



Barriers to Renewable Energy Development and Way Forward

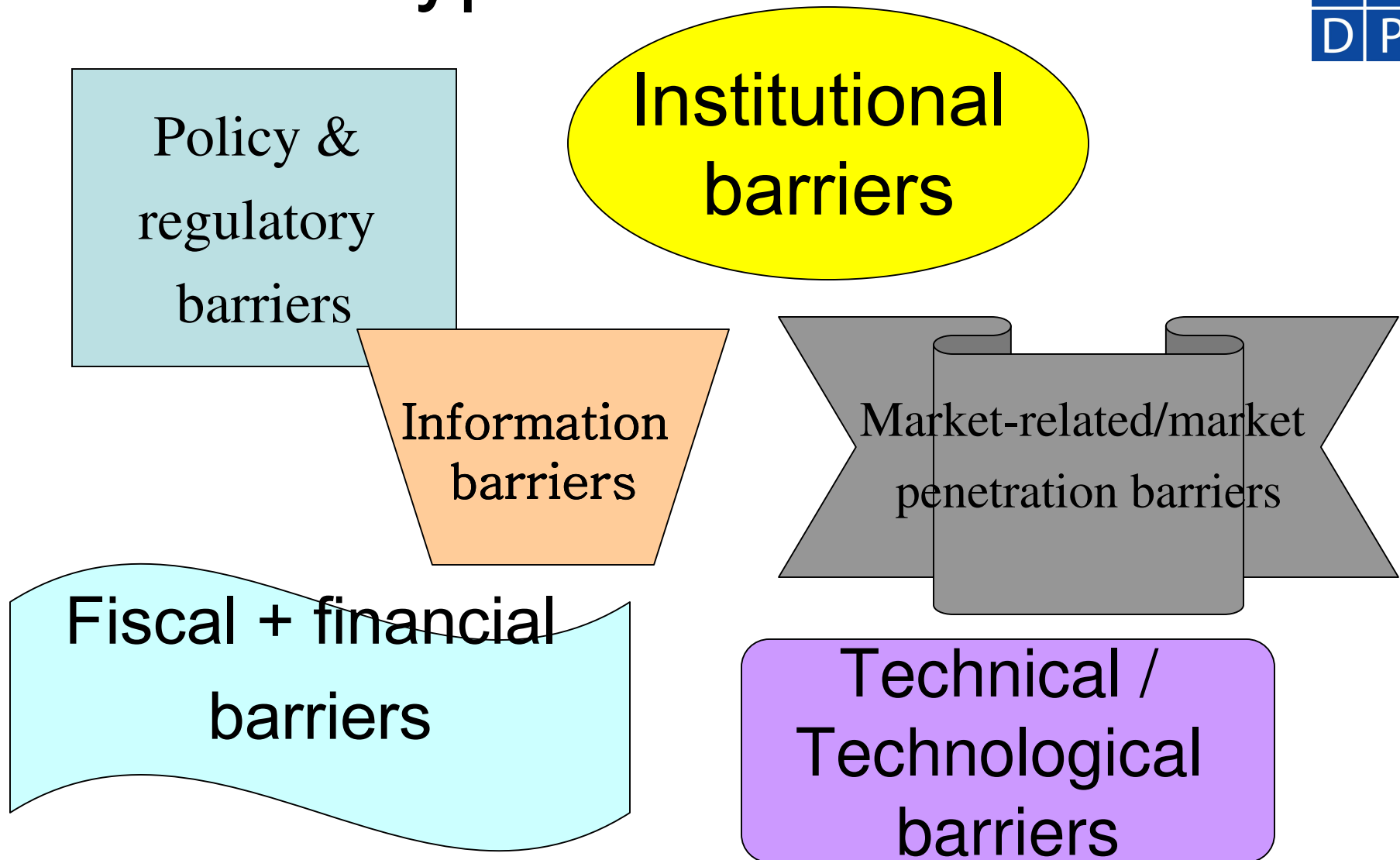
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Types of Barriers



