

# Climate-change Mitigation & Green Economy: About Myths, the Basic Arithmetic of Growth and Inconvenient Developmental Truths

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Inspiring Change  
Towards a Green Economy

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- Green Economy (GE) is without alternative; can effectively address a number of acute environmental problems; can create new “green” growth areas; and might slow down GHG emission growth. **But achieving a significant absolute (permanent and global) decline of GHG emissions is a different ballgame.**
  - Current hype about GE may give false hope about real CC mitigation requirements; might underplay the seriousness of the situation; and **might lead to excuses for doing nothing really fundamental.**
  - As Tim Jackson put it in his book *Prosperity without Growth*: “The climate may just turn out to be the Mother of all Limits” - **raises some key systemic issues of our growth model.**
  - Time constraint is an increasingly important factor.
- ➔ **Understanding the seriousness of the challenge, its magnitude, complexity and that there are no easy (techno) fixes.**
- ➔ **As yet there is no vision of an economy that allows continual consumption growth based on absolute decoupling.**

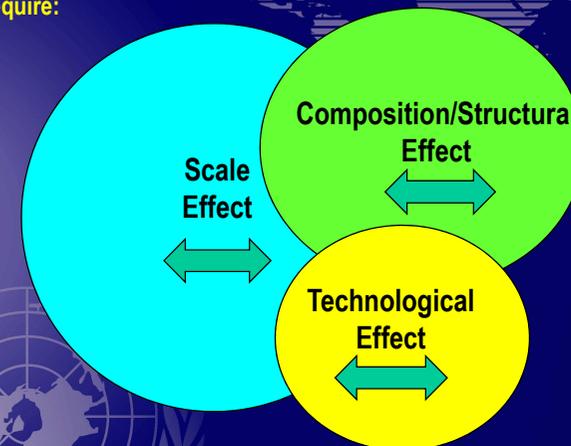
## Climate Change: Understanding the Challenge 3

- Limiting global warming to 2°C: requires **absolute** GHG emission cuts of 50% (in DgCs) to 85% (in DdCs)
  - Kyoto Protocol committed 37 DdCs to 5.2% GHG emission reductions by 2012 relative to 1990; yet, global emissions increased by 40%
- Should be achieved by fundamental shift towards GE
- Three key thrusts:
  - **Material/energy/resource efficiency revolution**
  - **Fundamental shift in energy mix towards renewable energy**
  - **All too often forgotten: Fundamental transformation of agriculture**
- In essence, what is required is a **Decoupling** of economic growth from material/energy/resource use, but in **absolute, not only relative terms**

➔ **Those who promote decoupling need to take a closer look at the historical evidence, the basic arithmetic of growth.**

## Conceptual Underpinnings of De-coupling 4

Transiting to a qualitatively and structurally different growth and development model would require:



**Yet, in modern history, the scale effect has hardly ever been neutralized by the structural and technological effects (exceptional case: fridges in some developed countries).**

### What makes the Green Economy myth questionable?

GE has potential for a relative decoupling, the creation of new “less GHG-intensive” growth poles, but may well fall (far) short of effectively delivering on absolute decoupling:

Main reasons:

- Technical feasibility limits
- Governance and market constraints
- Systemic limits



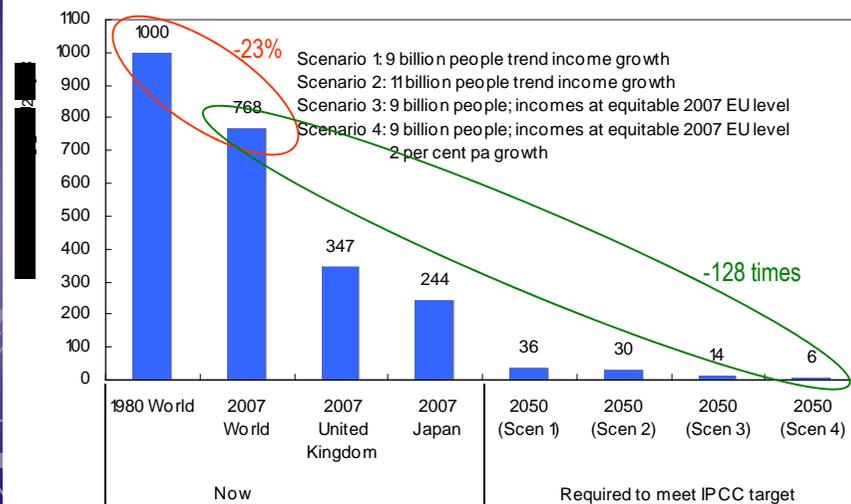
### Technical Feasibility Limits

- Colossal scale of required GHG emission cuts in a historically very short period of time (see chart)
- Efficiency gains and ample availability of cheap renewable energy will encourage “rebound effect”
- Extremely challenging to completely replace fossil fuel
- Peak oil may push into the coal trap
- Agricultural transformation is a major challenge
- Increase in global population



