

Digest of Green Reports and Studies

Title	Green Jobs: Towards decent work in a sustainable, low-carbon world
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Organization	United Nations Environment Programme's Green Jobs Initiative Prepared by Worldwatch Institute with technical assistance from Cornell University Global Labor Institute
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Summary	<p><i>In Green Jobs: Towards decent work in a sustainable, low-carbon world</i> by the United Nations Environment Programme, Michael Renner et al., present quantitative, anecdotal and conceptual evidence of green jobs in renewable energy; buildings and construction; transportation; basic industry and recycling; food and agriculture; and forestry. The September 2008 report examines the environmental impact of each of the above sectors, estimates current green employment for key countries / world regions and evaluates the potential for green employment in each sector.</p> <p><i>The report describes best green practices by sector and suggests sectoral government policies for a sustainable economy creating decent green jobs. Some of the policies discussed are pursuing pro-environment procurement and public investment strategies, recalibrating tax and subsidy policies, providing more appropriate levels of international development assistance, and establishing appropriate standards, mandates, regulations, and market incentives.</i></p> <p><i>The authors offer some projections of future green jobs by sector based on implemented policies or changes in economic behavior. The report states that current green job creation is taking place in rich and developing countries and its pace will be accelerating in the future.</i></p> <p><i>The authors explain that the green economy comprises green sectors with a varying degree of beneficial impact on the environment. Some may have a smaller impact, e.g. pollution control and some may have a fundamental impact in saving resources and energy, e.g. approaches that avoid the generation of pollutants in the first place. There are different degrees to which technologies, products, businesses, and business practices can be said to be green (different shades of green).</i></p> <p><i>The report lists the broad challenges framing the efforts to achieve a sustainable and equitable economy. The report states that a purely market driven process is unable to address the climate crisis with the necessary scale and speed and it calls for government action and business cooperation. The lack of financing to create green employment is mentioned and some solutions are offered.</i></p> <p><i>The report notes that the green economy will need skilled and trained workers. It offers evidence from several countries about present or anticipated skilled green labor shortages.</i></p> <p><i>The report emphasizes that green jobs must be decent jobs with good wages and opportunity for worker representation and they must be equitable with regard to minorities and gender. It also calls for a "just transition" to a green economy that protects negatively affected workers, employers and communities.</i></p>
Key Findings	<p><i>A transition to a low carbon and sustainable economy can be an engine for growth and can create jobs in a wide array of sectors. In addition to creating jobs, this transition will substitute some jobs, eliminate some, and transform others.</i></p> <p><i>Because the core objective of the transition to a sustainable economy is greater efficiency in the use of energy, water, and materials, the threshold of what is efficient will be raised over time and what is considered green will evolve. "Green jobs" becomes a dynamic concept.</i></p>

	<p>A green economy values nature and people and requires environmental and social full-cost pricing of energy, materials and labor inputs. Traditionally, businesses have focused mostly on improving labor productivity. Improving energy and materials productivity will not only save resources but will also reduce business costs.</p> <p>Jobs in installing, operating, and maintaining renewable energy systems tend to be more local in nature.</p> <p><i>Wind and solar energy may offer an opportunity for re-industrialization of regions suffering from manufacturing job losses.</i></p> <p>Energy-efficient equipment often requires more skilled labor than their inefficient counterparts, thus leading to not only a larger number of jobs, but also higher-skilled, higher-paying employment.</p> <p><i>Energy efficiency measures have environmental gains and increase employment, paying a "double dividend."</i></p> <p>Producing more fuel-efficient vehicles is the most immediate way in which environmental impacts of road transport can be reduced.</p>
Recommendations	<p>Government policies in support of a green economy may include subsidies, carbon markets, tax reform, targets and mandates, energy alternatives, product takeback, eco-labeling, R&D, and international aid.</p> <p>The prevailing production and consumption models need to be reevaluated to make economies more sustainable.</p> <p>Governments must play a key role in creating mandates and standards, increasing research and development funds, and providing financing incentives for energy efficiency.</p>
Definition of "Green"	<p>"We define green jobs as work in agricultural, manufacturing, construction, installation and maintenance, research and development (R&D), technical administrative, and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect and restore ecosystems and biodiversity; reduce energy, materials, and water consumption through high-efficiency and avoidance strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution. But green jobs, as we argue below, also need to be good jobs that meet longstanding demands and goals of the labor movement, i.e., adequate wages, safe working conditions, and worker rights, including the right to organize labor unions."</p> <p>Green jobs are those that contribute appreciably to maintaining or restoring environmental quality and avoiding future damage to the Earth's ecosystems.</p>
Methodology	Analysis, literature review
Data Sources Cited	American Solar Energy Society; Intergovernmental Panel on Climate Change; U.S. Environmental Protection Agency; United Nations Development Programme; U.S. National Renewable Energy Laboratory
Report Geography	Worldwide
Green Occupations Cited	<ul style="list-style-type: none"> • Certified solar technicians • Repair and maintenance specialists • Designers • Architects • Auditors • Engineers • Estimators • Project managers • Pipe fitters • Sheet metal workers • General construction workers • Green manufacturing jobs <p>Wind power occupations</p> <ul style="list-style-type: none"> • Meteorologists • Surveyors to rate appropriate sites with the greatest wind potential

	<ul style="list-style-type: none"> • Structural, electrical, and mechanical engineers • Workers to form advanced composite and metal parts • Quality-control personnel • Computer operators • Software specialists • Mechanics • Technicians
Green Industries Cited	<ul style="list-style-type: none"> • Renewable energy • Buildings and construction • Transportation • Basic industry • Agriculture • Forestry • Research and development • Engineering • Architecture • Project planning and management • Auditing • Administration • Marketing • Retail • Customer services • Plumbing • Electrical wiring • Government offices (standard setting, rule-making, permitting, monitoring and enforcement, support programs) • Science and academia • Professional associations • Civil society organizations (advocacy and watchdog groups, community organizations)
Keywords	Decent green jobs, low carbon, sustainable, wind, solar PV, solar thermal, biomass, hydropower, geothermal, carbon capture and storage, green building and retrofitting, improving efficiency
Legislation Cited	N/A
Bibliography (Y/N)	Y
Reviewer Name/Org	Vesselka McAlarney / Florida Agency for Workforce Innovation, Labor Market Statistics Center

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