Our Common Future?
Pathways to 2050

Stefanie Held
Director
World Business Council
for Sustainable Development

Roadmap of Today’s Presentation

The WBCSD and its members

The Focus Area Energy and Climate work program
- Facts and Trends
- Pathways to 2050
- Policy Directions to 2050

Additional recent activities in the Policy Arena

Government and Business
- What business would like from government

Conclusions
WBCSD Members, Scale - Statistics

Coalition of 190 leading companies
- Total turnover: close to USD 6 billion
- Market capitalization = USD 5,400 billion
- Total member company employees = 12 million
- Global outreach
  - 3 billion consumers per day buy a product or service from a WBCSD member company

Regional network: 55 partner organizations

The Energy and Climate Work Program

Policy:
- Dialogues & Engagement
  - G8 / Gleneagles process
  - EU High Level Group
  - Asia Pacific Partnership
  - Glion II Dialogues
  - BAE (Business Action for Energy) for UNCSD 14 and 15

Research & Analysis:
- Facts and Trends
- Pathways to 2050
- Policy Directions to 2050
- Issue Briefs
- Links with other WBCSD projects

Tools & Practices:
- GHG Protocols
- GHG Forums
- GHG Pilot Projects (Mexico, Philippines...) with WRI
The Energy and Climate Work Program

Policy:
Dialogues & Engagement
- G8 / Gleneagles process
- EU High Level Group
- Asia Pacific Partnership
- Glion II Dialogues
- BAE (Business Action for Energy) for UNCSD 14 and 15

Research & Analysis
- Facts and Trends
- Pathways to 2050
- Policy Directions to 2050
- Issue Briefs
- Links with other WBCSD projects

Tools & Practices
- GHG Protocols
- GHG Forums
- GHG Pilot Projects (Mexico, Philippines...) with WRI
Possible pathways (illustrative) from a strong response to climate change:

Short to medium term (2010 – 2025):
- Carbon markets grow, potentially covering all developed countries and offering tangible opportunity value in developing countries
- Managing CO\textsubscript{2} becomes a prerequisite for new industrial projects
- Renewable power generation and bio-fuels grow to 15% of the global energy mix
- Strong emphasis on energy efficiency
- Oil demand begins to flatten

Long term (2030 - 2050):
- Primary energy use nearly doubles - gas could become the single largest source of energy
- Final energy use could shift strongly to electricity, away from liquids today
- Personal mobility doubles, but oil demand declines – bio-fuels and hydrogen become important energy carriers for transport
- Coal remains a key power generation fuel – but CO\textsubscript{2} is captured and stored

A range of existing technologies, further developed and deployed through a global carbon market can deliver a 550 ppm trajectory, ........... but the scale of change is immense, ........... and we need to start now!
Many advocate that a much more rapid change in our energy infrastructure is the only solution to the threat of climate change. However:

- Major transitions at the global level will take time to implement
- The speed with which new technologies diffuse depends on many factors

Size and Lifetime Matter

The rate of technological change is closely related to the lifetime of the relevant capital stock and equipment:

- Buildings 45+++ years
- Hydro 75+ years
- Coal power 45+ years
- Nuclear 30 – 60 years
- Gas turbines 25+ years
- Motor vehicles 12 – 20 years
**Even Very Rapid Change Can Appear Slow**

![Graph showing vehicle growth](image)

- Annual total vehicle growth of 2% p.a.
- Annual vehicle production growth of 2% p.a.
- Large scale "alternative" vehicle manufacture starts in 2010 with 200,000 units per annum and grows at 20% p.a. thereafter.

---

**Policy Directions to 2050 – the Trilogy**

**Energy policy** is set at the national level:

It is one of the principal responsibilities of government. The development of energy policy is responsive to:

- Financial considerations
- Available natural resources
- Security of supply
- Environmental signals

**A future framework must recognise the sovereign nature of energy policy decisions, but at the same time provide clarity, context and drive for such decisions.**
A Future Framework – What is Needed?

1. A long-term goal
   - Established by 2010
   - Described in terms of CO₂ emissions*

2. Technology development and deployment framework
   - Expanded support for R&D
   - Global standards
   - Technology transfer driven by standards
   - Risk management

3. Emissions management at national and sectoral level
   - Bottom-up approach aligned with energy policy
   - Sector by sector
   - Expanded project mechanism
   - Progressive inclusion of all countries

4. Linkage framework to encourage international trading

---

Establishing a Long-term Goal by 2010

Describes a global emissions pathway (trajectory) to 2050.