Example : policy and regulatory barriers



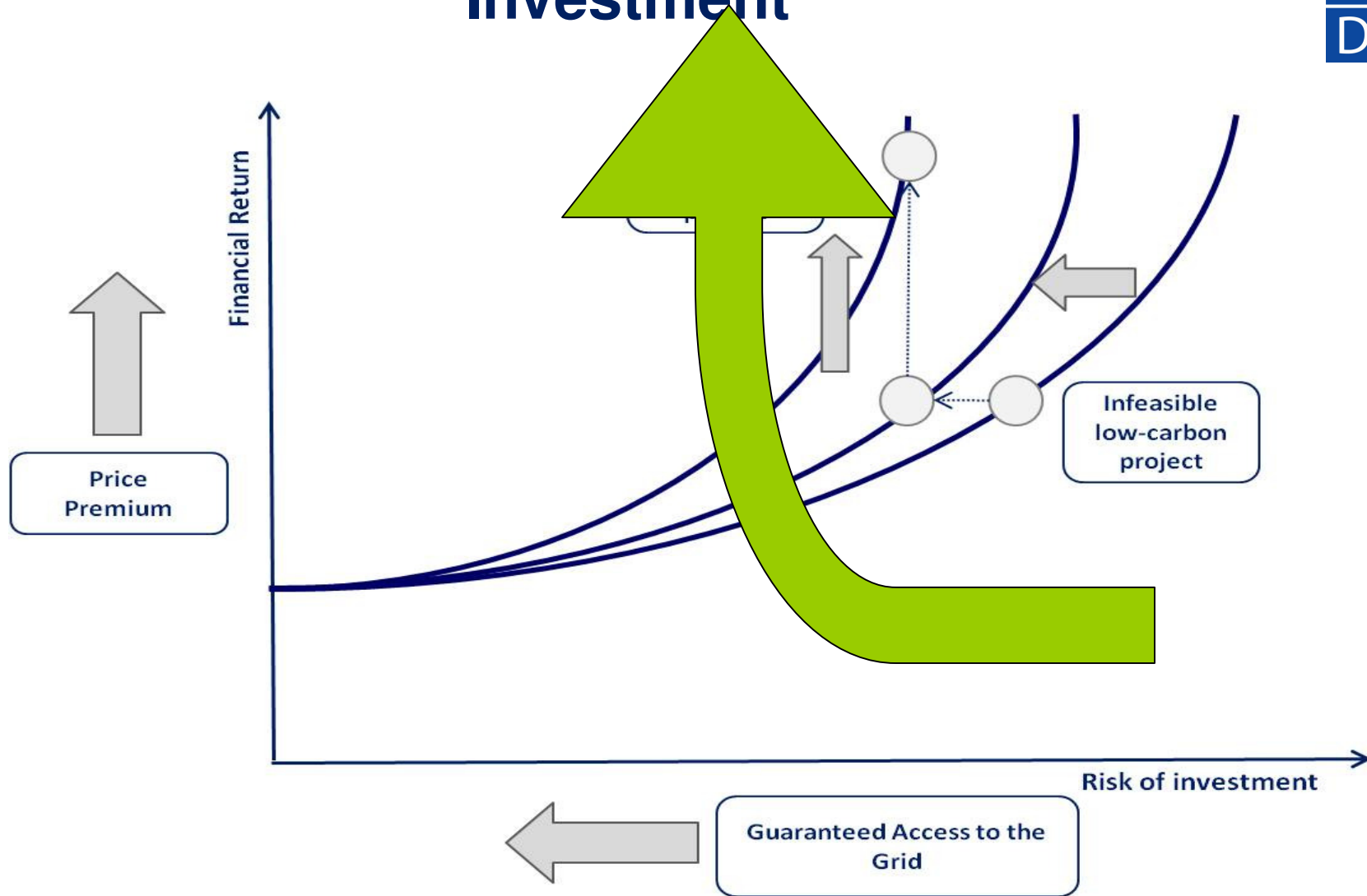
- policy on generation mix of RE
- Transport bio-fuel policy
- GHG Reduction Policy
- Utility Restructuring Policy (or De-structuring policy ?)
- Distributed Generation Policy
- Small Producers Generation Policy
- Rural Electrification Policy / Off-grid Policy



Success Factors

- Top management willingness
- Availability and accessibility of information
- Availability of pilot / demonstration sites
- Strong public-private sector partnership (PPP)
- Financing support. Green financing
- Emphasis on economics return

