



# The Green-Economy Jobs Initiative

Definitions



**CTED** | Community, Trade and  
Economic Development

## Acknowledgements

### **Washington State Department of Community, Trade and Economic Development**

**Julie Anderson**, Senior Policy Advisor, Director's Office

**Tony Usibelli**, Assistant Director, Energy Policy Division

**Tim Stearns**, Peter Moulton and Greg Nothstein, Energy Policy Division

**Feliz Ventura** and **James Palmer**, International Trade and Economic Development Division

**David Elliot**, Fiscal Note Program

**Alice Zillah**, Fiscal Note Program

### **Green-Economy Jobs Initiative Advisory Team**

**Tina Bloomer**, Policy Associate, State Board for Community & Technical Colleges

**Joan Chen**, Regional Projects Manager, PSRC – Clean-Tech Alliance

**Cynthia Cooper**, Director, Office of Minority & Women's Business Enterprise

**Jessica Coven**, Policy Associate, Climate Solutions

**Gary Grossman**, Tax Policy Specialist, Washington State Department of Revenue

**Alan Hardcastle**, Senior Research Associate, Washington State University

**Mike Hudson**, Executive Director, Association of Washington Business

**Sheryl Hutchison**, Communications Director, Employment Security Department

**John Lederer**, Associate Director for Academic Affairs, Higher Education Coordinating Board

**Carolyn McKinnon**, Policy Associate for Economic Development,

Workforce Training & Education Coordinating Board

**Sandra Manwiler**, Management Analyst, Employment Security Department

**Bill Messenger**, WIA Labor Liaison, Washington State Labor Council

**Brett Rogers**, Small Business Development Center, Washington State University

**Elizabeth E. Smith**, Program Manager, Washington State Department of Labor & Industries,

Office of Apprenticeship

**Terry Tilton**, Assistant Executive Secretary, Washington State Labor Council

**Greg Weeks**, Director, Labor Market & Economic Analysis for Employment Security Department

**Bryan Wilson**, Associate Director, Workforce Training & Education Coordinating Board

**Mina Yoo**, Assistant Professor for the Michael G. Foster School for Business,

University of Washington

To obtain a copy of this report in an alternate format, please call (360) 725-4029 or write to:

**Washington State Department of Community, Trade and Economic Development**

Director's Office

128-10th Avenue S.W.

P.O. Box 42525

Olympia, WA 98504

<http://www.cted.wa.gov>

## Introduction

The green economy is rooted in the development and use of products and services that promote environmental protection and/or energy security<sup>1</sup>.

Engrossed Second Substitute House Bill 2815<sup>2</sup>, approved by Governor Gregoire and the Washington State Legislature in 2008, directs the Department of Community, Trade and Economic Development (CTED) to create a definitional list to describe the green economy. The green economy, itself, required definition.

The definitional list that follows is not exhaustive. It will evolve and grow over time, just as new technologies and new industries evolve over time. The definitions are more intended as a starting place, to anchor language for policy-makers who will create the workforce and economic development solutions needed for climate-change challenges.

This green-economy glossary will help Washington State measure change over time. Without definitions, qualitative and quantitative analysis of the Green-Economy Jobs Initiative is not possible. At the same time, this list of definitions strives to use common language to describe highly complex systems and new technologies.

## Principles

Green is a cross-cutting term that can be applied to certain activities and products that exist in virtually all of today's sectors, industries and activities. Green is a matter of degree. There are *shades* of green!

The green economy is best thought of as the "greening" of our existing economy. Industries are and will be in a state of transition. Efficiencies and new energy sources will develop and be adopted over time. In other words, defining a job or an industry as green is not black or white.

This definitional list deliberately shifts policy language from clean energy to green economy. The Green-Economy Jobs Initiative is larger than clean energy, and it includes sustainable products and processes not related to energy. Likewise, the jobs initiative is more comprehensive than clean technology, as it includes products and processes that do not rely upon new inventions or high-technology.

---

<sup>1</sup> A reliable supply of affordable energy.

<sup>2</sup> By 2020, the state's goal is to increase the number of clean-energy jobs to 25,000. CTED, in consultation with the Employment Security Department (ESD), the State Workforce Training and Education Coordinating Board (WTECB), the State Board for Community and Technical workforce and economic development terms and associated with green-economy industries and jobs. ESD, in consultation with CTED, analyze the current labor market and projected job growth in the green economy, the current and projected recruitment and skill requirements of green-industry employers, the wage and benefits ranges of jobs within green-economy industries, and the education and training requirements of entry-level and incumbent workers in those industries. Based on the survey, ESD will propose which industries will be considered high-demand green industries. The University of Washington's Business and Economic Development Center must analyze and report back to the Legislature on the current opportunities for and participation in the green economy by minority- and women-owned businesses in Washington. The report also will identify existing barriers that keep minority- and women-owned businesses from participating successfully in the green economy, and will recommend strategies and policies for improving their participation in the green economy.

This definitional list also deliberately shifts policy language from green-collar jobs to green economy. The Green-Economy Jobs Initiative is larger than just jobs. It's also about new research, investments in innovation, and incentives and regulations to stimulate more-sustainable activities. It's about tax structure, revenue and international trade in a carbon-constrained world. While this shift also will require new kinds of jobs, jobs are not the sole focus.

Occasionally, this definitional list will reference an activity that is less than green – that is, a technology or practice that uses a petroleum product or emits a greenhouse gas or requires significant energy to manufacture. As mentioned earlier, the economy is in a state of transition. While the preferred future is one of zero emissions and near-perfect efficiency, this is not presently possible. For example, hybrid vehicles are part of the green economy until all-electric vehicles become viable for mass consumption.

