



UNIVERSITEIT VAN AMSTERDAM

Amsterdam Business School

An Overview of Business Responses to Climate Change

Knowledge Forum on Business Adaptation to Climate Change
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Outline

1. Companies and climate change governance

- From regulation to self-regulation

2. The development of carbon control

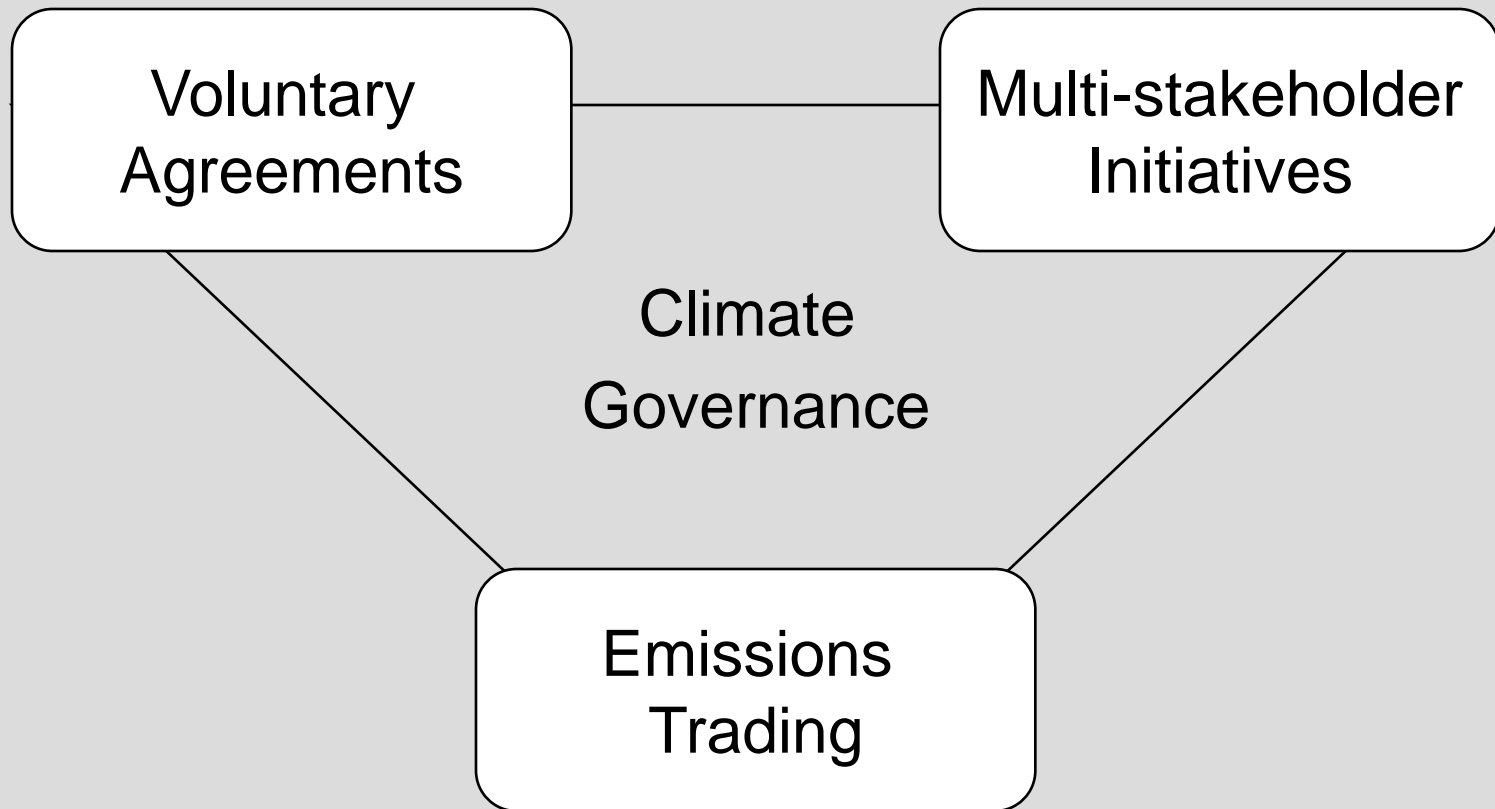
- Emissions measurement, targets & disclosure

3. Strategic options for business

- Carbon trading
- Challenges for climate change innovation

4. A way forward

Companies and climate change governance



Companies and climate change governance

Voluntary agreement

Voluntary agreement as substitute for strict regulation



E.g. EPA Climate Leaders; Greenhouse Challenge Plus; Keidanren's Voluntary Action Plan for the Environment

Programs with soft incentives:

- Technical assistance
- Energy audits
- But no penalty

Soft effects: creating awareness

Hard effects: not much pressure to go beyond 'business-as-usual'

Voluntary agreement as part of climate policy mix



E.g. UK Climate Change Agreements; France AERES Voluntary Agreements

Programs with hard incentives:

- Threat of mandatory regulation
- Monetary incentive: CO₂ tax exemption/subsidy/fine