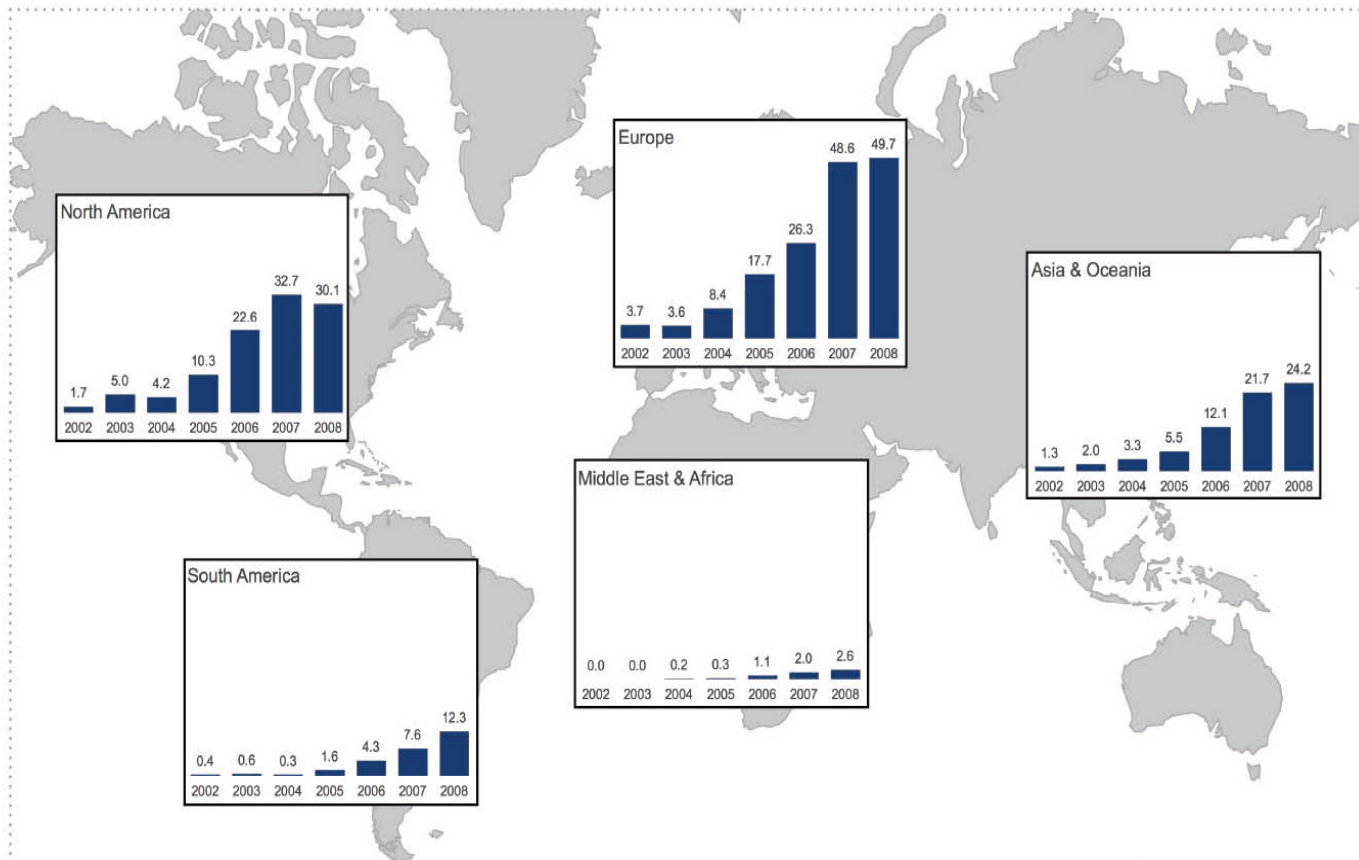
Policy Instruments to Catalyze Green Investment