## Organization

There are many different ways to organize and order a definitional list, depending on one's perspective. Overlap between industry categories is unavoidable. The rough architecture of this definitional list is as follows.

### **A. Clean energy**

- Efficiency
- Renewable
- Alternative

### **B. Green building**

### **C. Transportation**

### **D. Environmental protection**

- Waste management
- Water conservation

### **E. Business services**

Within each of these green-economy industry categories, we assume that the entire supply chain is represented:

- Upstream: Research and development
- Production: Generation of useful energy, products and services
- Infrastructure: Delivery systems (grid, rail, transmission, etc.)
- Consumption: Technologies and products that improve consumption (efficiency, access, etc.) for the end user.

While business services are a component of every industry, it is called out in the definitional list as a separate industry because of the scale of this industry and for consistency with the North American Industry Classification System (NAICS).

Research-and-development and advanced materials were not called out as separate industries. These industries – like manufacturing – are elements of the industry supply chain.

Forestry and agriculture are not included in the definitional list. If the green economy is “the development and use of products and services that promote environmental protection and/or energy security,” then forestry and agriculture seem outside the scope of this definitional list. The conservation practices – and biomass - from these sectors are captured in other green-economy industries, such as renewable energy, water conservation, waste management, etc.

## Green-Economy Definitions

### Segments of the Economy

**Sector** — A group of industries with similar business processes, products or services, such as construction or health services, as categorized by the North American Industry Classification System (NAICS). Example: the transportation sector.

**Industry** — A specific grouping of firms with highly similar business activities. Example: the renewable-energy industry.

**Cluster** — A geographic concentration of interdependent competitive firms that do business with each other. It includes upstream suppliers of inputs - such as firms that supply materials and equipment - as well as downstream customers. A cluster also includes related entities that shape the environment within which the industry operates, such as government regulatory bodies. Example: the Grays Harbor biomass cluster.

### The Green Economy

**Green economy** — The green economy is rooted in the development and use of products and services that promote environmental protection and/or energy security<sup>3</sup>.

**Green jobs** — Jobs in the primary industries of a green economy that promote environmental protection and/or energy security<sup>3</sup>.

---

<sup>3</sup> A reliable supply of affordable energy.

## Green-Economy Industries

A. Clean-energy industry: Energy efficiencies, as well as the generation and use of renewable and alternative fuels.

**A1. Energy efficiency** – Any reduction in power consumption resulting from increases in the efficiency of energy use, production or distribution without affecting the services provided.

### Examples of products and processes

- **Electrical storage** – Charged currents or magnets that store energy without the need for electrochemical or mechanical conversion.
- **Energy IT software** – Identifies energy waste in electrical or networking systems and prescribes ways to eliminate it. More-advanced software automates the waste-reduction process and works to optimize the distribution of energy around the system.
- **Integrated communication** – Broadband-bearing power lines allow for real-time data transfer and efficient asset allocation, load switching and monitoring of multiple power sources feeding into the grid.
- **Cogeneration** – Produces electrical energy and another form of useful energy (such as steam) through the sequential use of energy.
- **Smart grid** – Describes innovations to the energy network, such as the addition of electronics and “intelligence” to the generation, distribution and consumption of electricity.
- **Integrated mini fuel cells and direct liquid-fuel cells** – These devices store fuel in more compact forms, such as sodium borohydride or methanol, and are aimed at portable electronic devices.

### Examples of firms and organizations

- [ATS Automation](#)
- [Cascade Energy Engineering, Inc.](#)
- [Casne Engineering, Inc.](#)
- [Itron](#)
- [Honeywell Energy Services](#)
- [MicroPlanet](#)
- [Neah Power Systems](#)
- [North American Energy Services Company](#)
- [ReliOn](#)
- [Verdiem](#)

### Examples of related jobs

- Engineer
- Electrician
- Electrical design technician
- Line worker
- Power plant operator
- Power plant mechanic
- Relay technician
- Substation operator
- Numerous administrative, managerial and support occupations that directly serve renewable-energy and energy-efficiency organizations

**A2. Renewable energy** – Energy supplied by sources that are naturally and continuously replenished, without being depleted.

#### **Examples of products and processes**

- **Solar energy** – The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity. This includes but is not limited to photovoltaic, concentrating solar power, solar water heating and nanopower technology (nanoscale solar-power generation as well as the use of nanocrystalline particles to manufacture silicon photovoltaic panels).
- **Ocean thermal-energy conversion (OTEC)** – A method for generating electricity that uses the temperature difference that exists between deep and shallow waters to run a heat engine.
- **Tidal energy** – Tides are generated by the relative motion of the Earth, sun and moon, which interact via gravitational forces. Strategically placed tidal turbines, sometimes in conjunction with tidal gates or dams, use currents to generate energy.
- **Wave energy** – Wave power refers to the energy of ocean surface waves and capturing that energy to do useful work. Wave-power devices extract energy directly from surface waves or from pressure fluctuations below the surface.
- **Geothermal energy** – Geothermal power (from the Greek words geo, meaning earth, and thermal, meaning heat) is energy generated by heat stored beneath the Earth's surface or by collecting absorbed heat in the atmosphere and oceans. Geothermal and ground-source heat pumps are typically used to heat and cool buildings; steam can be used to drive electric turbines.
- **Wind energy** – Wind power converts wind energy into a useful purpose, such as generating electricity or pumping water, using wind turbines.
- **Micro-hydroelectric<sup>4</sup> energy** – Micro-hydro serves an individual, a small community or a single industrial plant. Most micro-hydroelectric power comes from dammed water driving a water turbine and generator.
- **Biomass<sup>5</sup> energy** – Biomass energy is derived from solid organic fuels from wood, forest or field residues or dedicated energy crops. It does not include energy derived from treated wood, black liquor byproduct from paper manufacture, or wood from old-growth forests. It does not include municipal solid waste, but may include landfill gas.

