryland’s Renewable Portfolio Standard (RPS) requires that 20 percent of the state’s energy come from renewable sources by 2022. The state’s 1,260 energy and sustainability businesses generate \$8.26 billion in gross state product.

Major Energy & Sustainability Employers in Maryland

| Employer | Employment | Product / Service |
|---|------------|---|
| Exelon | 6,730 | Energy services |
| Bechtel | 1,580 | Environmental clean-up services |
| Washington Suburban Sanitary Commission | 1,520 | Water and wastewater services |
| W.R. Grace & Company | 1,050 | Petroleum refining technologies |
| Potomac Electric Power (PEPCO) | 610 | Energy services |
| NRG | 500 | Energy services |
| Waste Management | 500 | Waste treatment and disposal |
| KCI Technologies | 490 | Environmental planning and engineering services |
| Johnson, Mirmiran & Thompson (JMT) | 480 | Environmental planning and engineering services |
| Rummel Klepper & Kahl (RK&K) | 450 | Water and wastewater services |

Note: Numbers are rounded.

Source: Maryland Department of Commerce, April 2014.

Selected Rankings

- Maryland ranks ninth in the 2016 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. Maryland is a top ranked state in the combined heat and power policy category.
- In the 2015 Enterprising States study, which looks at how states are creating an environment in which the private sector can thrive, Maryland ranks second in the high-tech “Talent Pipeline,” third in “Innovation and Entrepreneurship,” and fifth in “High Tech Performance.”
- Maryland ranks second among the states in the square footage of LEED-certified commercial and institutional green buildings per capita for 2015.

Industry Snapshot – Energy & Sustainability in Maryland

- Employment (2015) – 27,720 private sector jobs (37,420 including public sector)
Leading subsectors:
 - Waste management and remediation – 9,700 jobs
 - Electric and gas power generation, transmission and distribution – 9,300 jobs
 - Administration of environmental quality programs – 4,300 jobs
 - Regulation and administration of utilities – 4,200 jobs
- Business establishments (2015) – 1,260
- Total wages (2015) – \$3.08 billion
- Average salary (2015) – \$82,280

- Gross state product (2014) – \$8.26 billion
- Federal procurement (FY2015) – \$450 million

Sources: Maryland Department of Labor, Licensing and Regulation; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

Employment by Occupation

Maryland Employment – May 2015

| Selected Occupations | Employment | Location Quotient* | |
|--|------------|--------------------|------|
| | | Index | Rank |
| Computer systems analysts | 14,420 | 1.38 | 5 |
| Computer programmers | 5,580 | 1.02 | 20 |
| Computer network support specialists | 8,190 | 2.36 | 1 |
| Electrical engineers | 4,370 | 1.30 | 9 |
| Electronics engineers, except computer | 5,220 | 2.05 | 3 |
| Materials engineers | 730 | 1.43 | 10 |
| Mechanical engineers | 5,050 | 0.96 | 18 |
| Electrical and electronic engineering technicians | 3,840 | 1.47 | 5 |
| Biochemists and biophysicists | 1,570 | 2.70 | 2 |
| Microbiologists | 1,880 | 4.72 | 1 |
| Conservation scientists | 430 | 1.13 | 26 |
| Atmospheric and space scientists | 760 | 3.89 | 4 |
| Cartographers and photogrammetrists | 400 | 1.78 | 9 |
| Environmental engineers | 1,140 | 1.15 | 15 |
| Environmental scientists and specialists, including health | 1,980 | 1.20 | 13 |
| Geoscientists, except hydrologists and geographers | 440 | 0.74 | 21 |
| Marine engineers and naval architects | 570 | 3.95 | 4 |

* 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** – First in the nation and supports renewable energy through development, technology commercialization, business incubation and workforce development.
- **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.
- **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

- **Bourn Environmental** (Prince George's County) – Veteran-owned ecological construction and habitat management company will use state loan to purchase equipment, improve facilities and hire 15 employees over the next two years.
- **Dominion Cove Point LNG** (Calvert County) – Purchased land to construct a 50,000-square-foot warehouse and office facility, part of a large liquefied natural gas export project estimated to cost between \$3.4 and \$3.8 billion. The Virginia-based power generator's expansion, begun in 2015, will provide thousands of skilled construction jobs and 75 permanent jobs.
- **FlexEI** (Prince George's County) – Startup company will lease more than 10,000 square-feet to expand its R&D and flexible battery manufacturing operation, adding 50 new jobs over the next five years.
- **Blue Pillar** (Frederick County) – Maryland Venture Fund invested \$500,000 in this energy management solutions firm which moved its headquarters from Indianapolis to Frederick. The company's three software platforms help large organizations and complex facilities improve energy efficiency and reliability.
- **Direct Energy Solar** (Howard County) – Plans to add 240 new jobs over the next three years. A leading residential solar power provider and part of the Direct Energy® family of brands, Direct Energy Solar will triple its footprint at their Annapolis Junction headquarters and bring its total number of employees to 315 by the end of 2017.
- **SolarCity** (Charles County) – Opened a 10,000-square-foot operations hub in White Plains, with a dozen staff members working out of the center. The California-based solar heating equipment installer will hire a total of 50 new positions at the facility.
- **Competitive Power Ventures** (Charles County) – Maryland-based CPV and partners obtained financing for the \$775 million CPV St. Charles Energy Center, a 725-megawatt natural-gas fired power plant, which will provide 24 permanent jobs.
- **Eastern Shore Land Conservancy** (Talbot County) – Broke ground for a new headquarters in Easton's National Register Historic District. The natural resource preservation organization's relocation will bring 50 new jobs to Easton's downtown.

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.
- **Maryland Venture Fund** – State funded seed and early-stage equity fund.
- **Maryland Technology Development Corporation** – Facilitates technology transfer from academic and federal labs into the private sector with seed funding, technical assistance and entrepreneurial support programs.
- **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.
- **Cellulosic Ethanol Technology R&D Tax Credit** – State income tax credits for businesses that incur qualified cellulosic ethanol technology research and development expenses in Maryland.
- **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.