



# Green Economy and Green Growth

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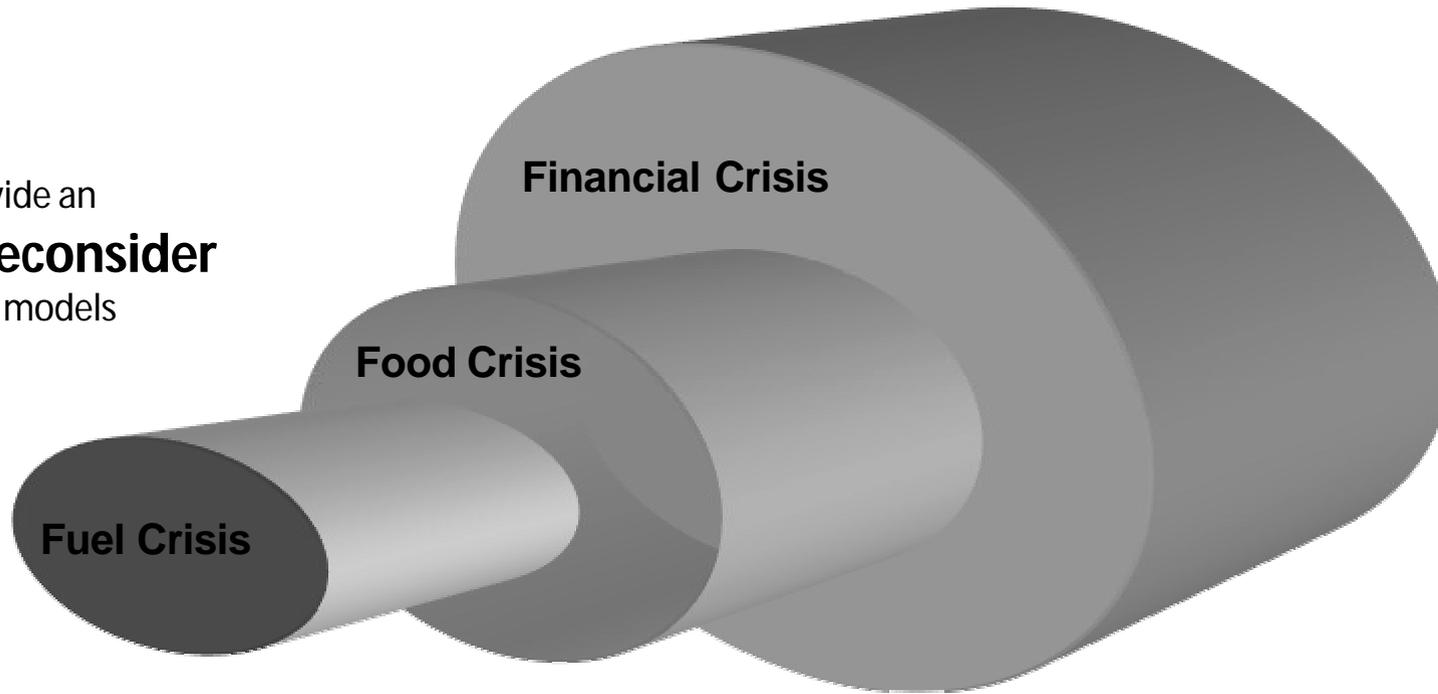
**Green Economy, what is it ?**  
**« An economy that results in improved human well-being and reduced inequalities over the long term, while not exposing future generations to significant environmental risks and ecological scarcity »**

**Different concept than « Green Growth »:**

**Green Growth is one that “emphasizes environmentally sustainable economic progress to foster low-carbon, socially inclusive development”**

# Shifting to Green Economy: Why ?

Global crises provide an  
**Opportunity to reconsider**  
Traditional growth models



## Global momentum for transition to a green economy

- **G20** reaffirmed commitment to “move toward greener, more sustainable growth” (Sept 2009)
- **UN CSD 2012 (Rio+20)**:  
*“green economy in the context of sustainable development and poverty eradication”*

# Multiple Crises

- Food crisis: 1 billion people worldwide at risk of hunger and malnutrition (FAO); need to increase access to food by 50% to feed 9 billion + by 2050.
- Financial and economic crisis - threatening jobs worldwide; poverty reduction gains
- Decline in trade, investment, ODA and foreign remittances
- 200 million jobs lost between 2007 and 2009 (ILO)
- Climate crisis – exacerbating all the other crises

# If we follow the same path:

## By 2030...

- Global energy demand up by 45%
- GHG emissions up 45%
- Global average temperature up 5,2°C, with possible sea level rise between 26-59 cm (IPCC)
- Sustained losses equivalent to 5-10% of global GDP as compared to the 3% of GDP loss from the current financial crisis (IMF)
- Pressing population growth

# Emerging opportunities

- Collective global “rethink” of development and business models
- Governments trying to stimulate economic activity, create jobs (cf EU 2020 Plan); opportunity, e.g. for organic agriculture
- Significant international awareness on benefits of transition to a green economy, for developed as well as developing countries

