Green Building in a Green Economy

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THE ROAD TO RIO+20

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Green Building in a Green Economy

Outline

- The actual paradigm - Brown Economy
- Importance of Economic Growth
- Sustainability
- Challenges – Pursuit of economic growth
- The sustainable approach
- The new paradigm - Green Economy
- Opportunities
- The actual paradigm : Buildings
- The new paradigm: Green buildings

Current Paradigm – Brown Economy

- Resource depletion

- Dependency on Fossil Fuels

- Environmental Degradation

Current Paradigm – Brown Economy

- Gross Misallocation of Capital
  - Capital investment in:
    - Property (Building)
    - Fossil Fuel
    - Structured Financial Assets

Current Paradigm – Brown Economy

- Increase in GNP/GDP = Improved well being
- Market prices do not reflect unsustainable use and over-exploitation
- Rapid accumulation of capital
  - Physical
  - Financial
  - Human
- Unaccounted social and environmental externalities
  - Excessive depletion and degradation

Challenges – Brown economic growth

- Cleaning of oil spills
- Dealing with asthma brought by fumes
- Weapons used in war
- Work generated by dealing with traffic accidents
- Incarceration

- Over farming and overfishing
- Deforestation
- Exploitation of natural resources
- Over-consumption

Not necessarily causes increase in well-being

Causes environmental degradation

Importance of economic growth

No growth = economic decline = lower profits/unused capacity = Investors discouraged = less investment = less bank loans = less money entering into circulation = less money to repay the past debts = less consumers to spend

= business sentiment down = no further imvestment = unemployment = even less consumption = more unemployment = crime etc etc etc

Decline in economic growth

Investment creates employment

Challenges to the pursuit of growth

- Economic drivers influence the over-exploitation of natural resources
- Excessive depletion of natural capital/natural wealth (often irreversibly)
- Endowment of natural systems and ecosystems
- Detrimental impacts on well being of future generations *(source UNEP 2011)*

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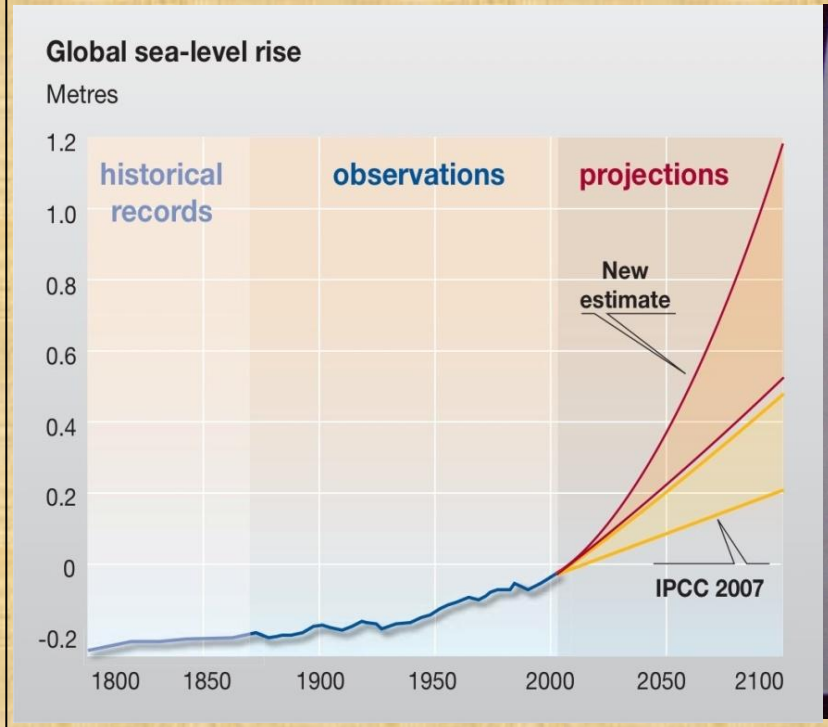
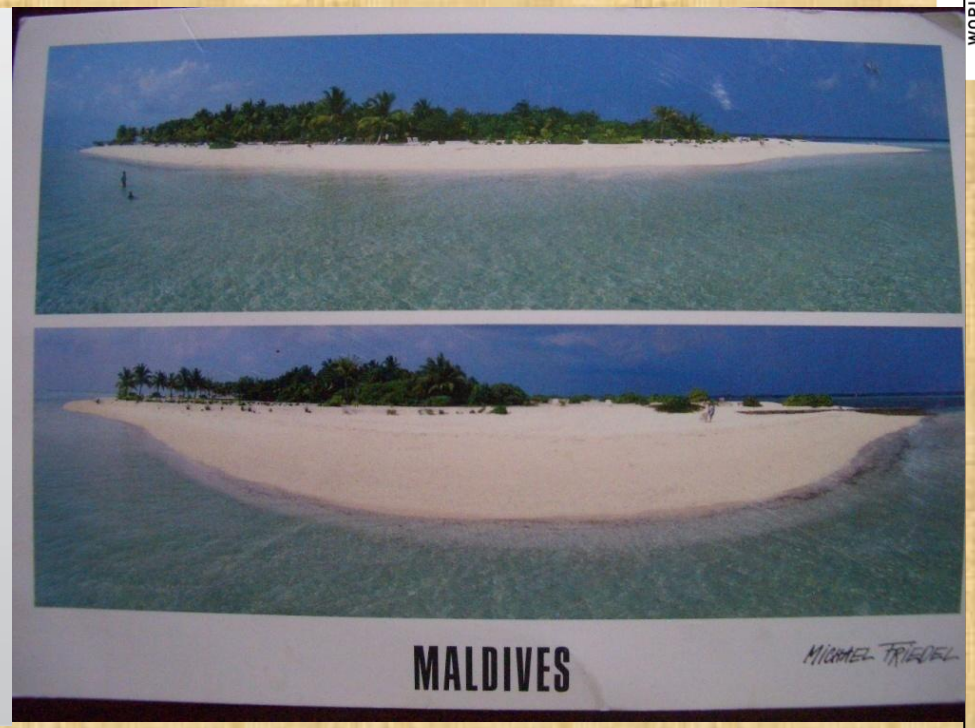
Crises