Financial New Investment by Region 2002-2008, \$ billions



Figure 14: Financial new investment by region, 2002-2008, \$ billions



Note: New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals

Source: New Energy Finance, UNEP SEFI

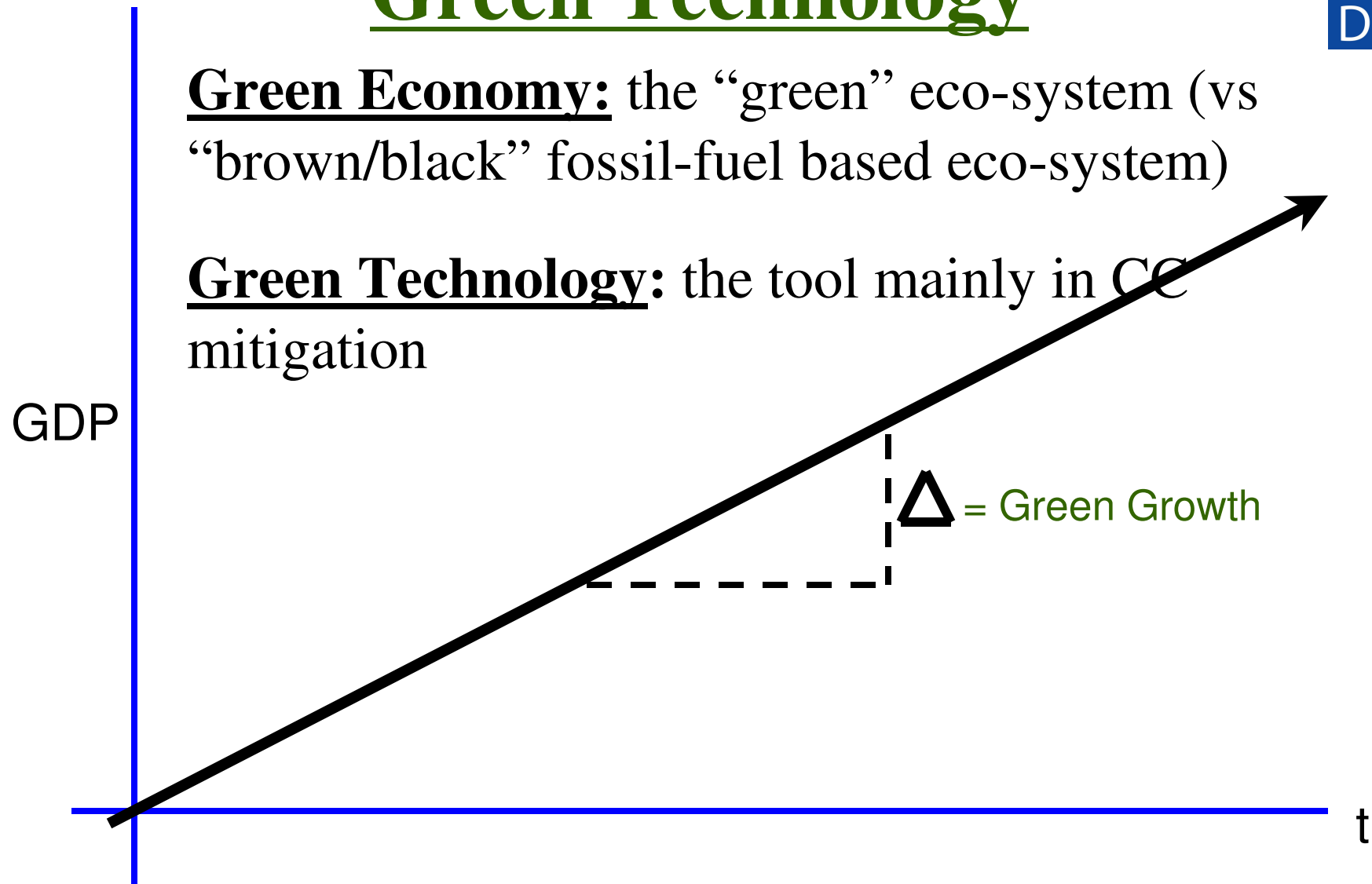
Figure 15: Acquisition transactions by region, 2002-2008, \$ billions

Green Economy, Green Growth, Green Technology



Green Economy: the “green” eco-system (vs “brown/black” fossil-fuel based eco-system)