# What is good about the GEI? (UNEP)

of the Economy :



Engine of Growth



Employment



Solution to Poverty

# Green Economy: Related Concepts



Sustainable Development



MDG's



Green Economy



Kyoto+ Target

James Gustave Speth

**"a sustaining economy"**



JC Kumarappa

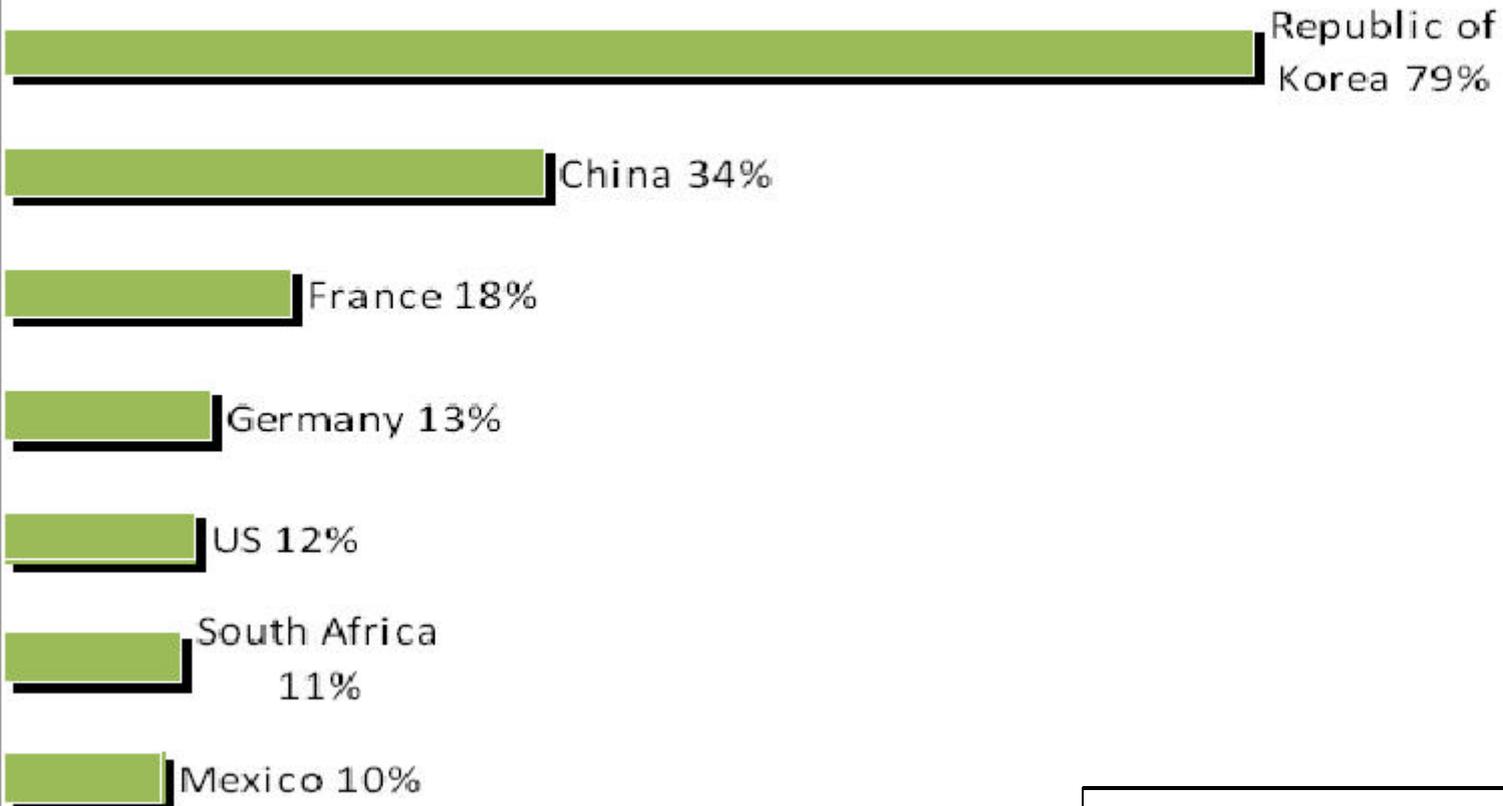
**"an economy of permanence"**



# Green Growth – Investing in the Green Economy

## Allocation of Public incentives

### Green Stimulus Ranking as % of Total Stimulus as of August 2009



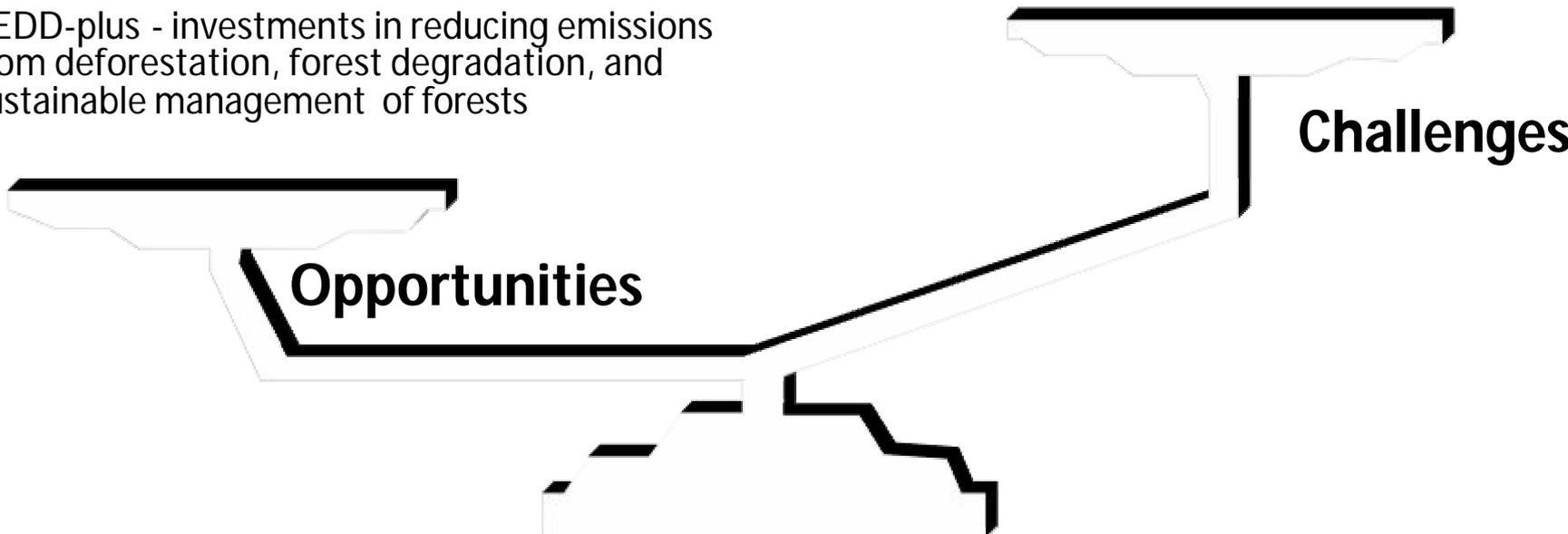
# Green Economy & Climate Change

In 2008, investments in **renewable energy generation (\$140 billion)** surpassed investments in **fossil fuel power generation (\$110 billion)**

Projected investments in renewables could generate **20 million jobs**

REDD-plus - investments in reducing emissions from deforestation, forest degradation, and sustainable management of forests

- Business-as-usual risks increasing greenhouse gas emissions by 130% by 2050 (IEA) and raising average global temperatures by 6°C (IPCC)
- Emissions linked to deforestation and forest degradation account for nearly 20% of global greenhouse gas emissions



