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Economics of Climate Change Policy Action and Competitiveness

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Grantham Research Institute on Climate Change and the Environment

A path for climate action

1 Developing political consensus and common understanding

- Costs of inaction? costs of action? costs of earlier action?
- 2 Credible policy framework based on principles of:
- Effectiveness (sufficient ambition)
- Efficiency (match policy to market failures: price and nonprice mechanisms to harness markets & investment)
- Equity (a fair distribution)



3 Implementation and institutions

4 New markets and business opportunities

Part One

Developing political consensus and common understanding

- Risks and costs of inaction
- Costs of action

Projected impacts of climate change



McKinsey bottom-up approach



2030

Part Two

Credible policy framework based on three principles

- Effectiveness
- Efficiency
- Equity

Three 'E's

- Effectiveness: The frameworks avoid dangerous climate change
- Efficiency: mitigation should be undertaken where it is cheapest, with markets playing a central role in determining type and origin of mitigation
- Equity: mitigation should be paid for on the basis of fairness this is as shared problem with differential responsibilities, ('reservoirs', targets and one-sided trading)

Note demand/supply dichotomy: separate out where mitigation takes place from who pays for it!

Effectiveness: delaying mitigation is dangerous and costly



Stabilising below 450ppm CO₂e would require emissions to peak by 2010 with 6-10% p.a. decline thereafter.

If emissions peak in 2020, we can stabilise below 550ppm CO₂e if we achieve annual declines of 1 - 2.5% afterwards. A 10 year delay almost doubles the annual rate of decline required.

Effectiveness - basic arithmetic

- Current 40-45 GtCO2e p.a.
- 50% reduction by 2050 requires per capita global GHG emissions of 2-3T/capita (20-25 Gt divided by 9 billion population)
- Currently US ~ 20+, Europe ~10+, Mexico ~6, China ~5+, India ~2+ T/capita
- At the COP15 meetings in 2009, developed countries should commit to cutting emissions by 80-90% from 1990 levels by 2050 together with credible interim targets
- Many developing countries would have to cut strongly too if world average of 2-3 T/capita is to be achieved

Efficiency – coherent policy

- Pricing the externality- carbon pricing via tax or trading, or implicitly through regulation. Harness power of markets
- Bringing forward lower carbon technology- research, development and deployment
- Overcoming information barriers and transaction costs
 – regulation, standards
- Promoting a shared understanding of responsible behaviour across all societies – beyond sticks and carrots

Equity

- Common understanding of the global problem
 - Who is hit? Who is responsible?
- **Differential impacts** of climate change
- **Differential responsibilities** for the stock of gases
- **Differential costs** of action
- Differential ability to pay
- Understanding of the opportunities and costs of mitigation
- Understanding costs/risks of moving at different speeds

Part Three

Implementation and institutions

Implementation & institutions

Need to put principles to work in the run up to the UNFCCC COP in Copenhagen in 2009 and guide national governments

Three key phases of implementation:

- 1. Copenhagen 2009: determine international targets; establish developed country caps; set developing country responsibilities
- 2. 2010-2020: build effective and cooperative institutions on finance and technology as a basis for establishing developing country caps. Coordinate heterogeneous measures: credibility, leadership, trust
 - **Positive environment for action** not negative penalties
- 3. **post-2020:** all countries form part of an international cap-and-trade system and adhere to technological agreements

Institutions: long-term yet flexible, not overly prescriptive, reflecting and responding to the current world community, promoting trust

Part Four

Costs, competitiveness and new business opportunities

Global spatial evidence – firms' location decisions

Evidence from spatial location studies

- Rich evidence base
- US state and global cross-border activity following differential application of environmental policies
- Instrumental variable panel studies
- Relocation rare only on margin
- Different sectors in different regions face different vulnerabilities

Firm's location decisions depend on:

- access to markets; access to raw materials; access to skilled labour; access to technology; fiscal incentives; political stability, legal jurisdiction; infrastructural networks
- carbon costing of the kind suggested is a small factor

Opportunities & benefits from moving early

Opportunities to set standards, technologies, regulation, markets

- Case study analysis: **early-moving** can gain market share:
 - Shell/BP; Toyota/Honda; GE all v carbon exposed
 - Developing world producers too Wal Mart and China
 - New world wines
- Losers shout louder....potential winners are potential

Financing opportunities

- Benefits from selling credits: CDMs, programmes, benchmarking
- Official financing to leverage private funds
- Benefits from **new technology** transfer, demonstration
- But macro modelling of flows needed

Business opportunities huge

The scale of **new technologies, services and products** required to shift to a low carbon economy is vast

Most of this will need to be **delivered by the private sector**

Clear, credible and long term **policy framework**:

- Market mechanisms (carbon prices)
- Universal standards and metrics for carbon accounting/disclosure
- Smart, energy efficiency programs
- Incentives for accelerated investment in low carbon technologies
- Avoided deforestation, land use change and waste

Meeting climate goals means new industries in energy efficiency, renewables and smart systems for power, buildings and transport

Conclusion

- We understand the **urgency and scale** of action required
- We are in a much better position now to use our shared understanding to agree on what goals to adopt:
 - The response must be carefully designed to harness the power of markets: any solution must be **effective**, **efficient and equitable**
 - Developed countries must take the lead but developing countries must supply the long-term solution
- We know that the technologies and economic incentives for effective action are available, or can be created
- The right policy framework, founded on a global commitment, can mean a future of market dynamism, entrepreneurship and creativity

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