Companies and climate change governance

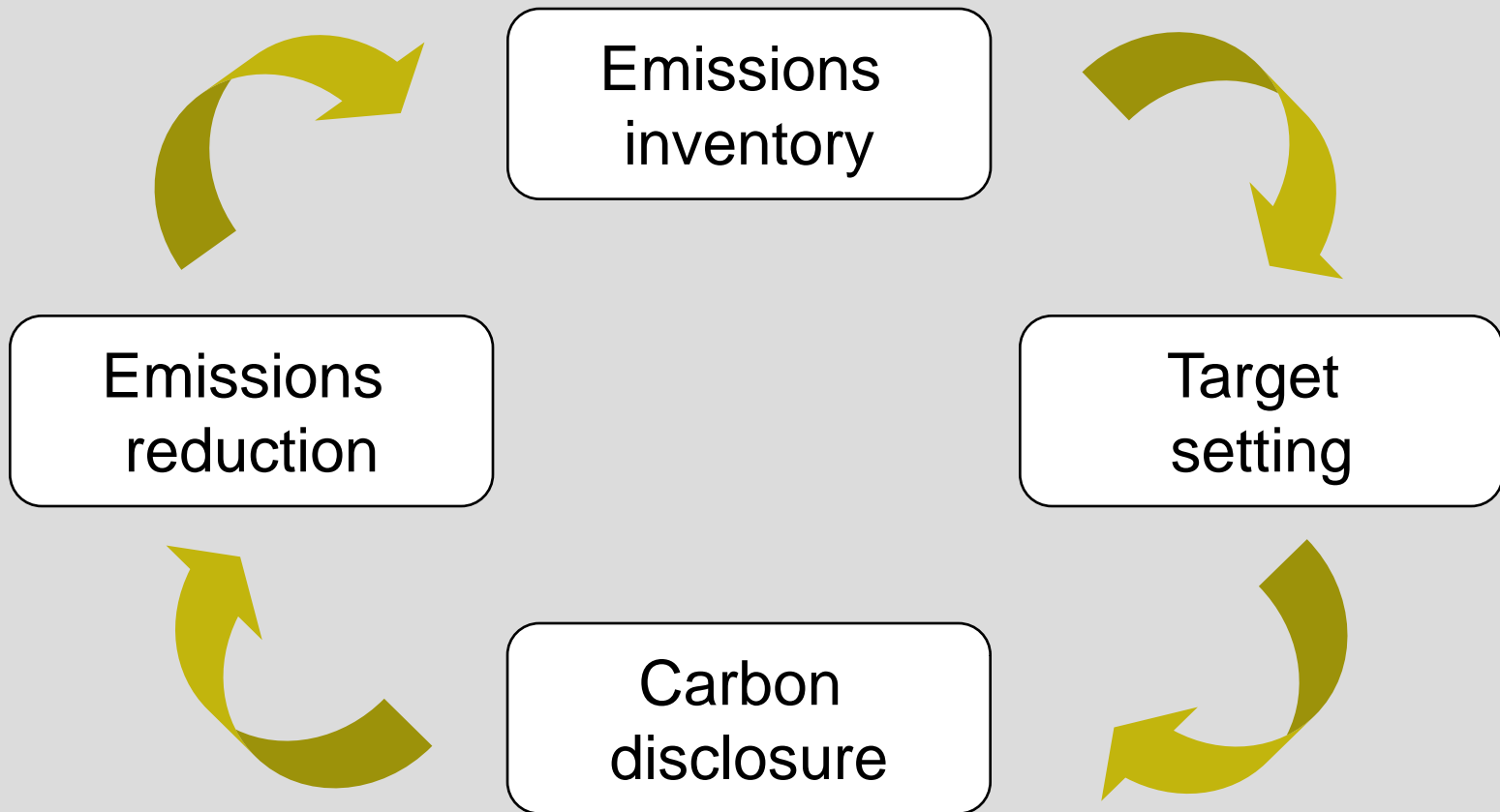
Multi-stakeholder initiatives

| Partnership type | Link to core business | Most common stakeholders represented |
|---------------------|-----------------------|---------------------------------------|
| Emissions-reduction | Medium/high | Industry, government, NGOs |
| Policy-influence | Medium | Industry, NGOs, government |
| Research-oriented | High | Universities, government, industry |
| Product launch | High | Industry partners, government |
| Public education | Low/medium | Industry, NGOs, government, consumers |

Examples:



The development of carbon control



The development of carbon control

Emissions inventory

Whether or not to set up an inventory

- Actual climate impact
- Stakeholder pressure and perceptions
- Management priorities and values