# Green Jobs

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**“The shift to low-carbon economies should lead to a positive net balance for employment i.e. create more jobs than will be lost in the transformation process by substituting carbon-intensive and polluting jobs”**

**– Peter Poschen’s *Secretary General Briefing Notes 2010***

# Closing the skills gap

- Skills gaps and shortages: a binding constraint on the greening of economies, both in developed and developing countries
- Assessment of the skills required
- Training and education to tie in directly with policies and investments

# Scaling up investment

- Private investment in clean development and green jobs is growing: innovation
- Public incentives are developing: direction
- Engaging with social partners: just transition

# The key drivers of green employment

# Poverty Reduction

Better access to  
common  
property  
resources (CPR)



# Green Economy: Approach and Focus

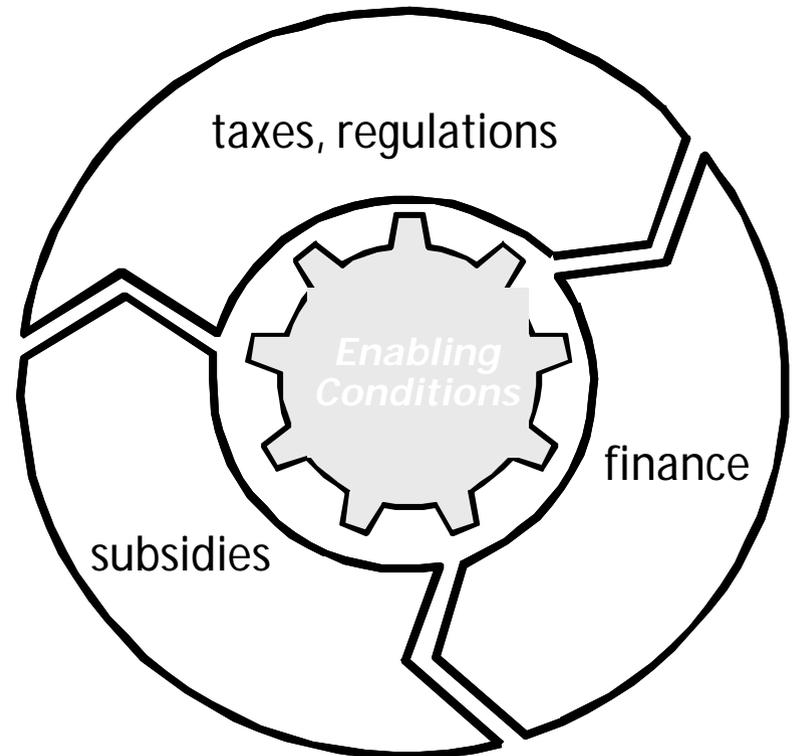
## APPROACH

- Selecting and driving transformation in key sectors - critical or highly material for greening the global economy



