



Green Jobs Kick-Off Workshop in the Arab States: Lebanon Case Study

The Energy Sector

Beirut, UN-House
July 28-29, 2011

About the Energy Sector

- Power Mainly Produced (in 2009):
 - . By Thermal Power Plants (actual capacity = 1685MW)
 - . By Hydraulic Power Plants (actual capacity = 190MW)
 - . From Power Purchases (589GWh from Syria and 527 GWh from Egypt)
- Chronic Power Shortages (in 2009):
 - . Energy demand = 15,000 GWh
 - . Energy supply = 11,522 GWh
- => 33% of electricity demand satisfied by self-generation
- Government Subsidies to Electric Sector = 4% of GDP
- => 2.5b U.S dollars in losses for the economy in 2009
- => Losses will reach 9.5b U.S dollars in 2015 if no action is taken

Energy Sector - Impact on the Environment

- Energy sector (incl. Transportation) responsible for 74.86% of GHG emissions in 2000.
- => **Air Pollution cost 0.7-1.3% of GDP in 2000.**
- => **At least 350 Lebanese die prematurely due to urban air pollution**
- Oil spills damaging coastlines and related eco-systems
- => **Carcinogenic components progress in food chain**
- => **Damaged livelihoods of fisherman and workers in tourism industry**

How to Define Green Jobs in the Energy Sector?

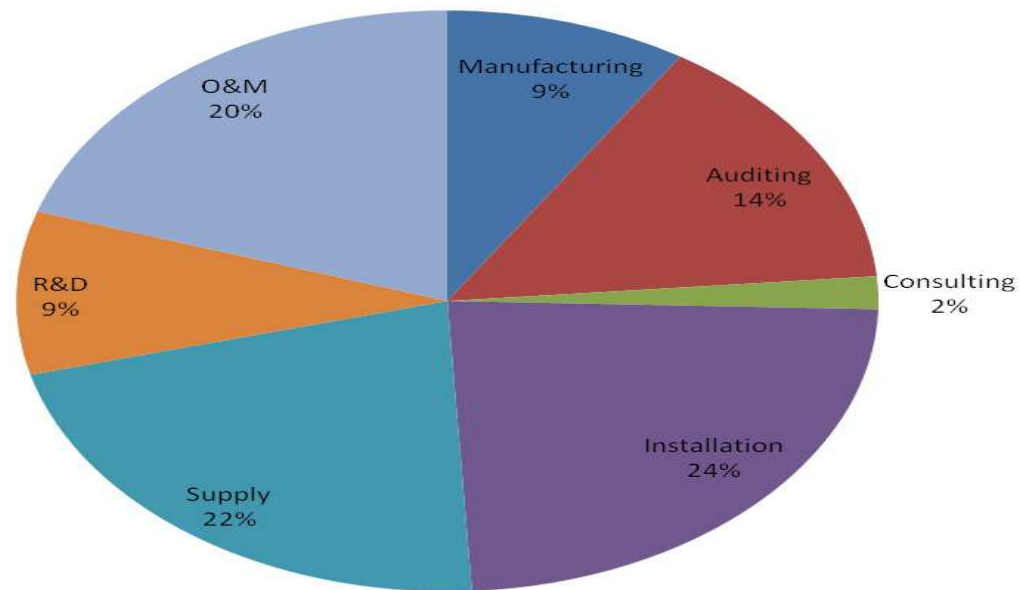
- Green Jobs” are defined as **decent** work created in economic sectors and activities, which reduces their environmental impact and adapts to climate change, ultimately leading to environmentally and socially sustainable enterprises and economies.
- => Renewable Energy Technologies (Wind, Solar PV, CSP, SWH, Geothermal, Non-large scale hydro, some biomass, wave, tidal etc...)
- => Energy efficiency (energy efficient consumer products, heat capture, LED, insulation etc...)