#### **Examples of firms and organizations**

- [Altarock Energy](#)
- [Global Energy Concepts](#)
- [Native Green Energy](#)
- [Silicon Energy](#)
- [Horizon Wind Energy](#)
- [Infinia Corporation](#)
- [REC Silicon](#)
- [Verdant Power](#)
- [Imperium Renewables](#)
- [General Biodiesel](#)
- [Propel Biofuels](#)

---

<sup>4</sup> "Large" hydroelectric energy is not considered an eligible renewable resource, under I-937.

<sup>5</sup> Biomass also may be used for producing bio-products, such as textiles and plastics.

### Examples of related jobs

- Installer (solar, wind)
- Developer (solar, wind, biomass, ocean)
- System designer (solar, wind, ocean)
- Test technician (solar, wind, biomass, ocean)
- Plant-maintenance technician (solar, wind, biomass, ocean)
- Instrument technician (solar, wind, biomass)
- Entry-level technician (windsmith) (solar, wind)
- Operator (wind, biomass, ocean)
- Data technician (solar, wind, biomass, ocean)
- Waste-management technician (biomass)
- Coastal hydraulic engineer (ocean)
- Marine engineer (ocean)
- Environmental engineering technician
- Numerous administrative, managerial and support occupations that directly serve renewable-energy and energy-efficiency organizations

**A3. Alternative fuel** – (defined in RCW 43.325.010) means all products or energy sources used to propel motor vehicles, other than conventional gasoline, diesel or reformulated gasoline. Alternative fuel includes but is not limited to cellulose, liquefied petroleum gas, liquefied natural gas, compressed natural gas, biofuels, biodiesel fuel, E85 motor fuel, fuels containing 70 percent or more by volume of alcohol fuel, fuels that are derived from biomass, hydrogen fuel, anhydrous ammonia fuel, nonhazardous motor fuel or electricity (excluding onboard electric generation).

### Examples of products and processes

- **Biofuel** – Includes but is not limited to biodiesel, ethanol, ethanol-blend fuels, and renewable liquid natural gas or liquid compressed natural gas made from biogas.
- **Bioreactor landfills** – Adding liquid to landfills as a management technique to promote rapid waste decomposition.
- **Creating liquid fuels** – Transforming solid carbon-based substances into liquid fuels through heat, cold, pressure, centrifuge, catalysts, vacuums or distillation.
- **Extracting hydrogen** – By natural-gas steam methane reforming, a process in which high-temperature steam is mixed with natural gas under pressure with a catalyst to produce hydrogen, carbon monoxide and a relatively small amount of carbon dioxide.
- **Extracting hydrogen** from water via electrolysis.
- **Fuel-cell storage** for hydrogen.
- **Fermentation of sugars** to create alcohol and produce ethanol fuel.
- **Transesterification** – Creating biodiesel by reaction from mixing vegetable oil with a catalyst.

### Examples of firms and organizations

- [Asemblon](#) (HYDRNOL fuel project)
- [Catchlight Energy](#) (Weyerhaeuser/Chevron joint venture)
- [Prometheus Energy](#)
- [InnovaTek](#)
- [Western Washington University](#) (anaerobic digesters to CNG for transit fleets)
- [Blue Marble](#) (algae to diesel)

### **Examples of related jobs**

- Chemical engineer
- Chemist
- Chemical equipment operator
- Mixing and blending machine operator
- Agricultural or forestry worker

**B. Green-building industry: Increasing the efficiency with which buildings use resources (energy, water and materials) and reducing the effects on human health and the environment during the building's lifecycle, through better siting, design, construction, operation, maintenance and removal.**

**Examples of products and processes**

- **Sustainable development** – When builders, architects, designers, community planners and real estate developers strive to create buildings and communities that will not deplete natural resources. Sustainable development attempts to minimize greenhouse gases and preserve environmental resources.
- **LEED design, construction and certification** – Leadership in Energy and Environmental Design (LEED) is the nationally accepted standard for designing and constructing green buildings. LEED qualifications focus on sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.
- **Adaptive reuse** – A process that adapts buildings for new uses rather than demolishing them.
- **Building deconstruction** – The selective dismantling of building components, specifically for re-use, recycling and waste management.
- **Building energy efficiencies** – Designs, products and processes that directly lower energy use in buildings. Examples include high-performance building envelopes, high-efficiency cooling, heating and water-heating equipment, insulated pipes and ducts, passive-solar building designs, absorption chillers, natural ventilation, heat-recovery ventilation and hot-water heat recycling.
- **Green building materials** – The design and manufacture of building materials that are non-toxic, reusable, renewable and/or recyclable. Ideally, green building materials are extracted and manufactured locally to the building site to minimize the energy embedded in their transportation.
- **Energy-efficient products** – The design, manufacture and installation of appliances, heating and cooling systems, home electronics and lighting that provide significant energy savings. An international standard for energy-efficient consumer products is Energy Star.
- **Landscaping** – The use of trees, plants, hedges or trellises (agriculture) to selectively create summer shading and create shelter from winter wind chill. Xeriscaping is used to reduce or eliminate the need for energy- and water-intensive irrigation. Landscaping architecture also is used to help manage storm water, with techniques such as rain gardens, green roofs and treatment wetlands.
- **Weatherization** – The preservation of a dwelling unit through energy and resource conservation, efficiency retrofits, energy-related repairs, indoor air quality, health and safety investments (carbon monoxide detection and prevention, lead-based paint identification), and client education.