## FOCUS

- On enabling conditions (finance, subsidies, taxes, regulations, and related reforms that achieve GE objective)



# Agriculture



- Approximately **2.6 billion people** rely on agricultural production systems for their livelihood. (FAO 2009)
- **525 million small farms** world wide, 404 million less than two hectares of land (Nagayets 2005), Small farms cultivate **60 percent of arable land** (Herren et al. 2010)



- **10 percent increase** in farm yields -> **7 percent reduction in poverty** in Africa, more than **5 percent** in Asia
- Green farming practices have increased yields, especially on small farms, between **79 and 100 percent**.

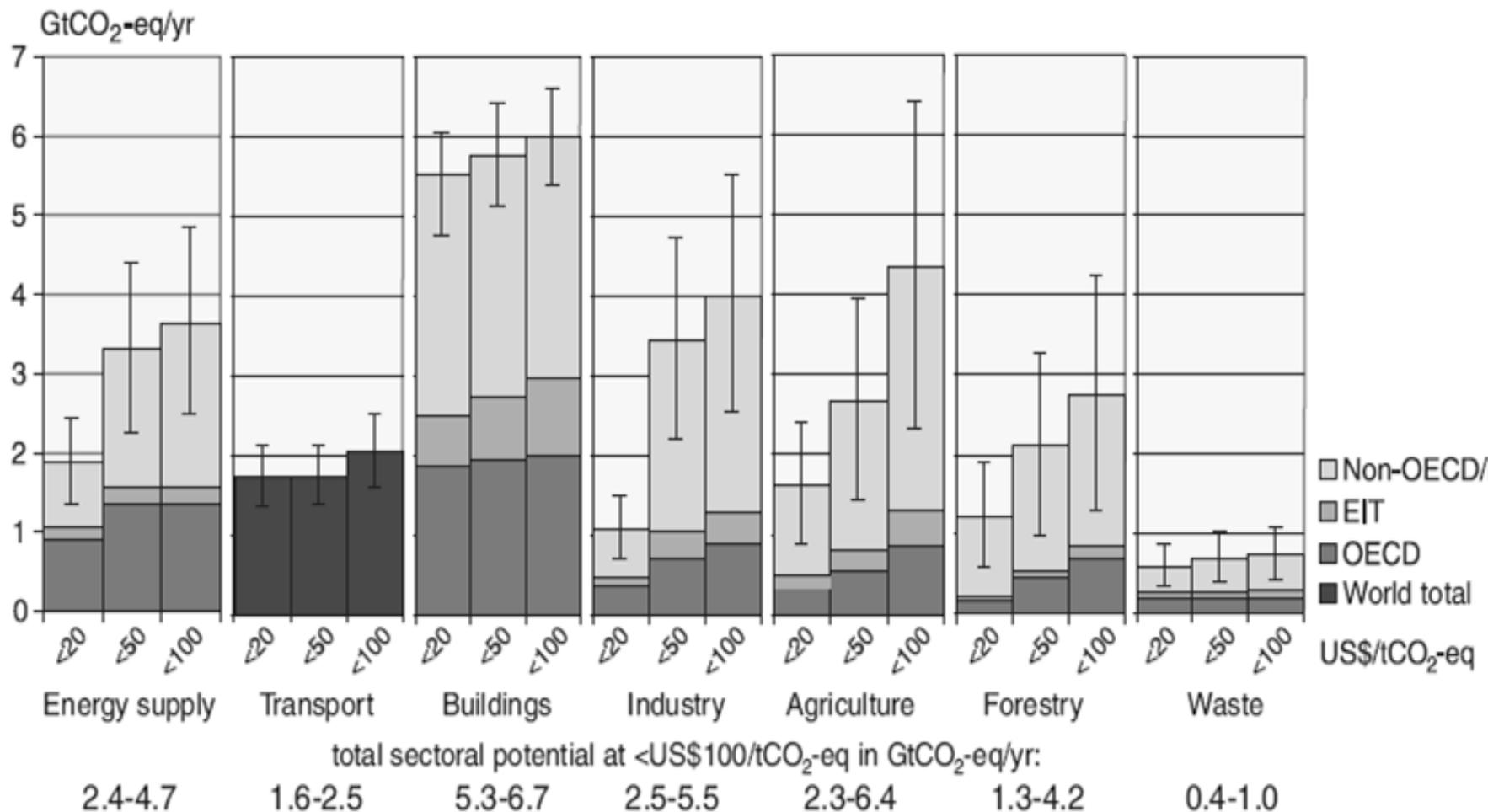
*An increase in overall GDP coming from **agricultural labor productivity** is on average **2.5 times more effective** in raising the incomes of the poorest quintile in developing countries than an equivalent increase in GDP coming from **non-agricultural labor productivity**.*