Findings

- Current Number of Green Jobs based on UNDP/ILO Survey

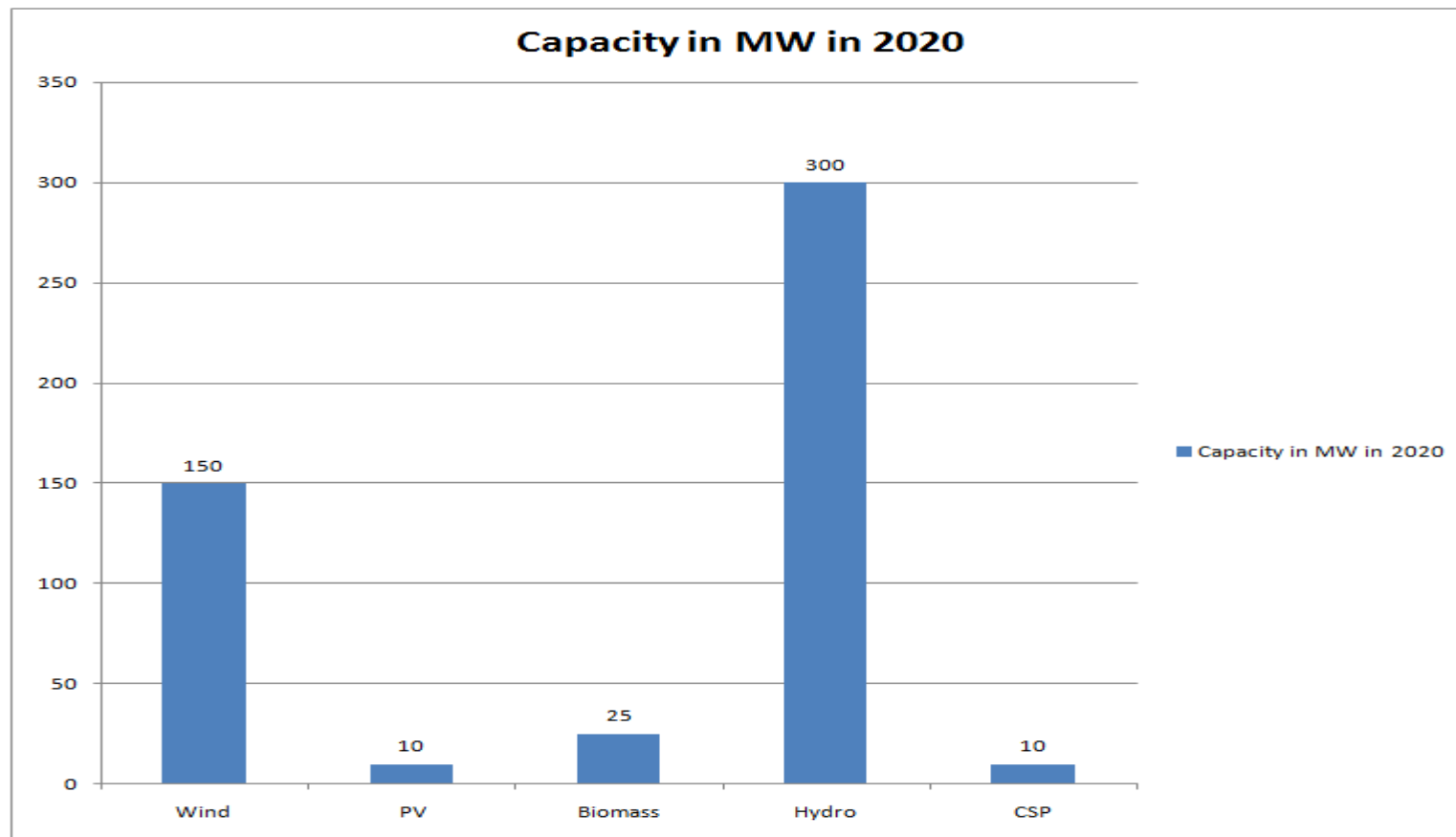
≈ 500 (counted as 518)

Company Distribution across Sectors



Findings (cont.)

- In 2020? => 1,050,000m² of SWH+

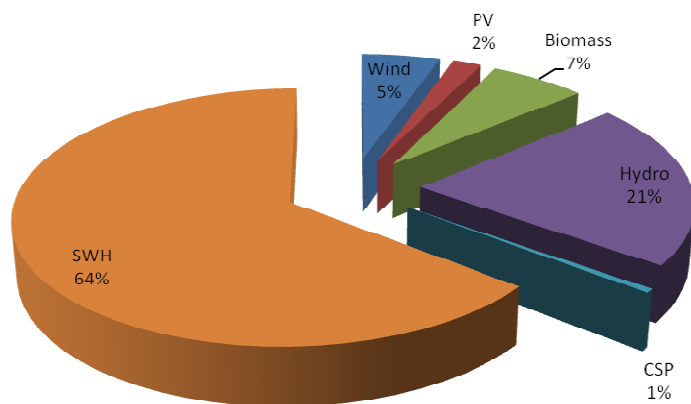


Findings

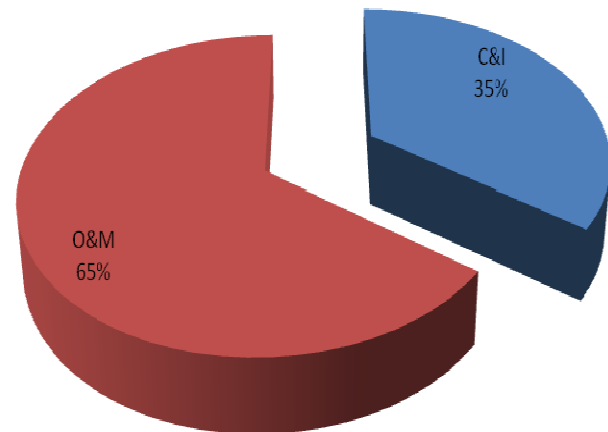
Potential For Green Jobs Creation

≈ 4000 Green Jobs

Job Distribution by Technology



Jobs Distribution per Type of Work



Current Impediments and Limits

- Lack of a comprehensive policy on renewable energies, including aligned labour market, skills and enterprise development policies
- Delay in Implementation of law 462
- Lack of feed-in laws, subsidies to green technologies and ecological taxes
- Underdeveloped environment for green enterprise development.

Current Impediments and Limits (cont.)

- Shortage of skills on the technical and professional levels, Limited credit facilities for households as well as for investors and enterprises.
- Lack of awareness of green technologies in Lebanon, and obliviousness to environmental problems
- No policy that seeking to stimulate the manufacturing sector in Lebanon.

Recommendations

- A comprehensive policy on renewable energies with aligned employment, skills and enterprise development policies.
- The efficient implementation of existent energy laws (law 462: allowing independent power producers) and the adoption of planned energy conservation and feed-in laws
- The enforcement of existent policy papers for the electricity sector
- Incentives for renewable energies need to be created such as “One Million Roofs” programs, funds for energy conservation in hotels, universities and schools etc
- Building regulations for energy efficient standards and mandatory SWH installations
- Creation of a conducive business environment for renewable energy enterprise development

Recommendations (Cont.)

- Tax reforms which internalize external costs of highly polluting technologies
- Well designed subsidies and incentive schemes for promising technologies
- Awareness campaigns on green technologies in Lebanon
- Introduction of a feed-in tariffs law
- Enlargement of credit facilities and opportunities for households, investors and enterprises
- Implementation of an educational and training policy targeting all educational institutions (from primary schools to universities) and technical institutions to provide the necessary skills base for green jobs, as well as to raise national awareness.