Energy Technology Perspectives 2008

Translating the ETP 2006 scenarios into technology R&D recommendations

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Content

- ETP 2008 - framework and content
- Workshop – objective and expected outcomes
- Next steps
The Framework

- Response to G8 request for advice on alternative energy scenarios & strategies
- Complements the *World Energy Outlook* – close cooperation with LTO
- Guided by CERT and in close cooperation with the IEA Working Parties and Implementing Agreements
- Building on the Energy Technology Perspectives project
- Supported by many member countries
Energy Technology Perspectives
Publication 2008

- Part of G8-deliverables – Due February 2008
- Use the ETP 2006 scenarios (no new scenarios)
- How to get there:
  - Energy RD&D policies
  - Technology learning
  - Technology transitions (2015 and 2030 results)
  - Investment needs and policy cost
  - Energy and CO₂ emission indicators
- Regional analysis
- Coordinator: Dolf Gielen
Special technology topic chapters (proposal):
- Wind energy
- Bioenergy
- CCS
- Hydrogen
- Transport
- Buildings/Appliances
- Industry
- Methane emissions
- Oil sands
Regional Analysis

- Dolf Gielen is leading this task
- More regional granularity
- Special focus on G8 + 5
- Special attention for China
Energy RD&D Policy

- Jeppe Bjerg is leading this task
- 1st workshop 15 & 16 February
- Backcasting & projections
- Focus on:
  - Right portfolio
  - Right funding level
  - Role of government and private sector
Technology Learning and deployment policies

- Cecilia Tam is leading this task
- 1ˢᵗ workshop in May
- Match learning extrapolations and bottom-up engineering projections
- Consider external effects
- Focus on:
  - Role government
  - Financial support needs coming decades
  - Benefits of international cooperation
Technology Transitions

- Roadmaps: what technology targets should be met by 2015 and 2030
  - Efficiencies
  - Costs
  - Installed capacity
- What determines the rate of introduction of new technology
- What is the appropriate role for governments and companies in technology development (R&D, infrastructure development etc.)
- What international cooperation is needed
Investment Needs and Policy Cost

- Michael Taylor is leading this task
- Add more detail to the ETP2006 cost discussion
- Focus on:
  - What are the cost by region/country?
  - Who has the cost, who has the benefits?
  - Weigh short-term cost, long-term benefits
Technology Chapters

- **Wind (Debra Justus)**
  - Intermittency/matching of supply and demand: how much wind is feasible in the electricity system
  - Long-range electricity transportation feasible?

- **Bioenergy (Michael Taylor and Ralph Sims)**
  - Update technology outlook & biomass potentials
  - ETP modeling study of competing biomass use for power generation, heat, transportation fuels and materials
  - Special attention for second generation biofuels
Technology Chapters (contd.)

- **CO₂ Capture and Storage: A Key Abatement Option** (Kamel Bennaceur)
  - Technology update and lessons from pilot/demonstration projects
  - Focus on retrofit and capture-ready plants
  - Industry & transformation sector CCS opportunities

- **Hydrogen Infrastructure** (Bob Dixon and Peter Schniering)
  - Hydrogen infrastructure issues deserve more attention
  - Competition with plug-in hybrids and biofuels deserves more attention
  - 1st workshop Detroit April 2-4
  - Further workshops in Beijing and Paris
Workshop
– objective and expected outcomes
Workshop objective

- ETP2006 provided long term global scenarios.
- ETP 2008 will provide more detailed analysis of the need for near term policies.
- A special chapter will focus on energy RD&D policies needed.
- This workshop is an important first input and guidance to this analysis.
- Insights and experience from experts in government, industry, academia and international organisations.
What we hope to learn more about?

- **Tools applied:**
  - Which tools and approaches are used to get from long term scenarios to concrete energy technology RD&D priorities?

- **Technology findings:**
  - What are the main findings from using scenarios for R&D priority setting?
  - Which are the key technologies?
  - Which technology development targets should be met to meet the scenario outcomes (time-wise, cost-wise, capacity-wise)?

- **Policy findings:**
  - Which are the investments needed in R&D, demonstration and deployment?
  - Which are the technology policies recommended?
  - What is the role of Government and industry?
Thursday
Scenarios and R&D priority setting

● Session 1
  Global energy technology scenarios – key technologies and policies

● Session 2
  Approaches to R&D priority setting

● Session 3
  R&D priorities and technology policies
Friday
RD&D priorities and investment needs

- Session 4 and 5: Key electricity technologies
  - CCS
  - Nuclear
  - Biomass
  - Grid integration
  - Wind turbines
  - Solar PV

- Session 6: Roundtable discussion
Next Steps
A workshop report and CD-Rom
- Drafting of chapter on RD&D priorities and policies
- Group invited to participate in review
- Analysis and chapter finished December 2007
- Workshops on RD&D priorities and needs for transport and buildings
- More work on trends in RD&D in IEA countries
Thank You

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