Measurement methodology

- Type of GHG protocol/standard
- Specific purpose for having an inventory

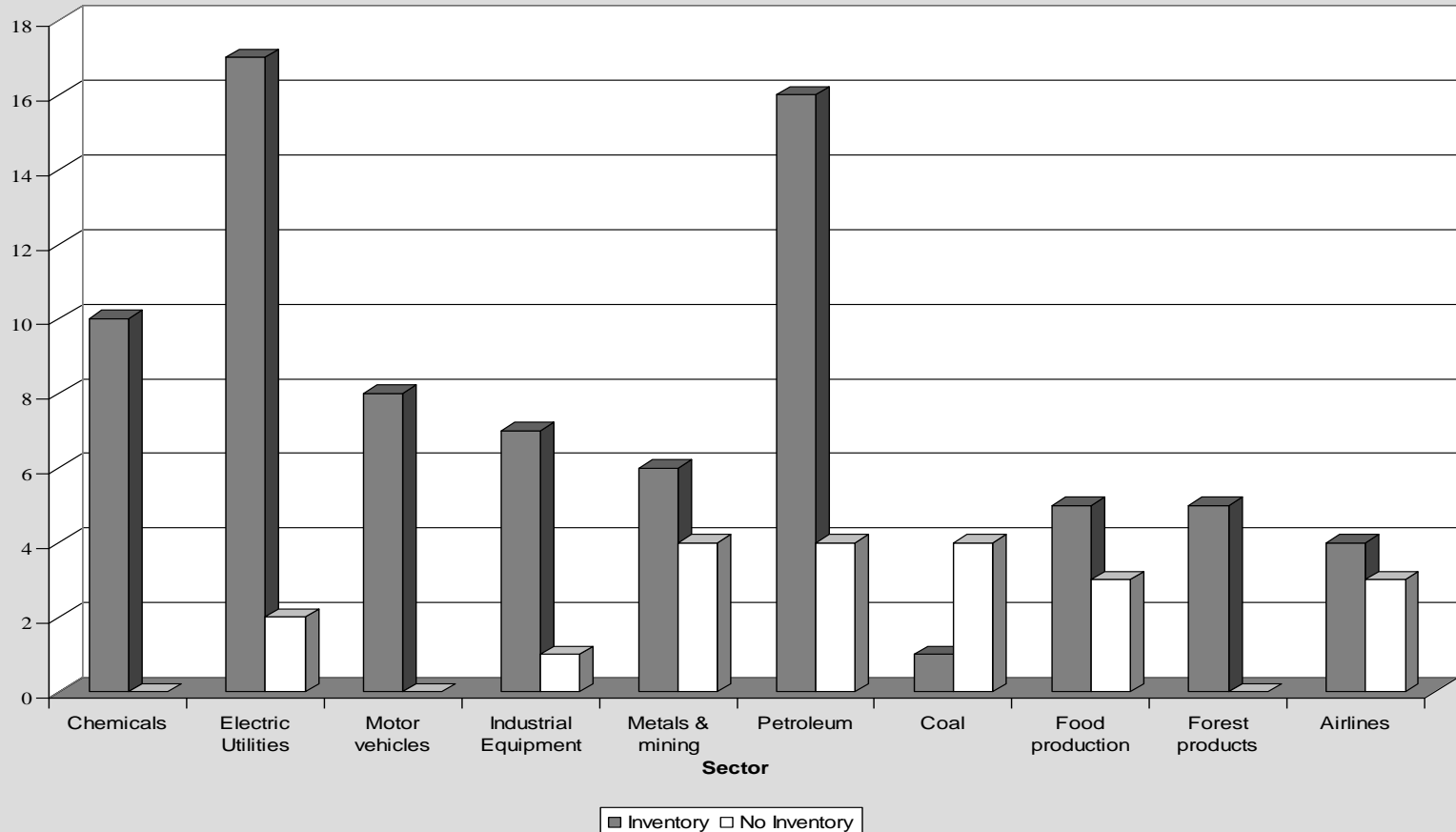
Organisational boundaries

- Company itself or also (parts of) supply chain
- Only 100% ownership or also partly owned subsidiaries and/or joint ventures