# Buildings



## IPCC Projections of CO<sub>2</sub> mitigation potential in 2030



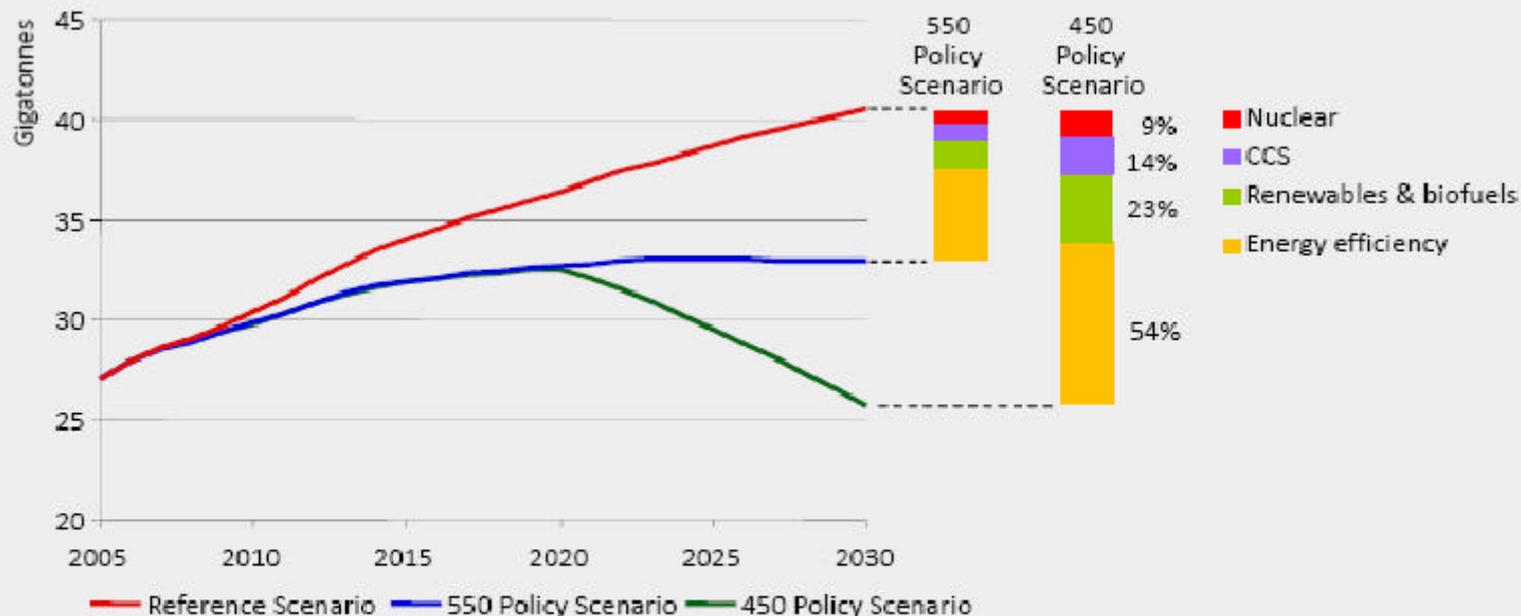
Source: IPCC (2007)