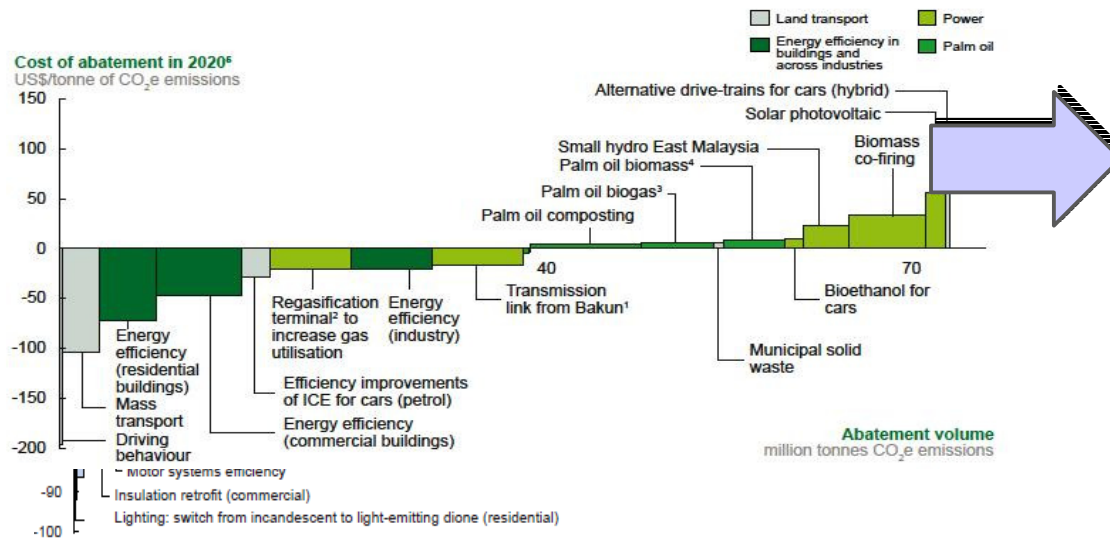
Green Technology: the tool mainly in CC mitigation



4-step process for selecting the appropriate combination of policy and financial instruments

Abatement cost
€ per tCO₂e

Integration of abatement cost curves of the four sectors shows capture of a total 74 million tonnes of CO₂e emissions (18% in carbon intensity) ...



II. DEFINE BARRIERS

- Market barriers
- Institutional barriers
- Social barriers
- Technical barriers
- Etc.

III. SELECT APPROPRIATE MIX AND SEQUENCE OF SUPPORT POLICIES

- Capacity development and -information based instruments
- Regulations
- Tax-based mechanisms
- Early market-based development mechanisms
- Debt and equity –based mechanisms
- Market-based mechanisms

IV. SELECT FUNDING OPTIONS

	INTERNATIONAL	NATIONAL & SUB-NATIONAL
Public Funds		
Innovative finance		
Private Funds		

Rio+20

- **The United Nations Conference on Sustainable Development 2012 (Rio+20)**

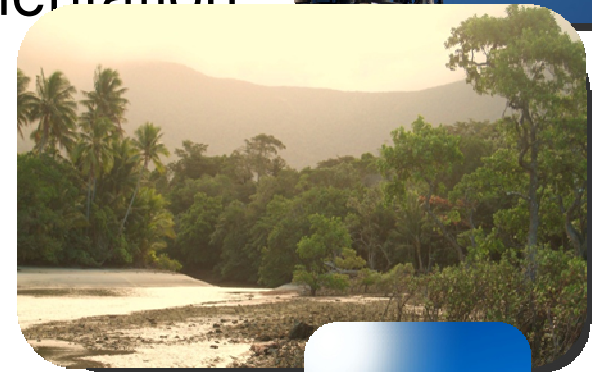
- **4-6 June 2012, Rio de Janeiro, Brazil.**

- **Objectives:**

- To secure renewed political commitment
- To assess progress and gaps in implementation
- Address new and emerging challenges