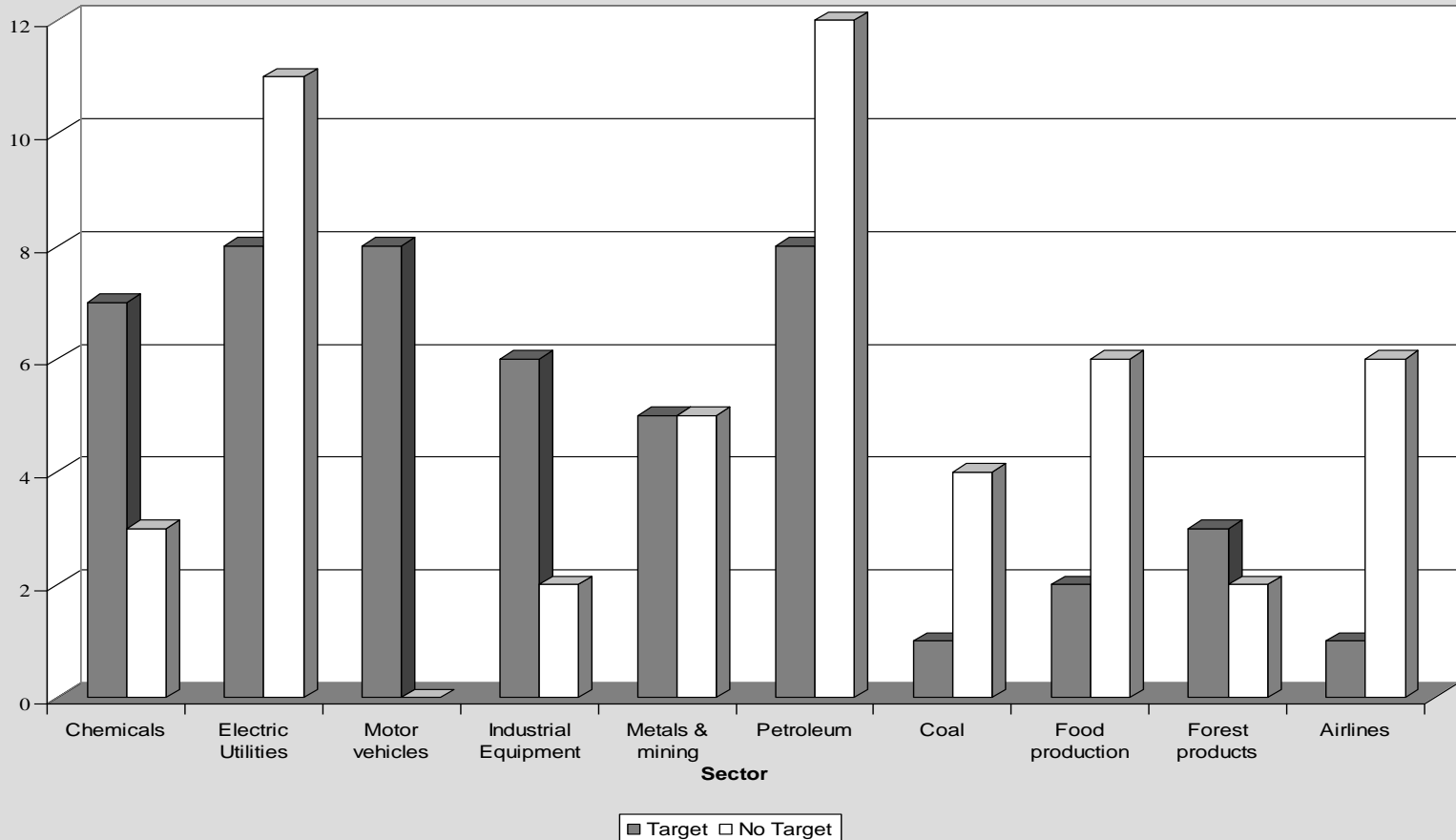
Scope of emissions

- Which GHG sources to include (direct/indirect)
- Consideration of relevance, completeness, consistency, transparency and accuracy

The development of carbon control Emissions inventory



The development of carbon control Emissions target



Source: Cogan (2006)

The development of carbon control

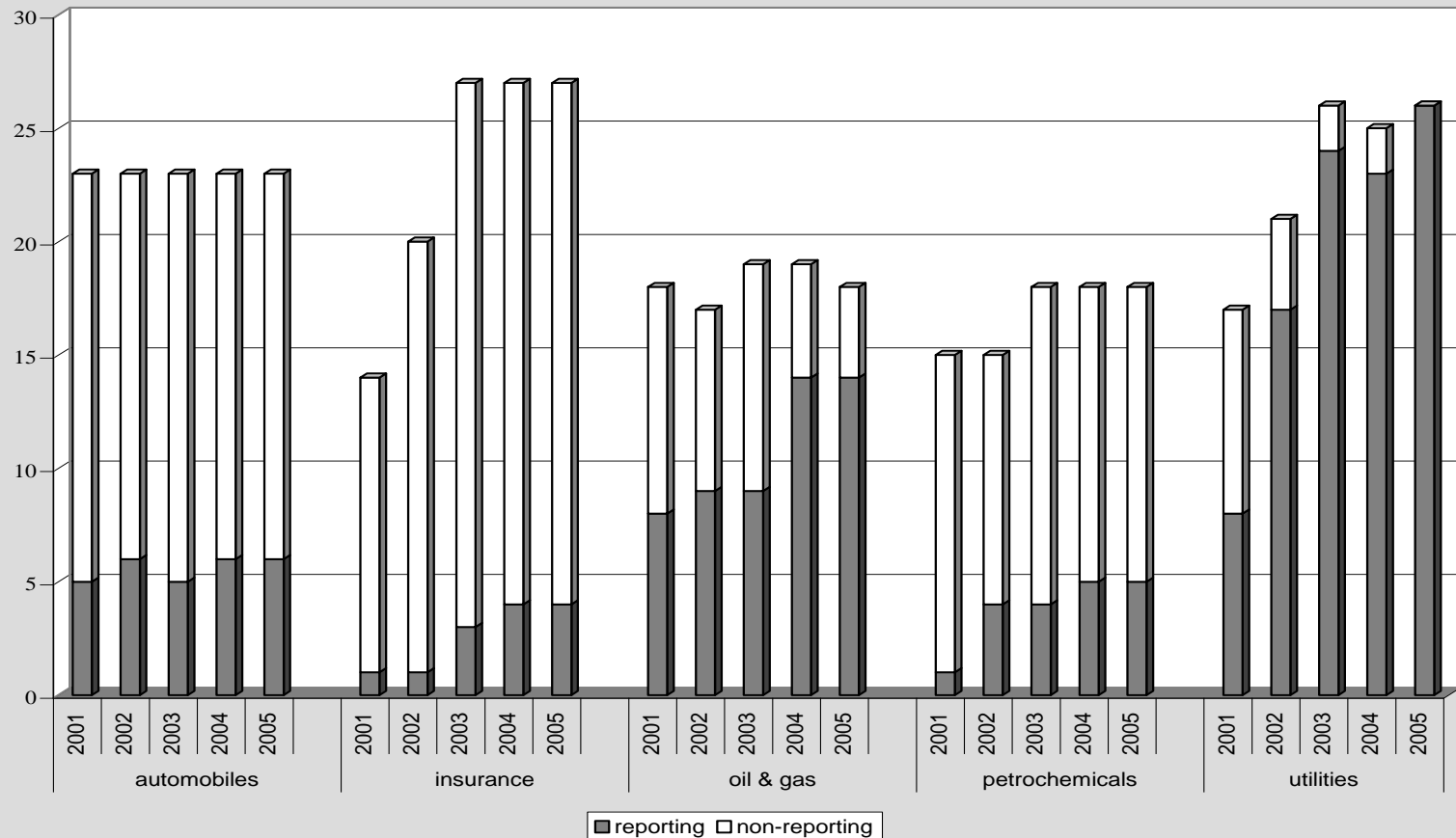
Carbon disclosure

Three avenues for carbon disclosure:

1. Sustainability or corporate social responsibility (CSR) reporting
2. Filings to the Securities and Exchange Commission (SEC), particularly in the United States
3. The Carbon Disclosure Project (CDP)

The development of carbon control

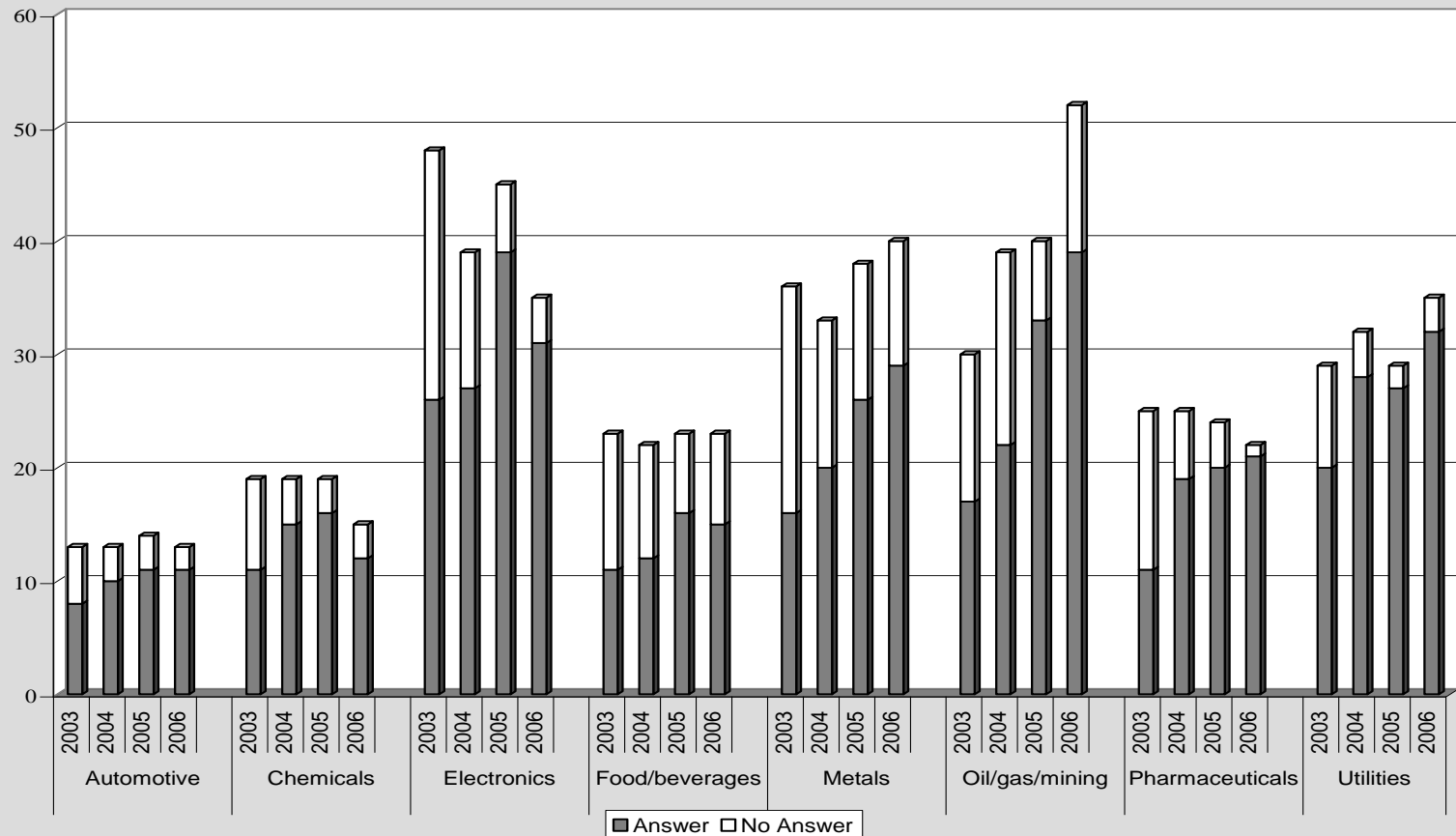
Carbon disclosure in SEC filings: materiality



Source: Chan-Fishel/FoE (2002, 2003, 2004, 2005, 2006)