Why do this and why by 2010?
- It provides context for national and sectoral efforts
- Action to address climate change must start now

Why emissions?
- We cannot control global temperature
- We probably can’t control atmospheric ppm
- We can control emissions!
  - Target only what we can control

Why a pathway and why to 2050?
- It needs to encourage long-term investments
- It needs to clearly show the task starts now and continues

How is it set?
- Derived from a longer term objective using the latest climate change science and understanding of impacts, both social and economic
  - We probably know enough to do this now

Is that it?
- No — it should be reviewed periodically, but no later than 2020-2025

*All GHGs but as CO₂ equivalent
The framework must focus on both the development of new technology and the rapid deployment of the both new and existing technology.

Early development phase may need direct assistance.

Purchase incentives and/or the CO₂ market drive(s) early deployment.

Number of installations / Products

Technology cost

More cost competitive

Earlier deployment

Purchase incentives / CO₂ price

Competing technology

Opportunity Starts at the National / Sectoral Level

A. Opportunity Wedges (National) (Developed Country Example)

B. National/Sectoral Goals & Targets

C. National Policies

- Efficiency
  - Buildings
  - Industry
  - Domestic
  - xx % p.a.
  - through to 20xx

- Power Generation
  - Renewables
  - CCS
  - xx MW p.a.
  - xx tonnes CO₂ p.a.

- Mobility
  - Bio-fuels
  - Efficiency
  - Choice
  - xx litres p.a.
  - xx mpg by 20xx
  - Hybrid / Diesel uptake
  - Mass transit

Buildings – adopt new country building standards, design awareness

Industry – Sectoral agreements, emissions trading, technology standards

Domestic – carbon labeling, increased product standards (e.g. standby energy)

Renewable Energy – renewables targets.

CCS – funding for infrastructure, tax cuts on capital investments, price signals for carbon via emissions trading

Biofuels – targets, support for manufacturing, CO₂ labeling

Vehicle Efficiency – support technology, incentives, sectoral agreements

Mobility Choice – consumer incentives, promote public/private partnerships for transport networks
Clean development partnerships & programs

Clean development partnerships and technology programs based on standards and benchmarking can drive new technology development

Asia-Pacific Partnership on Clean Development & Climate

FutureGen Alliance

FreedomCAR Fuel Partnership

H2

EUROPEAN HYDROGEN AND FUEL CELL TECHNOLOGY PLATFORM

Progressive Build-Up from National Programs

A global GHG market remains an important goal of the revised international framework. But it is constructed bottom-up through a linkage framework, rather than a “big-bang” creation from the top.
The Energy and Climate Work Program

Advocacy

Policy:
Dialogues & Engagement
- G8 / Gleneagles process
- EU High Level Group
- Asia Pacific Partnership
- Glion II Dialogues
- BAE (Business Action for Energy) for UNCSD 14 and 15

Research & Analysis

Dialogues & Engagement

Research & Analysis

Tools & Practices

- GHG Protocols
- GHG Forums
- GHG Pilot Projects (Mexico, Philippines...) with WRI

Research & Analysis

- Facts and Trends
- Pathways to 2050
- Policy Directions to 2050
- Issue Briefs
- Links with other WBCSD projects

Tools & Practices

WBCSD International Policy Involvement

Gleneagles and G8
- Business voice into ministerial meetings: Monterrey
- Potential collaboration with World Economic Forum

EU High Level Group
- On competitiveness, energy and the environment
- Next two topics: competitiveness of European energy-intensive industries and environmentally harmful subsidies

Asia Pacific Partnership
- Member company involvement
- Cement Sustainability Initiative

Glion II Dialogues in the Power Sector
- Ongoing multistakeholder roundtables on policy requirements

Business Action for Energy and UNCSD 14 and 15
- ICC, WEC, WBCSD

Nairobi COP12
- Bjorn Stigson at Ministerial luncheon and plenary

Selected Partnerships
- VROM, Mexican Government (GHG Program)
So What Would Business Like?

1. A long-term goal
   ✓ Established by 2010

2. Technology development and deployment framework
   ✓ Expanded support for R&D
   ✓ Global standards
   ✓ Technology transfer driven by standards
   ✓ Risk management

3. Emissions management at national and sectoral level
   ✓ Bottom-up approach aligned with energy policy
   ✓ Sector by sector
   ✓ Expanded project mechanism
   ✓ Progressive inclusion of all countries

4. Linkage framework to encourage international trading

Business Wish List

- Government and Business work together in a true partnership with a genuine exchange of views
  - Multistakeholder roundtables / dialogues

- Seat at the table when public private partnerships are mentioned
  - Many forthcoming policy events in 2007 and 2008

- Some kind of certainty
  - A signal
  - A negotiating mandate by COP 13
  - No gap post 2012

Business is ready to engage, but it needs the possibility