### **Examples of firms and organizations**

- [Atmosphere, Inc.](#)
- [Engineering Economics, Inc.](#)
- [Ecohaus](#)
- [Interface Engineering, Inc.](#)
- [McKinstry](#)
- [Mithun](#)
- [MountainLogic](#)
- [Paladino & Company](#)
- [Unico Properties](#)

### **Examples of related jobs**

- Construction engineering technician
- Zero-energy building technician
- Engineer
- Architect
- Urban planner
- CAD/CADD drafting/design technician
- Landscaper
- Carpenter
- Heating, air conditioning, and refrigeration mechanics and installer
- Horticulturist
- Sheetmetal worker
- Plumbers, pipefitters and steamfitter
- Hazardous-materials removal worker
- Cement mason and concrete finisher
- Insulation worker (floor, ceiling, wall)

**C. Green transportation industry: The development of sustainable transportation products or systems with an emphasis on human power, renewable energy or alternative energy, designed to reduce the use of petroleum-fueled vehicles and engines and single-occupancy vehicles.**

**Examples of products and processes**

- **Public transportation, public transit or mass transit** – The design, construction and management of systems in which passengers do not travel in their own vehicles. This includes rail and bus services and scheduled ferries. In this definition, passengers of public transportation are traveling within a local area or region between their homes and places of employment, shopping or school.
- **Hybrid vehicles** – Vehicles that use petroleum fuels in conjunction with other energy sources, generally electricity.
- **Petroleum-free vehicles** – Vehicles that do not use petroleum. For example, battery electric cars, 100 percent biofueled vehicles, hydrogen vehicles and compressed-air vehicles.
- **Intelligent transportation management** – The application of strategies and policies to reduce travel demand or to redistribute the demand in space or in time. This includes managing vehicles, loads and routes to improve transportation times and fuel consumption through the use of electronic toll collection, congestion pricing, emergency-vehicle notification systems, intelligent speed adaptation, automatic road enforcement, sensing technologies, etc.
- **Transit-oriented development** – The application of strategies and policies to design residential or commercial areas that maximize access to public transport and lead to mixed-use, compact neighborhoods that use public transportation at all times of the day.
- **Smart growth** – An urban-planning and transportation theory that concentrates growth in the center of a city to create compact, transit-oriented land use.

**Examples of firms and organizations**

- [Advanced Vehicle Innovations Consortium of Port of Chelan](#)
- [AFS Trinity](#)
- [Avion Car Company](#)
- [EV Parts](#)
- [Green Car Company](#)
- [Kenworth Truck Co.](#)
- [MC Electric Vehicles](#)
- [PACCAR Inc.](#)
- [Sound Transit](#)
- [Puget Sound Green Fleets](#)
- [V2Green](#)
- [Zipcar](#)

### **Examples of related jobs**

- Transit operator (bus, light rail) aircraft mechanics and service technicians
- Avionics technicians
- Bus and truck mechanics and diesel – engine specialists
- Cargo and freight agents
- Rail electrical worker
- Power electronics engineer
- Equipment operator
- System maintenance technician (light rail, rail)
- Facilities specialist, locomotive engineers and operators
- Transportation attendants, except flight attendants and baggage porters
- Supervisors, transportation and material-moving workers
- Sailors and marine oilers
- Subway and streetcar operators
- Transportation – civil engineer
- Right of way – civil engineer
- Transportation logistics analyst/manager
- Manufacturing engineer
- Fuel sales representative
- Car and truck mechanic (biodiesel, electric, hydrogen vehicles)
- Computer specialist

**D. Environmental protection and remediation industry: The prevention and reduction of environmental pollution, as well as efforts to lessen environmental pollution.**

**Examples of products and processes**

- **Environmental assessments** – Evaluation of historical uses of land or buildings, as well as sampling and chemical analysis, to determine pollutants and strategies for remediation.
- **Remediation** – The removal of pollution or contaminants from soil, ground water, sediment, surface water or buildings for the general protection of human health and the environment or to return a brownfield site to redevelopment.
- **Bioremediation and phytoremediation** – The use of plants and bacteria to break down soil contaminants. An extension of this technology is used to break down contaminants in water.
- **Emissions control** – Standard-setting, monitoring and enforcement of levels of dust, noise, odor, emissions to air and ground water, and discharge to sewers or waterways of all contaminants of concern.
- **Environmental restoration** – A process in which a damaged natural resource is renewed biologically, structurally and functionally.
- **Air-quality management** – The design and application of manufacturing and combustion processes to reduce air pollutant emissions to acceptable levels. Scrubbers, electrostatic precipitators, catalytic converters and various other processes are used to remove air pollutants from emissions before they're released to the atmosphere.