- Climate (Acceleration of carbon emissions which has detrimental human consequences)
- Biodiversity
- Food (skyrocketing food and commodity price)
- Water
- Fuel (Fuel price shock of 2007 – 2008)
- Global financial system - crash
- Social

Climate

- Rising sea levels





Climate

- Drought

Climate

- Coastal erosions

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Climate

- Frequent storms

Climate

- Floods

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Biodiversity

Resource depletion *(example)*

- Only 20% of fish stocks are underexploited
- 52% are fully exploited (no further room for expansion)
- 8% depleted

Source (FAO 2009)

Biodiversity

- Deforestation
  - 13 million hectares lost annually

    Source (FAO 2010)

Biodiversity

- Pollution

Food

- Agricluture – declining soil quality, land degradation

Food

- Scarcity

Food

- External factors affecting supplies

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Water

- Water supply 2030 – only 60% of the world demand will be met (*source: Mc Kinsey 2009)*
- Past peak ecological water in many regions

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Water

- *844 million still have no access to clean drinking water* *(source UNICEF 2010)*

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Water

- 2.6 billion people – no basic sanitation

(Source WHO 2010)

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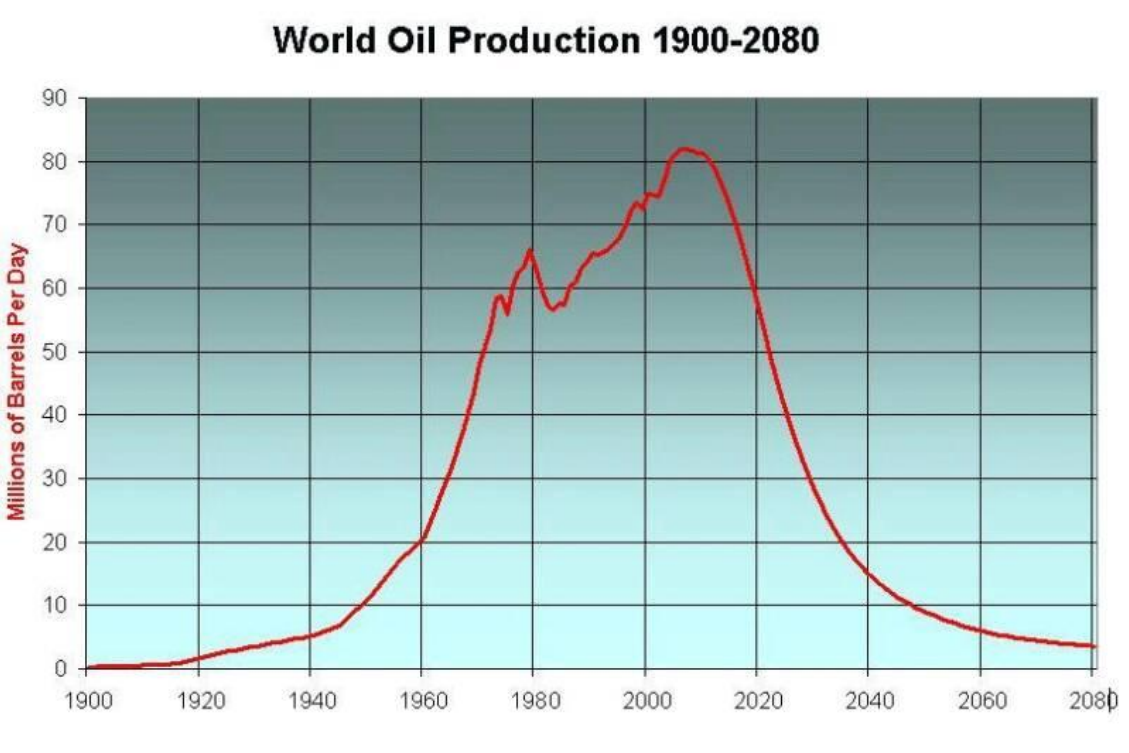
Energy

- Peak oil
- Energy insecurity
- Carbon dependency
- 1.6 billion people – No access to electricity

(Source IEA 2002)