### Colossal Scale of Required GHG Emission Cuts

Carbon intensities now and required to meet 2<sup>o</sup> global warming target



Derived from: T. Jackson, Prosperity without Growth, 2008: 81

### Governance and Market Structure Limits

- International climate governance regime is wanting.
- Unprecedented absolute, permanent and global GHG emission reductions require clear vision, a sound strategy and consistent implementation of mitigation measures – yet, in practice we are far from that.
- Not even the recent financial and economic crisis was seized as “turning point” (even during the crisis global material/energy/resource use increased, mainly driven by growth in rapidly industrializing countries).
- To set different incentives, a modification of the measurement of economic performance and resulting prosperity would be required.
- Externalization of environmental costs and perverse subsidies – fundamental part of capitalist market economy.
- Market concentration – a major complicating factor for effective deployment of new technology (e.g. biased approaches to renewable energy and in agriculture).



## Systemic Limits

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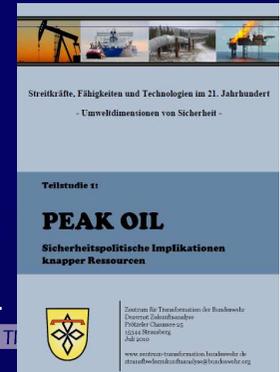
- Inherent conflict: Shift from dominating growth paradigm to “the limits-of-growth paradigm” (once marginal growth becomes uneconomic, it makes us poorer, not richer).
- Capitalist system cannot operate without “profit” growth (or in a contracting economy), which drags along physical growth.
- Expand or perish: competition for reducing costs; launching new products – all lead to more, not less physical production/consumption.
- To assure social stability, growth should outperform labour productivity increase of 1.5% annually (on top, global population increase of 50%).
- Can development be really largely based on “dematerialized and labour-intensive” activities? (not without drastically changing relative costs of labour and materials)
- Am I too pessimistic, underestimating the innovation, adaptive and flexibility capacity of capitalism?

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## Some Inconvenient Developmental Truths

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- What “development space” for economically and socially catching up with developed countries does climate change still leave? (impossible to follow the Kuznets curve)
- Those who have contributed least to CC will be hit first and foremost.
- Particularly dramatic will be the impact on agriculture, food security and access to cropland and water.
- Huge migration movements.
- Large chunks of trade infrastructure are in coastal zones.
- Mounting scarcity of a number of strategically important commodities.
- The ecological U-turn will increasingly become an issue of global justice and international security.



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## THANK YOU

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TRADE AND ENVIRONMENT REVIEW 2009/2010

Promoting poles of clean growth to foster the transition to a more sustainable economy

UNCTAD UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

N° 18, December 2010

**ICY BRIEFS** Agriculture at the Crossroads: Guaranteeing Food Security in a Changing Global Climate

For a large number of developing countries, agriculture remains the single most important sector. Climate change has the potential to damage seriously the natural resource base on which agriculture depends, with grave consequences for food security in developing countries. However, agriculture in the sector has the potential to transition from being a problem to becoming an essential part of the solution to climate change provided that it makes a more visible and meaningful contribution. What is required is a rapid and significant shift from conventional, industrial, mechanized and high-input and high-output production systems towards systems of sustainable production systems that also consistently improve the productivity of small-scale farmers. The required transformation is however much more fundamental than simply leaving the existing industrial agricultural system.

In most developing countries, agriculture accounts for between 20% and 30% of GDP and employs 30-50% of the labor force, providing a livelihood for approximately 2 billion people globally. Improving agricultural productivity can be the key to the growth of a major share of national GDP economies. However, the potential benefits from agricultural productivity gains by 2015 have gotten somewhat less clear. The number of people eating less than the minimum recommended daily intake of 2,100 kcal per day has increased from 1.1 billion in 1990 to 1.4 billion in 2008.

Options for cost-effective, medium-term management of agricultural production systems are limited. However, a number of policy options are available to improve agricultural productivity and reduce greenhouse gas emissions in agriculture.

Key driving forces of GHG emissions in agriculture

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