**Examples of firms and organizations**

- [AMEC Earth & Environmental](#)
- [Black & Veatch](#)
- [CH2M HILL](#)
- [Geoengineers](#)
- [Glacier Recycle](#)
- [Intertox](#)
- [Jones & Stokes](#)
- [Landau Associates](#)
- [Nucor Steel](#)
- [Parametrix](#)
- [Ridolfi](#)
- [Recovery 1](#)
- [SLR International](#)

**Examples of related jobs**

- Remediation engineer
- Recycling-processor operator
- Operator at a manufacturer using recycled raw materials
- Environmental engineer
- Biologist
- Cultural resource manager
- Geologist
- Environmental scientist
- Hydrogeologist
- Civil engineer

- Civil engineering technician/civil drafting
- Environmental engineering tech
- Environmental technician
- Environmental planner
- Environmental regulatory compliance consultant
- Environmental waste & water engineer
- Environmental program manager
- Forest technician

**D1. Waste management and recycling** – Techniques to reduce, reuse or recycle waste. Techniques to recycle products and convert used materials into new products.

#### **Examples of products and processes**

- **Waste management** – Waste management is the collection, transport, processing, recycling or disposal of waste materials. The term usually relates to materials produced by human activity.
- **Waste reduction** – Processes and products to extract the maximum practical benefits from products and to generate the minimum amount of waste.
- **Recycle** – The process of extracting resources or value from waste by recovering or reusing the material. This may include the collection and reuse of everyday waste materials.
- **Technology recycling** – A process to separate and recycle hazardous component parts found in electronic devices.
- **Product design** – Designing products to minimize waste and maximize resources. Reducing the number of components used in a product or making the product easier to take apart to aid in repair or recycling.
- **Biological composting** – Digestion processes to decompose organic matter (waste gas from this process can be captured and used for generating electricity). Techniques include anaerobic and aerobic digestion.
- **Waste-to-energy** – Any waste treatment that creates energy in the form of electricity or heat from a waste source. Such technologies reduce or eliminate waste that otherwise would be transferred to a landfill.

#### **Examples of firms and organizations**

- [Andgar](#)
- [ARI Technologies](#)
- [Big Green Print](#)
- [Grays Harbor Paper](#)
- [InEnTec](#)
- [Paperstone Products](#)
- [Reclaim](#)
- [Seattle Steam](#)
- [Total Reclaim](#)

#### **Examples of related jobs**

- Chemist
- Engineer
- Engineering technician
- Architect
- CAD/CADD drafting/design technician
- Deconstruction worker
- Refuse and recyclable collector

**D2. Water conservation and treatment** – Products, processes and activities that ensure safe drinking water, maintain oceans and watersheds, and provide healthy aquatic habitats for humans, fish, plants and wildlife.

**Examples of products and processes**

- **Domestic gray-water recycling** – Technology for recycling household waste water for reuse in gardening.
- **Water purification** – Advanced technologies for eliminating contaminants and impurities in water. Newer technologies focus on purifying water without modifying its flavor or nutritional content.
- **Water management** – Equipment and applications designed to monitor water quality and distribution. Especially useful for systems combining treatment, purification and desalination.
- **Sewage treatment** – Removing contaminants from waste water, both runoff (effluents) and domestic. It includes physical, chemical and biological processes to remove physical, chemical and biological contaminants.
- **Industrial wastewater treatment** – Treatment of waters that have been contaminated in some way by industrial or commercial activities prior to their release into the environment or re-use.
- **Industrial gray-water recycling** – Technology for recycling waste water from construction sites and commercial installations. This water can be reused for onsite sanitation, equipment cleaning and high-pressure water uses.

**Examples of firms and organizations**

- [Anchor Environmental](#)
- [Battelle Marine Sciences Laboratory](#)
- [HaloSource](#)
- [Performance Mechanical Group](#)
- [Tetra Tech](#)

**Examples of related jobs**

- Horticulturist
- Irrigation technician
- Water and natural resources scientist
- Water-recycling plant operations supervisor
- Stream restoration specialist
- Water conservation director
- Water supply manager
- Water utility manager
- Water consultant
- Hydrogeologist
- Water and wastewater engineer
- Wastewater management and recycling technician
- Water operator
- Water-quality laboratory technician
- Water treatment manager
- Water production operator
- Clean-water compliance inspector

## E. Business-services industry: Consulting and support for increased business sustainability and capital resources for firms in the green economy.

### Examples of products and processes

- **Financial services** – Loan-services investors, including angel investors and venture-capital firms.
- **Marketing** – Branding, communication strategies related to the green economy, promotion of new sustainable products, and stakeholder outreach for public organizations.
- **Sustainable business practices** – The development, execution and auditing of a business's operating procedures, driven by sustainability performance metrics, cost-saving actions and greenhouse-gas reduction targets.
- **Carbon accounting** – Management of accounting systems that calculate the size of a business's carbon footprint, model alternative scenarios and monitor an organization's ecological and carbon footprint.
- **Research and development** – Future-oriented work in science or technology, undertaken on a systematic basis, to increase knowledge and devise new commercial applications for green products and services.

### Examples of firms and organizations

- [Yes! Solar Solutions](#)

### Examples of related jobs

- Auditor
- Attorney
- Banker
- Leasing and credit manager/officer
- Third-party certifier (independent certification of Fair Trade, organic or “green” products)
- Sustainability manager
- Environmental life-cycle assessment analyst/manager
- Policy advisor/manager (sustainable practices, regulatory compliance, etc.)
- Financial investor
- Development director
- Public relations and communications
- Government relations
- Business and financial management
- Sales management
- Research and development (scientists, lab technicians, data technicians, and research analysts in nuclear, electrical, chemical, biological fields)