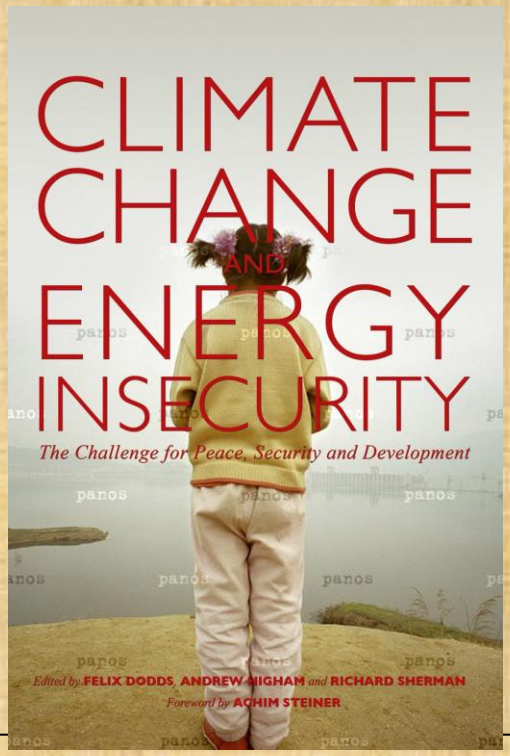
Energy

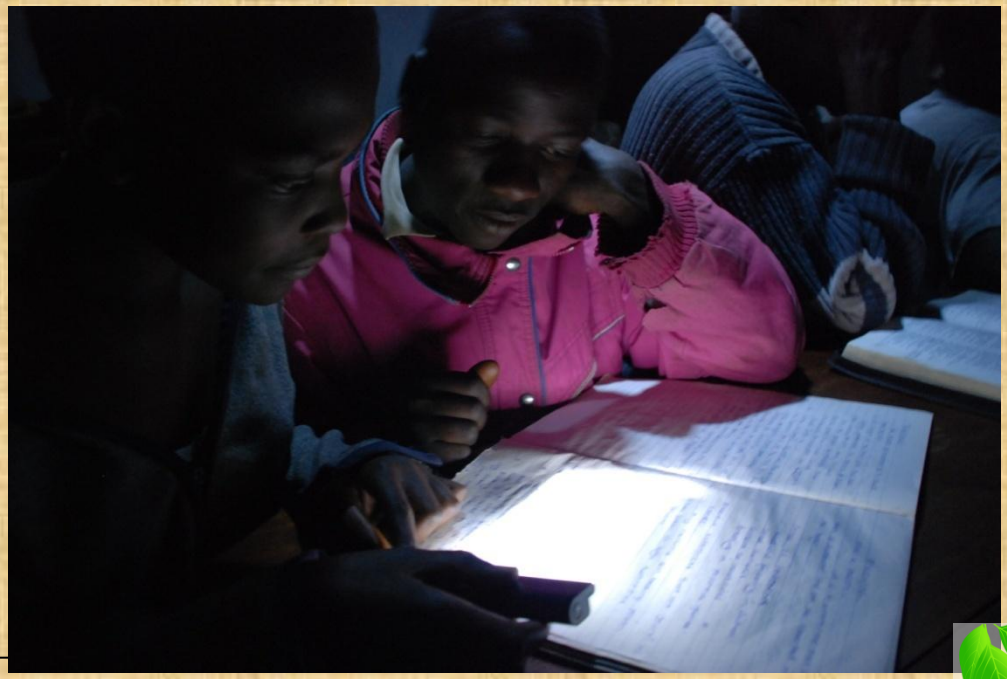
- Peak oil



Energy

- Energy insecurity
- Carbon dependency
- 1.6 billion people – No access to electricity





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Social

- Social marginalisation
- Increase in relative poverty (causing increased inequality)
- Less leisure time
- Rise in the number of diseases and illnesses related to increased prosperity – example obesity and stress

Sustainability

- The generally accepted definition of the sustainability concept is the one defined by the United Nations and Bruntdland Commission on Environment and Development, which characterizes sustainable development as that which

  “meets the needs of the present without compromising the ability of future generations to meet their own needs.”

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The sustainable approach:
A Green Economy

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New Paradigm – Green Economy

- Definition as per UNEP

  " UNEP defines a green economy as one that results in 'improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."

In simpler words "Green economy is low carbon, resource efficient and socially inclusive."

Results of Green Economy

- Green economy:
  - Recognizes the value of and invests in natural capital
  - Is central to Poverty Alleviation
  - Creates jobs and enhances social equity
  - Promotes renewable energy and low carbon technologies
  - Delivers more sustainable urban living & low-carbon mobility
  - Grows faster that a Brown Economy over time, while maintaining and restoring natural capital

Transition to Green Economy

For Government:

1. Phasing out of harmful subsidies
2. Reforming policies and incentives
3. Strengthening market infrastructure
4. Introducing new market-based mechanisms
5. Redirecting public investment
6. Greening public procurement

Transition to Green Economy

For Private sector:

Responding to the policy reforms and incentives through:

1. Increased financing and investment
2. Building skills and innovation capacities

Current trends

- Re-allocation of capital
  - Renewable Energy
  - Energy Efficiency
  - Public transportation
  - Sustainable Agriculture
  - Ecosystem and Biodiversity protection
  - Land and water conservation
- New public policies, including pricing and regulatory measures
  - Elimination of perverse subsidies
- Green public procurement
- Carbon metric
- Accounting for natural capital/Rebuilding of natural capital
- New consumer reaction/New market demand
- More sustainable business philosophies/Total corporate responsibility