# Energy



## Reductions in energy-related CO2 emissions in the climate-policy scenarios



*While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings*

© OECD/IEA - 2008

Source: World Energy Outlook 2008



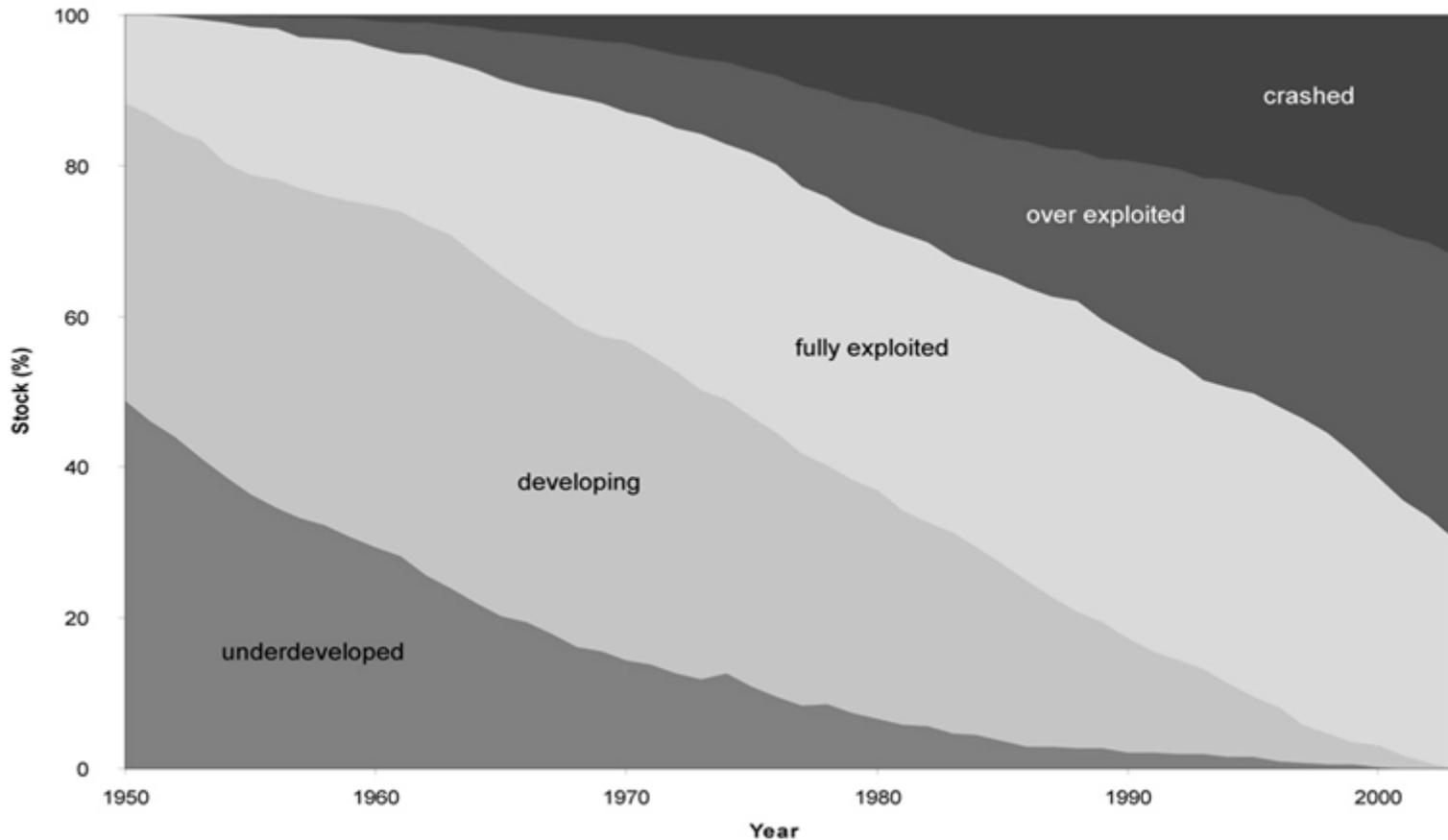
# Fisheries



## Business as usual is not an option: State of fish stocks

### Stock Exploitation

Stock = (Family, Genus, Species) by FAO areas, max annual catch  $\geq 1000t$  and year count  $\geq 5$



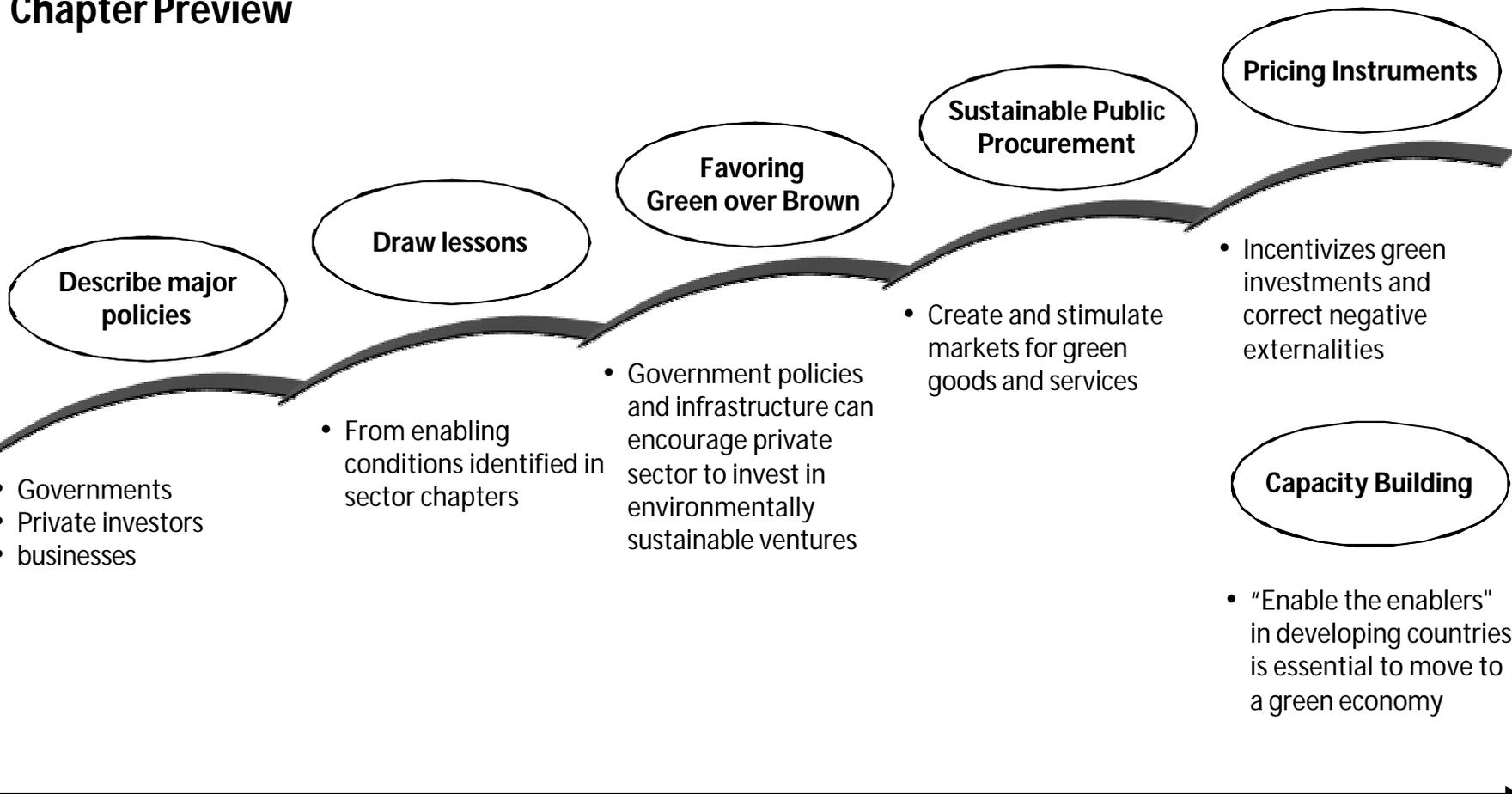
Source: Froese and Pauly (2004)