## Appendix A: Resources

<b>Firm</b>	<b>Number</b>	<b>Web Address</b>
<a href="#">Advanced Vehicle Innovations Consortium of Port of Chelan</a>	<b>509.663.5159</b>	<a href="http://www.plugincenter.com">http://www.plugincenter.com</a>
<a href="#">AFS Trinity Power Corporation</a>	<b>425.454.1818</b>	<a href="http://www.afstrinity.com">http://www.afstrinity.com</a>
<a href="#">Altarock Energy</a>	<b>206.729.2400</b>	<a href="http://www.altarockenergy.com/">http://www.altarockenergy.com/</a>
<a href="#">AMEC Earth &amp; Environmental</a>	<b>253.572.0516</b>	<a href="http://www.amec.com">http://www.amec.com</a>
<a href="#">American Council for an Energy-Efficient Economy</a>	<b>202.507.4000</b>	<a href="http://aceee.org/">http://aceee.org/</a>
<a href="#">Anchor Environmental</a>	<b>206.287.9130</b>	<a href="http://www.anchorenv.com">http://www.anchorenv.com</a>
<a href="#">Andgar</a>	<b>360.366.9900</b>	<a href="http://www.andgar.com">http://www.andgar.com</a>
<a href="#">ARI Technologies</a>	<b>253.796.5995</b>	<a href="http://www.aritechnologies.com">http://www.aritechnologies.com</a>
<a href="#">Asemblon</a>	<b>425.558.5100</b>	<a href="http://asemblon.com/">http://asemblon.com/</a>
<a href="#">Atmosphere, Inc.</a>	<b>206.526.2700</b>	<a href="http://www.myatmosphere.biz/">http://www.myatmosphere.biz/</a>
<a href="#">ATS Automation</a>	<b>425.251.9680</b>	<a href="http://www.atsinc.org/">http://www.atsinc.org/</a>
<a href="#">Avion Car Company</a>	<b>360.303.4790</b>	<a href="http://www.100mpgplus.com/">http://www.100mpgplus.com/</a>
<a href="#">Battelle: Business of Innovation</a>	<b>800.201.2011</b>	<a href="http://www.battelle.org/">http://www.battelle.org/</a>
<a href="#">Battelle Marine Sciences Laboratory</a>	<b>360.683.4151</b>	<a href="http://marine.pnl.gov/">http://marine.pnl.gov/</a>
<a href="#">Big Green Print</a>	<b>877.746.8244</b>	<a href="http://www.thebiggreenprint.com/">http://www.thebiggreenprint.com/</a>
<a href="#">Black &amp; Veatch</a>	<b>913.458.2000</b>	<a href="http://www.bv.com/">http://www.bv.com/</a>
<a href="#">Blue Marble</a>	<b>805.595.1820</b>	<a href="http://www.bluemarble.com/">http://www.bluemarble.com/</a>
<a href="#">Cascade Energy Engineering, Inc.</a>	<b>509.529.8040</b>	<a href="http://www.cascadeenergy.com/">http://www.cascadeenergy.com/</a>
<a href="#">Casne Engineering, Inc.</a>	<b>425.522.1000</b>	<a href="http://www.casne.com/">http://www.casne.com/</a>
<a href="#">Catchlight Energy (Weyerhaeuser/Chevron joint venture)</a>	<b>253.924.2345</b>	<a href="http://www.weyerhaeuser.com/Sustainability/FutureFuels">http://www.weyerhaeuser.com/Sustainability/FutureFuels</a>
<a href="#">CH2M HILL</a>	<b>720.286.2000</b>	<a href="http://www.ch2m.com/corporate/">http://www.ch2m.com/corporate/</a>
<a href="#">City of Seattle: Office of Economic Development</a>	<b>206.684.8090</b>	<a href="http://www.seattle.gov/economicdevelopment/">http://www.seattle.gov/economicdevelopment/</a>
<a href="#">Clean Energy States Alliance</a>	<b>802.223.2554</b>	<a href="http://www.cleanenergystates.org/">http://www.cleanenergystates.org/</a>
<a href="#">Database for State Incentives for Renewables and Efficiency (DSIRE)</a>		<a href="http://www.dsireusa.org/">http://www.dsireusa.org/</a>
<a href="#">E3 Energy Partners</a>	<b>206.273.7740</b>	<a href="http://e3energypartners.com/">http://e3energypartners.com/</a>
<a href="#">Ecohaus</a>	<b>206.315.1974</b>	<a href="http://www.environmentalhomecenter.com/home.shtml">http://www.environmentalhomecenter.com/home.shtml</a>
<a href="#">Engineering Economics, Inc.</a>	<b>206.662.1001</b>	<a href="http://www.eeiengineers.com/">http://www.eeiengineers.com/</a>
<a href="#">EnterpriseSeattle</a>	<b>206.389.8650</b>	<a href="http://www.enterpriseseattle.org/">http://www.enterpriseseattle.org/</a>
<a href="#">EV Parts</a>	<b>360.582.1271</b>	<a href="http://www.evparts.com/">http://www.evparts.com/</a>
<a href="#">Garvey Schubert Barer</a>	<b>206.464.3939</b>	<a href="http://www.gsblaw.com/">http://www.gsblaw.com/</a>
<a href="#">General Biodiesel</a>	<b>206.932.1600</b>	<a href="http://generalbiodiesel.com/">http://generalbiodiesel.com/</a>
<a href="#">Geoengineers</a>	<b>206.728.2674</b>	<a href="http://www.geoengineers.com/">http://www.geoengineers.com/</a>
<a href="#">Glacier Recycle</a>	<b>253.333.6565</b>	<a href="http://glacierrecycle.com">http://glacierrecycle.com</a>
<a href="#">Global Energy Concepts</a>	<b>206.932.1600</b>	<a href="http://generalbiodiesel.com/">http://generalbiodiesel.com/</a>
<a href="#">Grays Harbor Paper</a>	<b>360.538.5655</b>	<a href="http://www.ghplp.com/">http://www.ghplp.com/</a>
<a href="#">Green Car Company</a>	<b>425.820.4549</b>	<a href="http://www.thegreencarco.com/">http://www.thegreencarco.com/</a>
<a href="#">HaloSource</a>	<b>425.881.6464</b>	<a href="http://www.halosource.com/">http://www.halosource.com/</a>
<a href="#">Honeywell Energy Services</a>	<b>425.698.6030</b>	<a href="https://buildingsolutions.honeywell.com/Culture/s/en-US/">https://buildingsolutions.honeywell.com/Culture/s/en-US/</a>

