The Development of Green Markets

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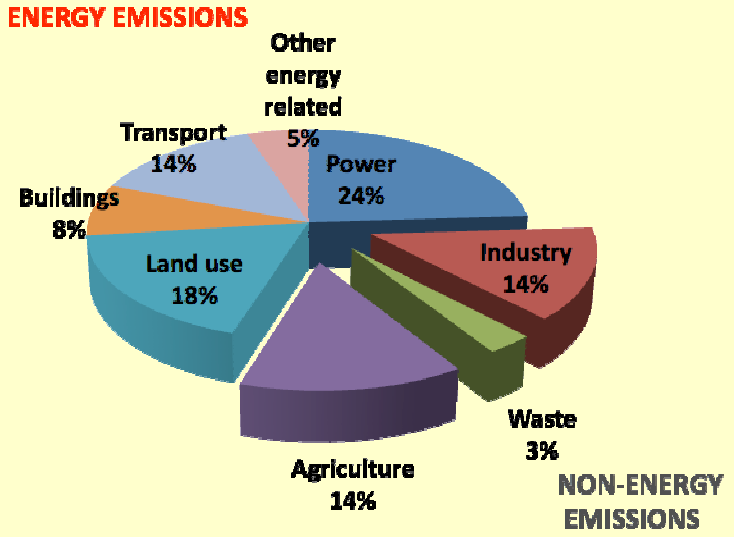
On a business as usual path…

By 2030…

- Global energy demand up by 45%
- Oil price up to USD 180 per barrel (IEA)
- GHG emissions up 45%
- Global average temperature trajectory +6 °C
- Economic losses equivalent to 5-10% of global GDP as compared to the 3% of GDP loss from the current financial crisis;
- Poor countries will suffer costs in excess of 10% of their GDP (Stern)



Source: Prepared by Stern Review, from data frown from World Resources Institute Climate Analysis Indicators Tool (CAIT) on-line database version 3,0

The global context

Multiple crises:

- **Financial** - 18 to 51 million unemployed over 2007 levels & the number of extremely poor has increased by at least 100 million people worldwide;
- **Fuel** - rising prices cost developing economies USD 400 bn in higher energy bills in 2007;
- **Food** - rising prices cost developing countries USD 324 bn in 2007;
- **Ecosystem** – EUR 50 bn worth of biodiversity is being lost each year; and
- **Climate** - current global GHG emissions at about 50 Gt per annum - 5 times higher than the threshold.

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How strongly and swiftly will the international community be able to transform our economies ?

- Adopt new ways of thinking.
- Cope with the ambiguity of the public opinion.
- Tackle the equity challenge.
- Do not move away from environmental integrity.

Global Green New Deal

- The Roosevelt example
- The current stimulus packages
- The objectives
  - *reviving the world economy*
  - *Reduce the environmental impact*
  - *Combat poverty*

- The priorities in developed countries
  - *Energy efficient buildings*
  - *sustainable transport*
  - *renewable energy*

- The priorities in developing countries
  - *agricultural productivity and adaptation*
  - *fresh water management*
  - *Sanitation*

- UNEP urges G20 Governments to invest US$ 750 billion (about 1% of global GDP) towards building a green economy

Global Green New Deal

Green fund percentage of the total GDP

1	Republic of Korea	6,99%
2	China	5,24%
3	Australia	0,87%
4	USA	0,75%
5	Japan	0,74%
6	Germany	0,36%
7	South Africa	0,29%
8	France	0,20%
9	United Kingdom	0,19%
10	Canada	0,17%
11	Mexico	0,07%
12	Italy	0,06%
13	Spain	0,05%

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Policy Toolbox

- Reform subsidies
- Prioritize sustainable ODA
- Develop ecological tax reforms and labeling
- Adapt Trade regimes
- Facilitate technology transfer
- Update worker's skills
- Improve environmental and social legislation

Green Jobs - A typology

New Job Creation	Renewable energy sector; energy performance service companies; mobility services
Elimination	Mining; packaging (materials discouraged or banned) **Net employment effects ?**
Substitution	Shifting from fossil fuels to renewables, automobiles to mass transit, waste disposal to recycling, primary metals production to secondary production
Transformation	Existing jobs greened along with changed workplace practices and methods. **Supply-chain** effects (steel for wind turbines)
'Radiating Out'	Greening core areas (energy, transport) has potential to "radiate" across large sections of the economy

Source: Renner, Sweeney and Kubit, *Green Jobs: Towards Sustainable Work in a Low-Carbon World*

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Employment Estimates in Renewable Energy

Renewable Energy Source	Global Employment Estimates	Employment in Selected Countries	
Wind Power	300,000	Germany U.S. Spain China Denmark	82,100 36,800 35,000 22,200 21,000
Solar PV	170,000	China Japan Germany Spain U.S.	55,000 ? 35,000 26,450 15,700
Solar Thermal	624,000 +	China Germany Spain US	600,000 13,300 9,100 1,900
Biofuels / Biomass	1,174,000 +	Brazil US China Germany	500,000 312,200 266,000 95,400
TOTAL	2,332,000 (includes small hydro and geothermal)		

Source: Renner, Sweeney and Kubit, *Green Jobs: Towards Sustainable Work in a Low-Carbon World*

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Green Jobs and Efficiency

In principle, any job that contributes to reducing environmental impacts (though greater efficiency of energy & materials use) can be seen as a green job.

Key questions:

- How much more efficient is sufficient? (threshold)
- Is what's considered efficient in one country actually efficient in international comparison?
- Can yesterday's level of efficiency still be regarded as adequate tomorrow?

- Efficiency is a relative and highly dynamic concept.

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Fuel Efficiency and Jobs in Vehicle Manufacturing

	European Union	Japan	United States
Passenger Car Manufacturing Workforce	2,000,000	952,000	1,095,000
Vehicles meeting ≤ 120 gram / CO_2 standard	7.5 %	6.3 %	n.a.
Vehicles achieving 35 mpg or more	n.a.	n.a.	1.2 %
Jobs in Manufacturing Efficient Vehicles [direct only]	150,000	62,000	13,000

Source: Renner, Sweeney and Kubit, *Green Jobs: Towards Sustainable Work in a Low-Carbon World*

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Green and Decent Jobs ? A schematic Overview

Environment

Green, but not decent	Green and decent
Examples: ➢ Electronics recycling without adequate occupational safety ➢ Low-wage installers of solar panels ➢ Exploited biofuel plantation laborers	*Examples:* ➢ Unionized wind and solar power jobs ➢ Green architects ➢ Well-paid public transit workers
Neither green nor decent	**Decent, but not green**
Examples: ➢ Coal mining with inadequate safety ➢ Women workers in cut flower industry ➢ Hog slaughterhouse workers	*Examples:* ➢ Unionized car manufacturing workers ➢ Chemical engineers ➢ Airline pilots

Decent Work

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It’s now or never

Thank you