# Enabling Conditions



## Chapter Preview



# Enabling Conditions



Increased availability of finance for governments and businesses in key sectors [includes subsidies and tax instruments]

- Laws and institutions that encourage long-term and efficient management and use of resources
- Laws and norms that encourage the transfer of technologies
- Improved administrative and technical capacity in government and other organizations
- Improved transparency and accountability
- Effective enforcement of laws

- Increased funding for key sectors
- Policy support for key sectors that is clear, predictable and stable
- Prices that reflect true cost of goods and services

- Existence of key infrastructure [for those sectors that need it in order to attract further investment]

- Increased data and analysis about ecological conditions
- Increased awareness about sustainability challenges
- Increased information about life-cycle costs of goods and services
- A workforce equipped with the skills needed to take advantage of green opportunities



# GEI's Mission

“Advising clients on Greening their Economies, by working with extensive partnerships of institutions and experts and using a range of research products infused with thought leadership”



# Measuring Transition

Employing a set of **indicators** capturing different aspects of the economic transition



Agriculture  
Buildings  
Cities  
Energy  
Forests  
Fisheries  
Manufacturing  
Tourism  
Transport  
Waste  
Water



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## 1. Key Sectors

- Investment (\$)
- Employment (jobs)
- Output
- (\$)



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## 2. Decoupling growth from impact

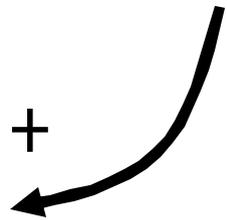
- Energy use (per \$ GDP)
- Water use (per \$ GDP)
- Material use (per \$ GDP)
- Waste generation (per \$ GDP)



Economy-wide  
Selected key sectors

## 3. Aggregate indicators of progress and well-being

e.g. Capital depreciation, net savings, indices well-being, poverty



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# State of Sao Paulo – a case study

Aspect	Indicator	Description
Renewable Energy	Renewable Energy Use	Percentage of RE in total consumption, by sector
	Energy Efficiency	Useful renewable energy made available, in relation to total generated energy involved in the process
	Energy Intensity	Energy consumption per unit of generated wealth, by sector
	Income and Job Generation	Total generated wealth and number of jobs created by renewable energy, cleantech and related areas investment
	Greenhouse Gas Emissions	GHG emission intensity by population and generated wealth, considering sector participation in total emissions.
Transport	Mass Transit	Percentage of mass transit fleet operating on renewable energy
	Transportation Matrix Composition	Relative participation of each transportation mode in total volume of transported passengers and cargo
	Environmental Efficiency of Transport Modes	Index composed of three variables: renewable fuel use, energy efficiency and pollution emissions
	Environmental Performance of Automobiles	Index composed of three variables: renewable fuel use, energy efficiency and pollution emissions
	Transportation Matrix Cost	Transport mode cost
	Public Health	Relation between pollution-related diseases and transport emissions