<a href="http://www.horizonwind.com/home/">Horizon Wind Energy</a>	<b>509.962.1122</b>	<a href="http://www.horizonwind.com/home/">http://www.horizonwind.com/home/</a>
<a href="http://www.imperiumrenewables.com/">Imperium Renewables</a>	<b>206.254.0203</b>	<a href="http://www.imperiumrenewables.com/">http://www.imperiumrenewables.com/</a>
<a href="http://www.inentec.com/">InEnTec</a>	<b>509.946.5700</b>	<a href="http://www.inentec.com/">http://www.inentec.com/</a>
<a href="http://www.infiniacorp.com/main.php">Infinia Corporation</a>		<a href="http://www.infiniacorp.com/main.php">http://www.infiniacorp.com/main.php</a>
<a href="http://www.tekkie.com/index.asp">InnovaTek</a>	<b>509.375.1093</b>	<a href="http://www.tekkie.com/index.asp">http://www.tekkie.com/index.asp</a>
<a href="http://www.imperiumrenewables.com/">Interface Engineering, Inc.</a>	<b>206-254-0203</b>	<a href="http://www.imperiumrenewables.com/">http://www.imperiumrenewables.com/</a>
<a href="http://www.iea.org/">International Energy Agency</a>	<b>(33 1) 40 57 65 00/01</b>	<a href="http://www.iea.org/">http://www.iea.org/</a>
<a href="http://www.intertox.com/">Intertox</a>	<b>206.443.2115</b>	<a href="http://www.intertox.com/">http://www.intertox.com/</a>
<a href="http://www.itron.com/">Itron</a>	<b>509.924.9900</b>	<a href="http://www.itron.com/">http://www.itron.com/</a>
<a href="http://www.jonesandstokes.com/">Jones &amp; Stokes</a>	<b>571.265.1472</b>	<a href="http://www.jonesandstokes.com/">http://www.jonesandstokes.com/</a>
<a href="http://www.kenworth.com/">Kenworth Truck Co.</a>	<b>425.828.5000</b>	<a href="http://www.kenworth.com/">http://www.kenworth.com/</a>
<a href="http://www.kitsapseed.com/">Kitsap SEED</a>	<b>360.674.2381</b>	<a href="http://www.kitsapseed.com/">http://www.kitsapseed.com/</a>
<a href="http://www.landauinc.com/">Landau Associates</a>	<b>206.631.8680</b>	<a href="http://www.landauinc.com/">http://www.landauinc.com/</a>
<a href="http://mcelectricvehicles.com/">MC Electric Vehicles</a>	<b>206.328.1750</b>	<a href="http://mcelectricvehicles.com/">http://mcelectricvehicles.com/</a>
<a href="http://www.mckinstry.com/">McKinstry</a>	<b>206.762.3311</b>	<a href="http://www.mckinstry.com/">http://www.mckinstry.com/</a>
<a href="http://www.microplanet.com/">MicroPlanet</a>	<b>206.625.0851</b>	<a href="http://www.microplanet.com/">http://www.microplanet.com/</a>
<a href="http://www.mithun.com/">Mithun</a>	<b>206-623-3344</b>	<a href="http://www.mithun.com/">http://www.mithun.com/</a>
<a href="http://www.mountainlogic.com/">MountainLogic</a>		<a href="http://www.mountainlogic.com/">http://www.mountainlogic.com/</a>
<a href="http://www.gonativegreen.com/">Native Green Energy</a>		<a href="http://www.gonativegreen.com/">http://www.gonativegreen.com/</a>
<a href="http://neahpower.com/">Neah Power Systems</a>	<b>425.424.3324</b>	<a href="http://neahpower.com/">http://neahpower.com/</a>
<a href="http://www.newamerica.net/">New America Foundation</a>	<b>202.986.2700</b>	<a href="http://www.newamerica.net/">http://www.newamerica.net/</a>
<a href="http://naes.com/index.aspx">North American Energy Services Company</a>	<b>425.961.4700</b>	<a href="http://naes.com/index.aspx">http://naes.com/index.aspx</a>
<a href="http://nucorbar.com">Nucor Steel</a>	<b>704.366.7000</b>	<a href="http://nucorbar.com">http://nucorbar.com</a>
<a href="http://www.paccar.com/">PACCAR Inc.</a>	<b>425.468.7400</b>	<a href="http://www.paccar.com/">http://www.paccar.com/</a>
<a href="http://www.paladinoandco.com/">Paladino &amp; Company</a>	<b>206.522.7600</b>	<a href="http://www.paladinoandco.com/">http://www.paladinoandco.com/</a>
<a href="http://www.paperstoneproducts.com/">Paperstone Products</a>	<b>360.538.9815</b>	<a href="http://www.paperstoneproducts.com/">http://www.paperstoneproducts.com/</a>
<a href="http://www.parametrix.com/">Parametrix</a>	<b>360.459.3609</b>	<a href="http://www.parametrix.com/">http://www.parametrix.com/</a>
<a href="http://www.performancemechanicalgroup.com/">Performance Mechanical Group</a>	<b>800.696.4149</b>	<a href="http://www.performancemechanicalgroup.com/">http://www.performancemechanicalgroup.com/</a>
<a href="http://www.pewcenteronthestates.org/">Pew Center of the States</a>	<b>202.552.2000</b>	<a href="http://www.pewcenteronthestates.org/">http://www.pewcenteronthestates.org/</a>
<a href="http://www.pewclimate.org/">Pew Center on Global Climate Change</a>	<b>703.516.4146</b>	<a href="http://www.pewclimate.org/">http://www.pewclimate.org/</a>
<a href="http://www.prometheus-energy.com/">Prometheus Energy</a>	<b>206.267.0800</b>	<a href="http://www.prometheus-energy.com/">http://www.prometheus-energy.com/</a>
<a href="http://www.propelfuels.com/content/">Propel Biofuels</a>	<b>800.871.0773</b>	<a href="http://www.propelfuels.com/content/">http://www.propelfuels.com/content/</a>
<a href="http://www.psrc.org/">Puget Sound Energy</a>	<b>206.464.7090</b>	<a href="http://www.psrc.org/">http://www.psrc.org/</a>
<a href="http://www.psgreenfleets.org/">Puget Sound Green Fleets</a>	<b>206.689.4055</b>	<a href="http://www.psgreenfleets.org/">http://www.psgreenfleets.org/</a>
<a href="http://www.recgroup.com/">REC Silicon</a>	<b>+47 67 57 44 50</b>	<a href="http://www.recgroup.com/">http://www.recgroup.com/</a>
<a href="http://recovery1.com">Recovery 1</a>	<b>800.949.5852</b>	<a href="http://recovery1.com">http://recovery1.com</a>
<a href="http://www.reclaim.com/">Reclaim</a>	<b>888.240.1224</b>	<a href="http://www.reclaim.com/">http://www.reclaim.com/</a>
<a href="http://www.relion-inc.com/">ReliOn</a>	<b>509.228.6500</b>	<a href="http://www.relion-inc.com/">http://www.relion-inc.com/</a>
<a href="http://www.ridolfi.com/">Ridolfi</a>	<b>206.682.7294</b>	<a href="http://www.ridolfi.com/">http://www.ridolfi.com/</a>
<a href="http://www.seattlesteam.com/">Seattle Steam</a>	<b>206.623.6366</b>	<a href="http://www.seattlesteam.com/">http://www.seattlesteam.com/</a>
<a href="http://www.siliconenergy.org/">Silicon Energy</a>	<b>831.425.8523</b>	<a href="http://www.siliconenergy.org/">http://www.siliconenergy.org/</a>
<a href="http://www.slrinternational.com/">SLR International</a>	<b>+44(0)1255.870 099</b>	<a href="http://www.slrinternational.com/">http://www.slrinternational.com/</a>
<a href="http://www.soundtransit.org/">Sound Transit</a>	<b>206.398.5000</b>	<a href="http://www.soundtransit.org/">http://www.soundtransit.org/</a>
<a href="http://www.stoel.com/">Stoel Rives</a>	<b>503.224.3380</b>	<a href="http://www.stoel.com/">http://www.stoel.com/</a>
<a href="http://www.tetrattech.com/portal/site/TetraTech/">Tetra Tech</a>	<b>626.351.4664</b>	<a href="http://www.tetrattech.com/portal/site/TetraTech/">http://www.tetrattech.com/portal/site/TetraTech/</a>
<a href="http://www.totalreclaim.com/">Total Reclaim</a>	<b>206.343.7443</b>	<a href="http://www.totalreclaim.com/">http://www.totalreclaim.com/</a>
<a href="http://www.unicoprop.com/">Unico Properties</a>	<b>206.628.5050</b>	<a href="http://www.unicoprop.com/">http://www.unicoprop.com/</a>