The development of carbon control

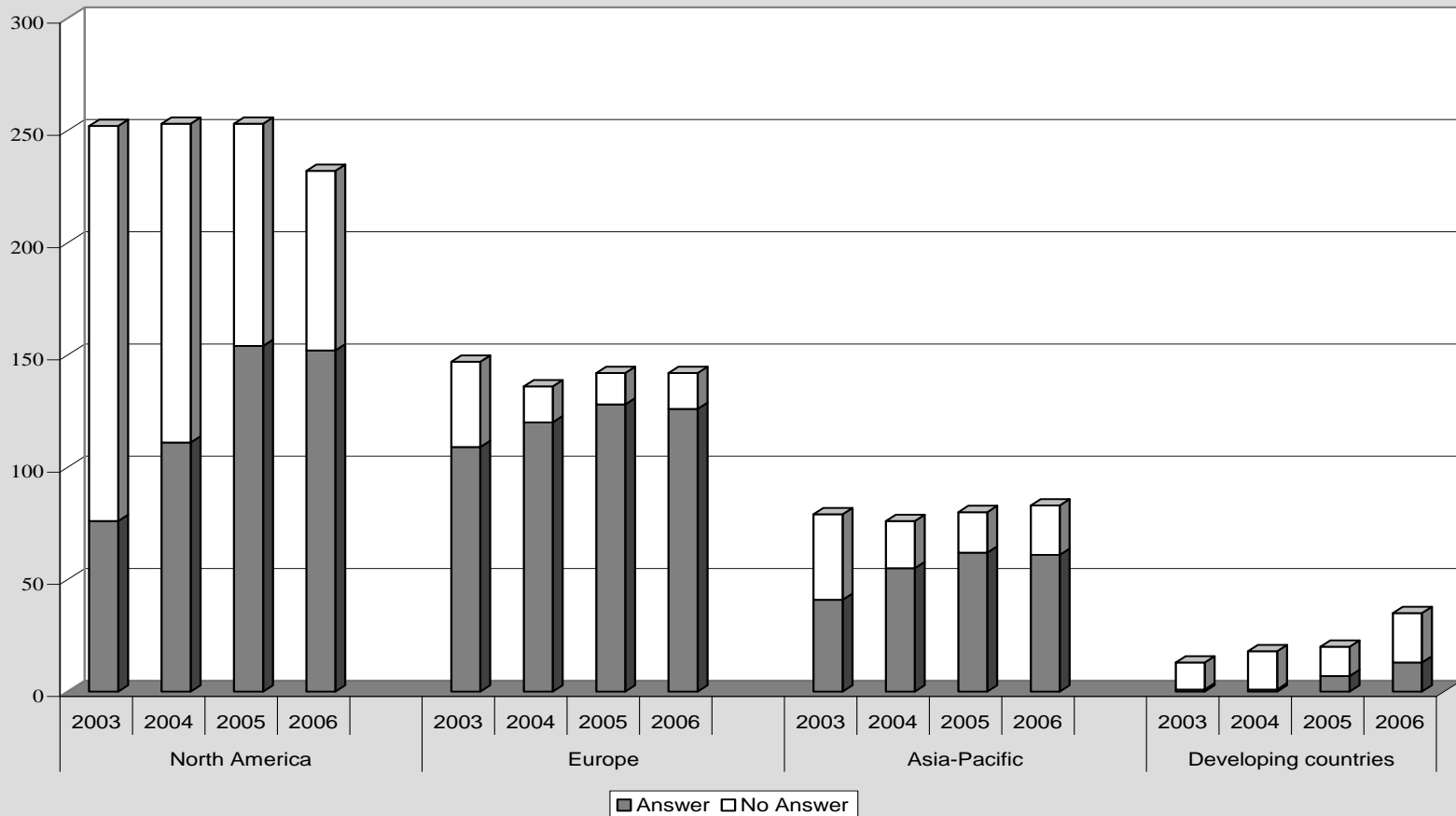
Carbon disclosure in CDP



Source: Carbon disclosure project (2003, 2004, 2005, 2006)

The development of carbon control

Carbon disclosure in CDP



Source: Carbon disclosure project (2003, 2004, 2005, 2006)

Factors that influence corporate positions on climate change

External, issue-related factors

- Physical impact relevant to types and location of operations
- Government policies and regulation
- Stakeholder pressures and perceptions

Industry-related factors

- Industry structure & growth
- Concentration level

Company-specific factors

- Economic situation and market positioning
- Availability of internal climate expertise
- Corporate culture and managerial perceptions

Strategic options for business

| | Innovation | Compensation |
|-------------------|--|---|
| Internal | Process Improvement | Internal Transfer of Emission Reductions |
| Vertical | Product Development | Supply-chain Measures |
| Horizontal | New Product/Market Combinations | Acquisition of Emission Credits |

Carbon trading: lessons from the European emissions trading scheme

- Free allocation of allowances created windfall profits for electricity producers
- Double burden for large industrial energy consumers

Compliance often-cited motive for participation:

- Merely leads to incremental technological changes
- Firms with few installations consider trading costs as too high