# Advisory Services - Current Engagement

## Engagement completed

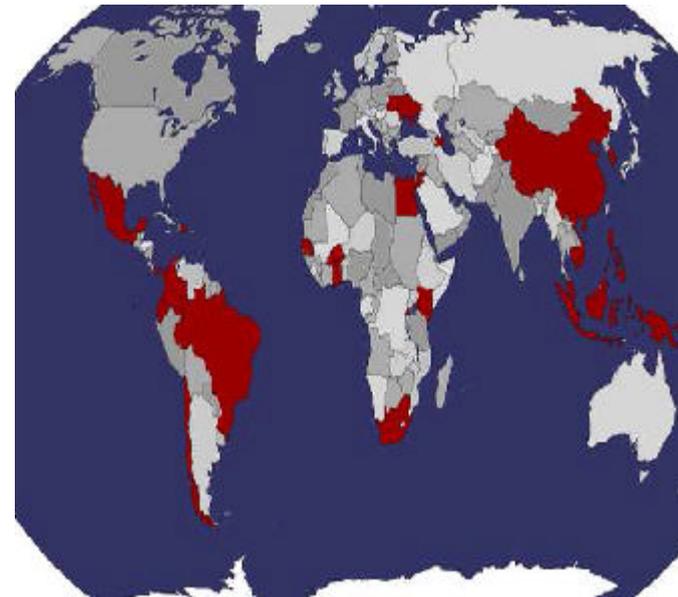
**Asia:** East Asia Low-carbon Green Growth Report as an input to East Asia Forum

**China:** Green Economy Forum, Green Economy in Chongqing City – starting sectoral studies under a 2nd phase China project, to feed into 2011-2015 plan

**Rep. Korea:** Review of Green Growth Plan

## 2010 – 2011 rollout countries

- **Africa:** Regional project (Burkina Faso, Egypt, Ghana, Kenya, Rwanda, Senegal, South Africa)
- **East Asia:** China, Indonesia, Nepal, PNG
- **Europe:** Armenia, Moldova, Ukraine; Azerbaijan
- **Latin America and Caribbean:** Barbados, Brazil, Mexico – seeking to launch a regional initiative in the Caribbean
- **West Asia:** Jordan, League of Arab States
- **Caucasus:** Azerbaijan



# Rio+20 – What is it?

*On 24th December 2009 the UN General Assembly adopted a Resolution (A/RES/64/236) agreeing to hold the United Nations Conference on Sustainable Development (UNCSD) in 2012 – also referred to as 'Rio+20' or 'Rio 20'*

## Conference Aims

- **Securing** renewed political commitment to sustainable development
- **Assessing** the progress and implementation gaps in meeting already agreed commitments
- **Addressing** new and emerging challenges



## Themes

- **Green Economy** within the context of sustainable development and poverty reduction
- **Institutional Framework** for sustainable development





## Challenges

**Access to Electricity**



**Rural Area**



*70% no access, mostly rural area*



# Bangladesh – Solar PV



## Innovative Business Model



*Grameen Shakti (GS)*

**Micro-lending concept**

Financial Packages



Installment Payments



Lower Recurrent Costs  
without subsidies

**Job creation + Community**

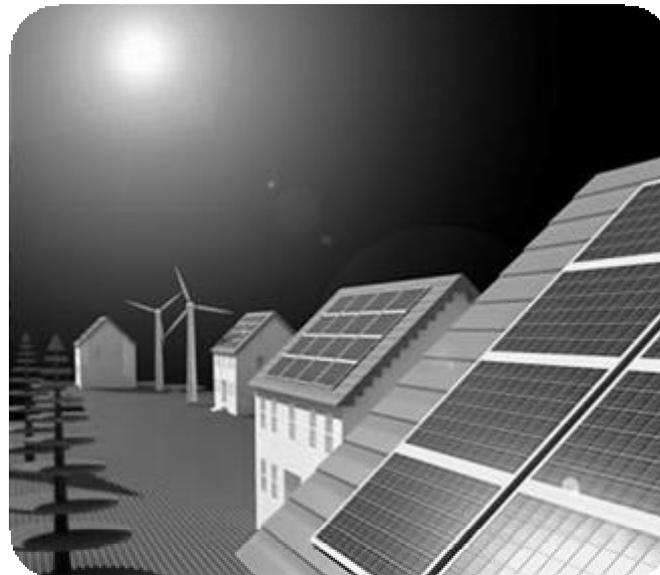
Community Participation



Training women and youth



Community acceptance  
and goodwill



**Solar Home Systems (SHSs)**



# Bangladesh – Solar PV



## Innovative Business Model



*Grameen Shakti (GS)*



**As of 2009**

**300,000 SHSs installed**

**20 technology centers set up**

**660 women employed**

**600 youth trained**



**In coming years**

**Planning to train 5,000 women**

**Instruct 10,000 school children**

**Aiming to create**

**100,000 jobs by 2015**



**Solar Home Systems (SHSs)**





Thank you

**UNEP GREEN ECONOMY INITIATIVE**  
**[www.unep.org/greeneconomy](http://www.unep.org/greeneconomy)**

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