<a href="#">United Nations Environment Programme</a>	<b>(254-20) 7621234</b>	<a href="http://www.unep.org/">http://www.unep.org/</a>
<a href="#">University of Washington</a>	<b>206.543.2100</b>	<a href="http://www.washington.edu/">http://www.washington.edu/</a>
<a href="#">V2Green</a>	<b>206.282.0804</b>	<a href="http://www.v2green.com/">http://www.v2green.com/</a>
<a href="#">Verdant Power</a>		<a href="http://www.verdantpower.com/">http://www.verdantpower.com/</a>
<a href="#">Verdiem</a>	<b>206.838.2800</b>	<a href="http://www.verdiem.com/">http://www.verdiem.com/</a>
<a href="#">Washington Technology Center</a>	<b>206.685.1920</b>	<a href="http://www.watechcenter.org/">http://www.watechcenter.org/</a>
<a href="#">Western Washington University (anaerobic digesters to CNG for transit fleets)</a>	<b>360.650.3000</b>	<a href="http://www.wvu.edu/">http://www.wvu.edu/</a>
<a href="#">WorldChanging</a>		<a href="http://www.worldchanging.com/">http://www.worldchanging.com/</a>
<a href="#">Yes! Solar Solutions</a>	<b>877.937.2211</b>	<a href="http://www.yessolarsolutions.com/">http://www.yessolarsolutions.com/</a>
<a href="#">Zipcar</a>	<b>206.323.3539</b>	<a href="http://www.zipcar.com/">http://www.zipcar.com/</a>

