Panel on Green Growth & Sustainable Development
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UNEP’s “Green Economy Initiative”

Pavan Sukhdev
Special Adviser & Head, Green Economy Initiative
UNEP

Demonstrating that Greening is a new engine for growth, sizing sectoral opportunities, addressing hurdles & enabling conditions

Demonstrating the value of ecosystems & biodiversity, capturing these values, and reversing the vicious cycle of environmental losses and persistent poverty

Sizing and incentivizing growth in green & decent jobs

“Green Economy Initiative”
a worldwide network of partners
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a worldwide network of partners

EEA, ICTSD, IEA, ILO, IMF, OECD, UNCEB, UNCSD, UNCTAD, UNDESA, UNDP, UNECE, UNECLAC, UNEP, UNESCAP, UNFAO, UNFCCC, UNIDO, UNSD, UNSGO, UN Foundation, World Bank, Center for American Progress, Pew Center, Peterson Institute of International Economics, Union of Concerned Scientists, World Resources Institute, Worldwatch Institute, De La Salle University, ECN, IIED, IISD, ITPS, KEI, LSE, Millenium Institute, Nagoya University, TERI, TRL, Universidade de Sao Paolo, University of Cape Town, University of Stellenboch

UNEP’s Green Economy Report

To show that Greening the Economy is..
  a new engine of “growth”
  a source of new & decent employment
  a sustainable solution to persistent poverty

Green Economy Report
Sector Focus

Enabling Conditions
- Finance
- Subsidies
- Laws & Taxes
- Markets

Energy
Transport
Industry
Buildings
Cities
Agriculture
Forestry
Fisheries
Renewable energy has more jobs than fossil fuels, and could reach 20 million jobs by 2030.

Climate change will continue to impact workers and their families, especially those dependent upon agriculture and tourism.

Mapping “Green Jobs” Potential..

<table>
<thead>
<tr>
<th>Country</th>
<th>Renewable Energy</th>
<th>Building Energy Efficiency</th>
<th>Sustainable Transport</th>
<th>Sustainable Agriculture</th>
<th>Ecological Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2 million Jobs</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>South Korea</td>
<td>171,000 Jobs</td>
<td>148,000 Jobs</td>
<td></td>
<td></td>
<td>350,000 Jobs</td>
</tr>
<tr>
<td>European Union</td>
<td>1 to 2 million Jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>160,000 Jobs</td>
<td></td>
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<td></td>
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<tr>
<td>Thailand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>170,000 Jobs</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS...</td>
<td>20 million ?</td>
<td>..... ?</td>
<td>..... ?</td>
<td>..... ?</td>
<td>..... ?</td>
</tr>
</tbody>
</table>
Investments in Ecological Infrastructure

Eg: SFPUC, Peninsula Watershed
San Francisco

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Four-river restoration project

Han River
Dredging: 5 billion m³
Reservoirs: 3
Eco-friendly river projects: 3
New dams: 3
Bike paths: 189 km

Gang River
Dredging: 5 billion m³
Reservoirs: 3
Eco-friendly river projects: 3
New dams: 3
Bike paths: 948 km

Yeongsan River
Dredging: 3 billion m³
Reservoirs: 3
Eco-friendly river projects: 3
New dams: 3
Bike paths: 228 km

Nakdong River
Dredging: 46 billion m³
Reservoirs: 8
Eco-friendly river projects: 3
New dams: 3
Bike paths: 542 km

Source: Ministry of Land, Water and Environment
ADAPTING TO THREE BIG CLIMATE IMPACTS

1. Freshwater Scarcity: Maintain and Restore Forests, Lakes, Wetlands

2. Agricultural & Fisheries Productivity: Forests for nutrients and freshwater flows, Mangroves and Coral reefs as fish nurseries, and small-scale natural buffers (forest and grassland patches) agricultural areas

3. Natural Hazards: Storm & Cyclone damage reduction through Coral reefs, mangrove forests; flood and drought damage limitation through forest cover

<table>
<thead>
<tr>
<th>Biome/Ecosystem</th>
<th>Typical cost of restoration (high scenario) US$/ha</th>
<th>Estimated annual benefits from restoration (avg. scenario) US$/ha</th>
<th>Net present value of benefits over 40 years %</th>
<th>Internal rate of return %</th>
<th>Benefit/cost ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coral reefs</td>
<td>542,500</td>
<td>120,200</td>
<td>1,166,000</td>
<td>7%</td>
<td>2.8</td>
</tr>
<tr>
<td>2. Coastal</td>
<td>232,700</td>
<td>73,900</td>
<td>325,400</td>
<td>11%</td>
<td>4.4</td>
</tr>
<tr>
<td>3. Mangroves</td>
<td>2,880</td>
<td>4,200</td>
<td>86,900</td>
<td>40%</td>
<td>26.4</td>
</tr>
<tr>
<td>4. Inland wetlands</td>
<td>9,000</td>
<td>14,200</td>
<td>171,800</td>
<td>12%</td>
<td>5.4</td>
</tr>
<tr>
<td>5. Lakes/Rivers</td>
<td>4,000</td>
<td>3,900</td>
<td>69,700</td>
<td>27%</td>
<td>15.5</td>
</tr>
<tr>
<td>6. Tropical forests</td>
<td>3,450</td>
<td>7,000</td>
<td>148,700</td>
<td>50%</td>
<td>37.3</td>
</tr>
<tr>
<td>7. Other forests</td>
<td>2,390</td>
<td>1,020</td>
<td>26,300</td>
<td>20%</td>
<td>10.3</td>
</tr>
<tr>
<td>8. Woodland/shrubland</td>
<td>990</td>
<td>1,571</td>
<td>32,180</td>
<td>42%</td>
<td>26.4</td>
</tr>
<tr>
<td>9. Grasslands</td>
<td>260</td>
<td>1,010</td>
<td>22,600</td>
<td>79%</td>
<td>75.1</td>
</tr>
</tbody>
</table>