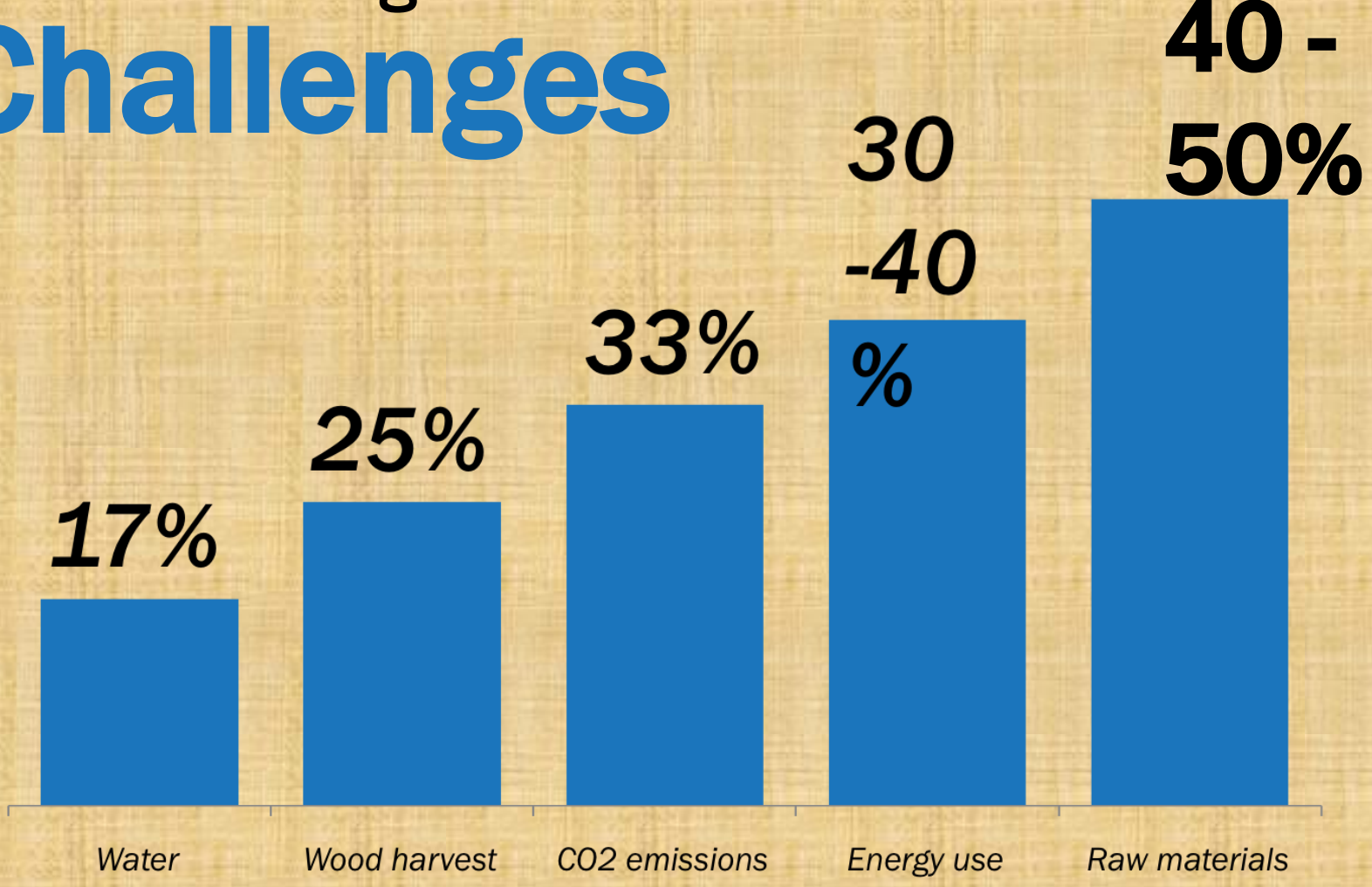
Opportunities

- Myth – Inescapable trade off between sustainaibilty and economic growth
- Stimulus packages – Green recovery
- New engine for growth
  - Green sectors
  - Green jobs
  - Social entrepreneurship
  - Green buildings

Buildings

- Building Sector of TODAY has an oversized footprint:
  - Single largest contributor to global GHG emissions
  - About 1/3 of global energy end use in building
  - Construction sector responsible for more than a third of resource consumption

Global building Challenges



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India
70%
Increase in office space by 2030 to
890 million m2
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Buildings

BUT

Buildings also represent the single largest opportunity to mitigate climate change

UNDP statement:

“no other sector has such a high potential for drastic emission reductions”

Buildings

The Chief Executive of the World Green Building Council, Jane Henley says:

"Governments are beginning to see that their national energy security, urban development and job creation priorities can all be achieved through **green building**. As governments face economic challenges and shrinking budgets, **green building** offers a way to both save money through efficiencies and create jobs"

Green Building

According to the International Energy Agency (Lautsen 2008),

Green buildings are characterised by:

1. increased energy efficiency,
2. reduced water and material consumption
3. improved health and environment.

Green building → Green Economy

- Use of resource efficiently
- Energy Efficiency
- Water Efficiency
- Promotion of new and eco-friendly products
- Minimize waste
- Productivity and health benefits
- Reduced environmental impacts
- Reduced greenhouse gas emissions
- More renewable energy – decrease dependency on fossil fuel
- Innovations


Green Building Council
Singapore
80%
of existing stock
to be rated under
Green Mark by 2030
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Korea
Songdu
30%
less water
66%
fewer emissions
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South Africa

Kuyasa CDM

2,300 homes retrofitted

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The world's first carbon neutral city

Masdar, UAE


TURKEY
Capadocia

Paris

Musée du quai Branly


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THANK YOU!!!
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