Cost of carbon too low enough to initiate radical changes

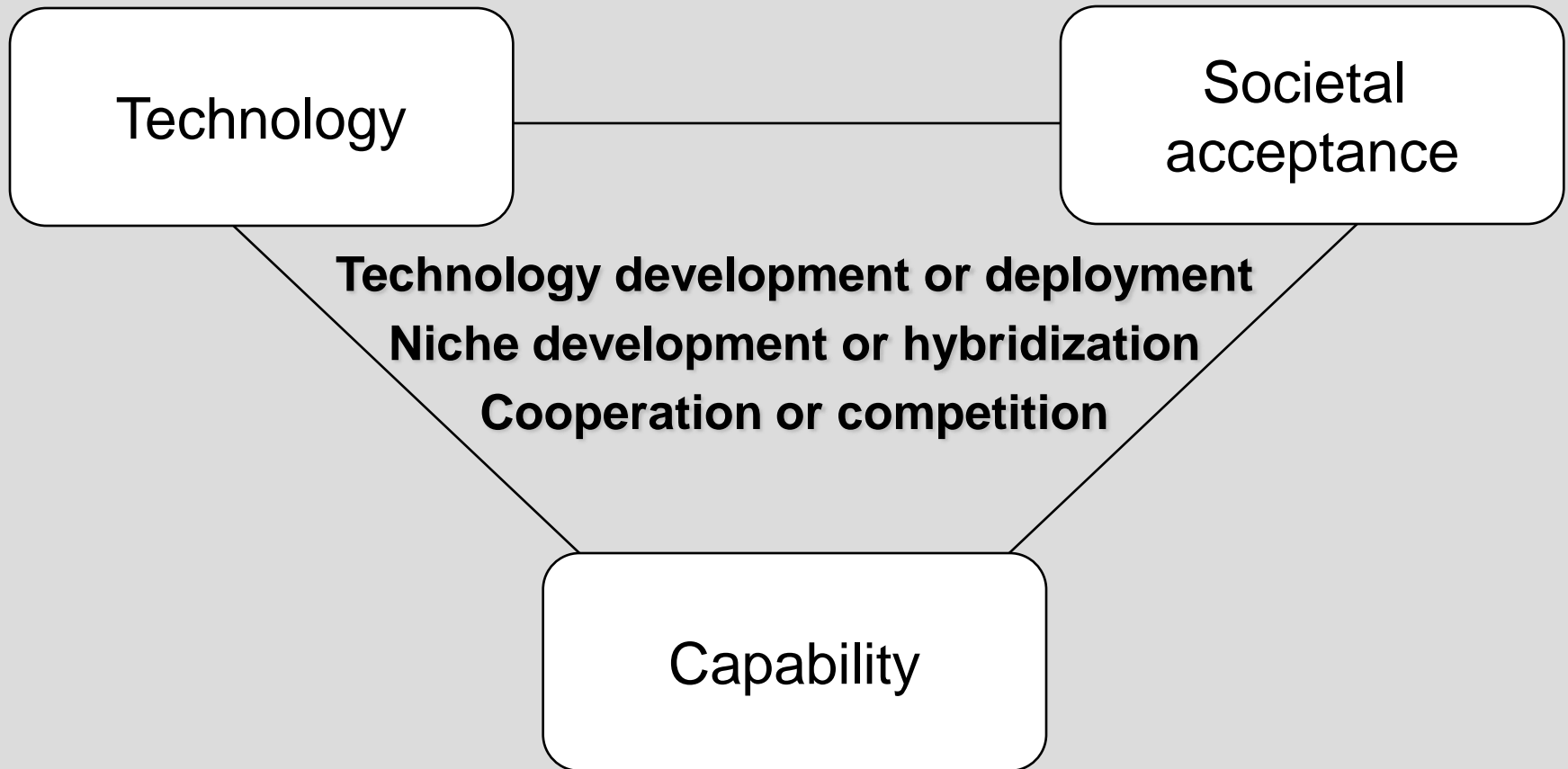
- BP and Shell's recent cancellation of carbon capture & storage
- European electricity firms intend to build coal-fired power plants

Price of carbon credits needs to be high enough to create opportunities

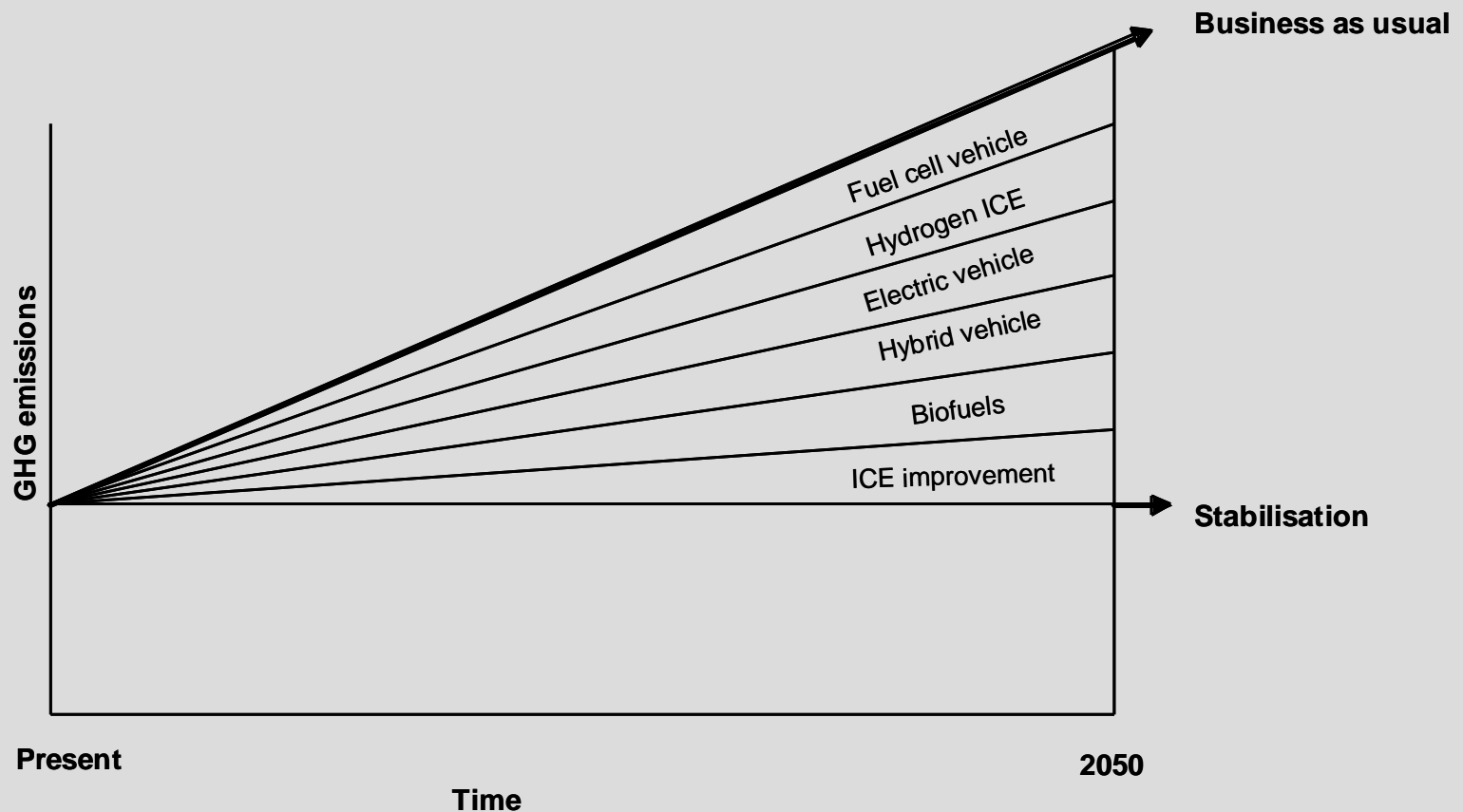
Strategic responses to emissions trading