Note: Costs are based on an analysis of appropriate case studies; benefits have been calculated using a benefit transfer approach. The time horizon for the benefit calculation are 40 years (consistent with our scenario analysis horizon to 2050); Discount rate = 1%, and discount rate sensitivity by flexing to 4%, consistent with TEEB 2008. All estimates are based on ongoing analyses (for TEEB (see chapter 7 TEEB D0 forthcoming). As the TEEB data base and value-analysis are still under development, this table is for illustrative purposes only.
Objectives of a Global Green New Deal

1. Revive the world economy, create new and decent jobs, and protect the vulnerable.

2. Reduce carbon dependency, ecosystem degradation, and water scarcity.

3. Eliminate persistent poverty by 2015... achieve the MDG’s.


Components of a Global Green New Deal

- **International Policy Architecture**
  - International Trade
  - International Aid
  - Global Carbon Market
  - Global Markets for Ecosystems Services
  - Development and Transfer of Technology
  - GGND International Coordination

- **Fiscal Stimulus in 2009-2010**
  - Energy Efficient Buildings
  - Sustainable Transport
  - Sustainable Energy
  - Agriculture and Freshwater

- **Domestic Policy Initiatives**
  - Perverse Subsidies
  - Incentives & Taxes
  - Land Use and Urban Policy
  - Integrated Management of Freshwater
  - Environmental Legislation
  - Monitoring and Accountability
Components of a Global Green New Deal
Most Important to Ensure Private Sector Investment...

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  - International Aid
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- Domestic Policy Initiatives
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- Fiscal Stimulus in 2009-2010
  - Energy Efficient Buildings
  - Sustainable Transport
  - Sustainable Energy
  - Agriculture and Freshwater

Objectives of a Global Green New Deal...
related to poverty

1. Revive the world economy, create new and decent jobs, and protect the vulnerable

2. Reduce carbon dependency, ecosystem degradation, and water scarcity

3. Eliminate persistent poverty by 2015... achieve the MDG’s

Ecosystem Losses & Links to MDG’s

Example: MDG #1, 4, 5, 8…

India Example: 480 Million people earn their livelihood mainly in small farming, animal husbandry, informal forestry, fisheries…

Ecosystem Losses & Poverty

“GDP of the Poor” is most seriously impacted by ecosystem losses...

Source: GIST's Green Accounting for Indian States Project, 2002-03 data
GND “Next Steps”: Sustained Investment in a “Green Economy”

Eg: South Korea’s 5-Yr Green Growth Plan
3 Action Plans, 10 Policy Directions, 50 Specific Projects
2009-2013

Three action plans and 10 policy directions in Korea’s 5-year green growth plan

<table>
<thead>
<tr>
<th>3 Action plans</th>
<th>10 Policy directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures for climate change and securing energy independence</td>
<td>1. Reduce carbon emissions</td>
</tr>
<tr>
<td></td>
<td>2. Decrease energy dependence on oil and enhance energy self-sufficiency</td>
</tr>
<tr>
<td></td>
<td>3. Support adapting to climate change impacts</td>
</tr>
<tr>
<td>Creation of a new growth engine</td>
<td>4. Develop green technologies as future growth engine</td>
</tr>
<tr>
<td></td>
<td>5. Switch industry into green</td>
</tr>
<tr>
<td></td>
<td>6. Develop cutting-edge industries</td>
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<tr>
<td></td>
<td>7. Set up infrastructure for Green Economy – set up new tax schemes to attract private funds into green industries</td>
</tr>
<tr>
<td>Improving quality of life and strengthening the status of the country</td>
<td>8. Green city and green transport</td>
</tr>
<tr>
<td></td>
<td>9. Green revolution in lifestyle</td>
</tr>
<tr>
<td></td>
<td>10. Enhance national status as a global leader in green growth</td>
</tr>
</tbody>
</table>

GND Execution Risks...

<table>
<thead>
<tr>
<th></th>
<th>Feb, 2009</th>
<th>July, 2009</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Stimulus Announced</td>
<td>$2,800 Billion</td>
<td>$3,130 Billion</td>
<td>+12%</td>
</tr>
<tr>
<td>Of which: “Green Stimulus”</td>
<td>$430 Billion</td>
<td>$512 Billion</td>
<td>+19%</td>
</tr>
<tr>
<td>Of which: “2009” Plan Deployment</td>
<td>$121 Billion (28%)</td>
<td>$114 Billion (22%)</td>
<td>- 9%</td>
</tr>
</tbody>
</table>

... the risk of deferral or misdirection of planned “green” investments needs to be proactively managed...