- **Themes:**

- Green economy
- Improving institutional framework



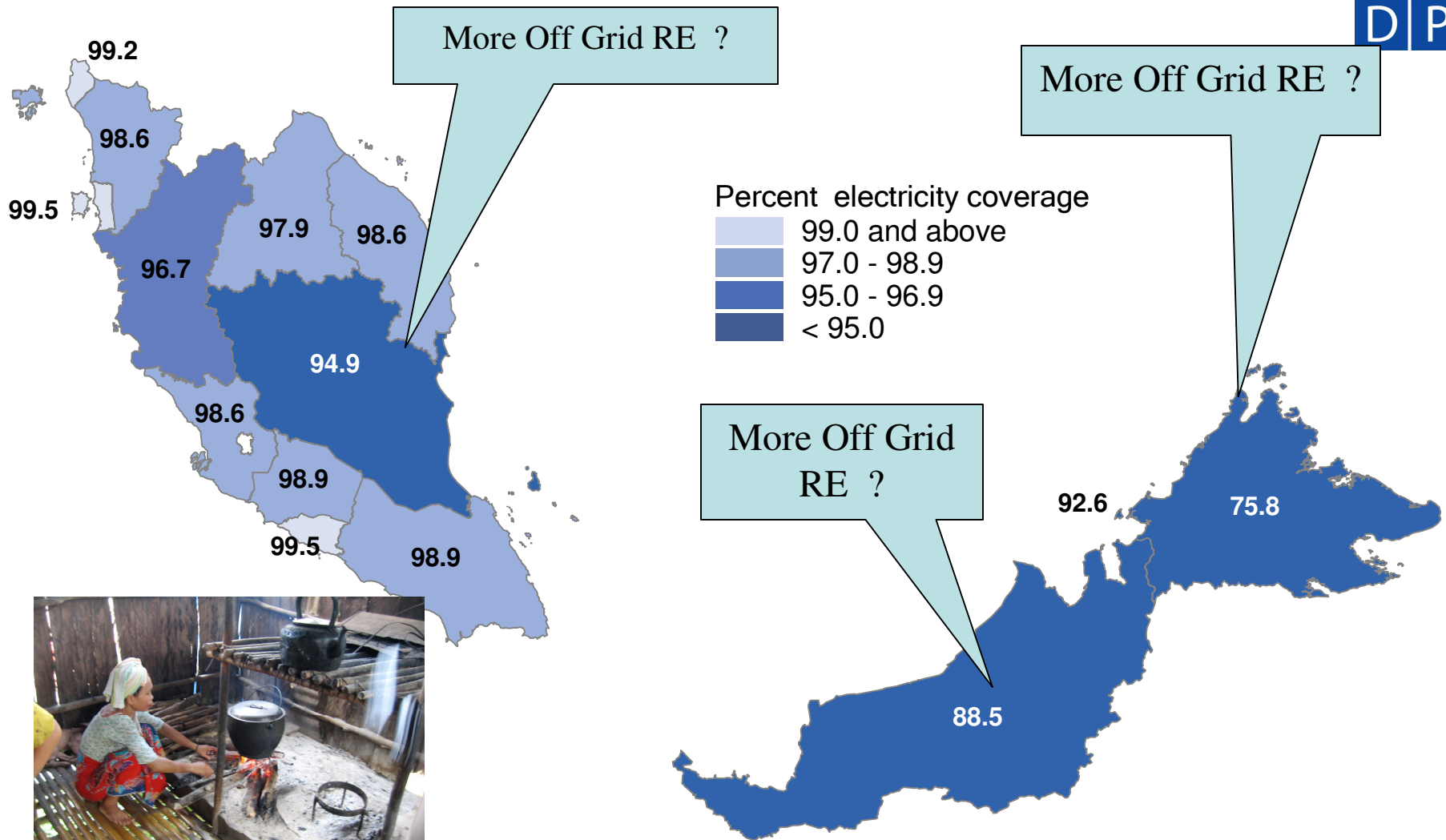
Drivers in going to RE

→ Green Economy / Low Carbon Economy



- Energy Security
- Volatility of fuel prices
- Multi-lateral commitments
- Environmental solutions for sustainable development

Occupied housing units in rural area with electricity supply, 2000



Sources of data: Malaysia, Department of Statistics, *Characteristics of Living Quarters*, Census 2000, including private generators



Conclusion

- Barriers to be addressed for a successful RE programme, start with small steps !
- Low Carbon development /Green Economy is the future ahead
- Investment in Clean Energy/RE is increasing
- Sustainable development will be the main pillars for developing economy



Thank You

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