| | | Opportunity recognition | |
|--------------------------------|------|-------------------------|--------------|
| | | Low | High |
| Expected regulatory constraint | High | Conformist | Entrepreneur |
| | Low | Evader | Arbitrageur |

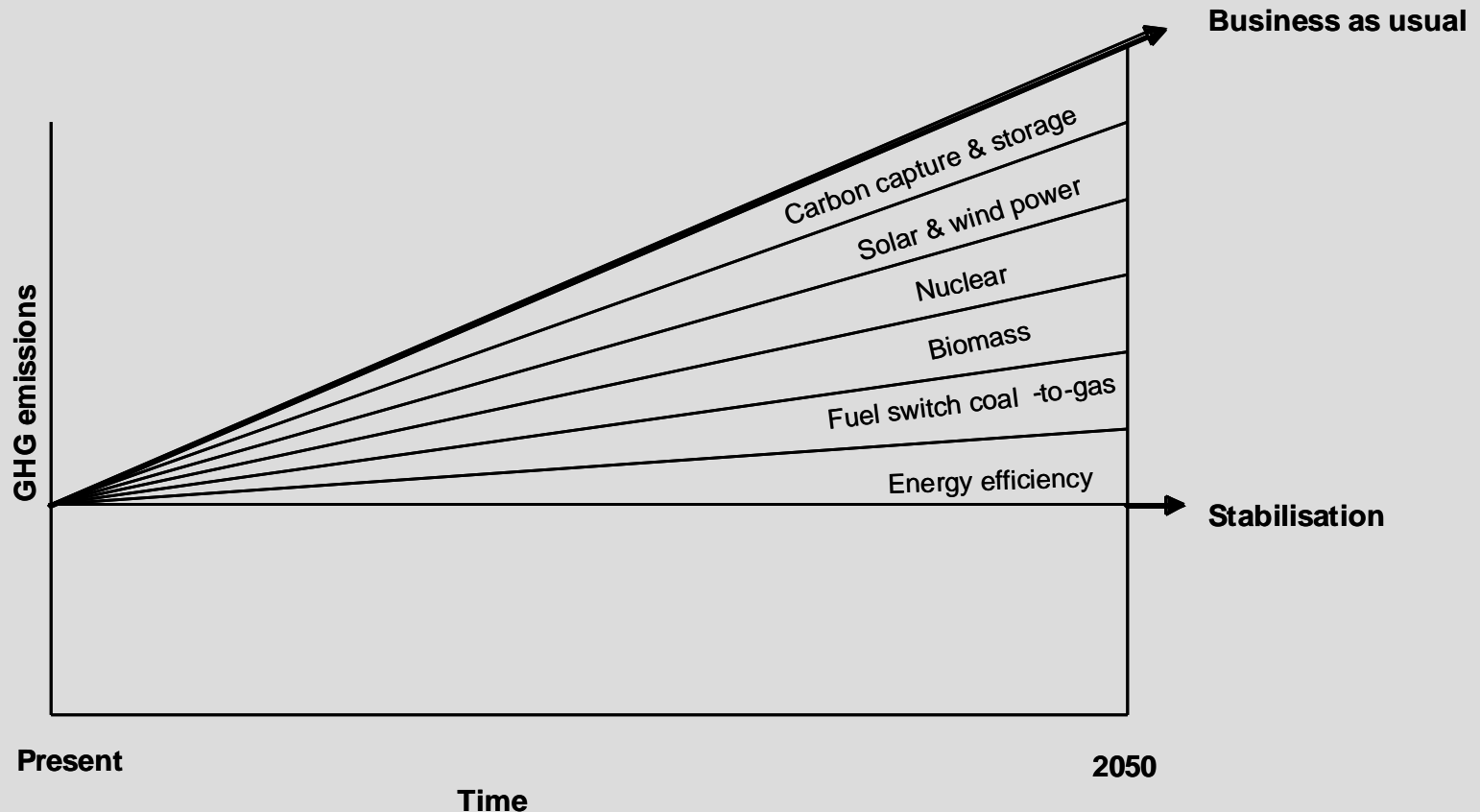
Challenges for climate change innovation



Stabilization wedges in the car industry



Stabilization wedges in power generation



A way forward?

1. How will a post-Kyoto framework for climate change begin to take shape?
2. Will carbon trading become a global market and will it be an incentive for clean innovation?
3. What role will governments and companies play in making the transition to a more extensive development and deployment of carbon-free technologies?

Further information

Pinkse, J. & Kolk, A. (2009)
**International Business
and Global Climate Change**
London: Routledge

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