



OECD/IEA Case Study on Innovation in Energy Technology: Introduction and Overview

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International Conference on Innovation in
Energy Technology

29-30 September 2003, Washington, DC

What is the OECD (Organisation for Economic Co-operation and Development)?

- 30 Member countries; active relationships with some 70 other countries.
- Shared commitment to democratic government & market economy
- Outputs include policy analysis, statistics, peer reviews, international agreements
- 2300 staff in Paris
- Science, technology and industry one of 14 directorates
- Committee for Scientific and technological policy (CSTP) and its working party on Innovation and Technology Policy (TIP)



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Innovation in Energy Technology: Context

- National innovation systems—long history of work within OECD on NIS approach and policy implications (macro-economic level).
- Sectoral innovation systems—recognition that NIS and resulting policy needs vary across technological fields and sectors (cross-cutting vs. specific policies).
- TIP Case studies on Innovation (launched June 2002)
 - Pharmaceutical biotechnology
 - Knowledge-intensive service activities (KISA)
 - Energy (in collaboration with the IEA Committee on Energy Research and Technology).

Study Objectives

- Examine energy innovation system
 - Drivers of innovation (market demand, regulation, etc.)
 - Knowledge creation, diffusion exploitation
 - Roles of public and private sectors
 - Multinationals, SMEs, technology-based startups
 - Public-private partnerships, IPR
 - Globalisation
 - Systemic influences (lock-ins, regulation)
- Evaluate its effectiveness
 - Economic benefits
 - Environmental benefits
 - Security benefits
- Delineate policy implications for OECD governments

Methodology

- Technology focus
 - Emerging technology + historical case study
 - Desire to inform policy, but need to draw lessons
 - Fuel cells as common technology
 - Other technologies to complement
- Country studies
 - Prepared by national experts
 - Examine national innovation system related to fuel cells (and other field of choice)
- Enhance international comparability
 - Bibliometric study—provide international comparison and basis for further investigation
 - Overview of energy supply, demand & R&D patterns, drawing on OECD and IEA statistics and analysis

Participants and Technologies

US	Inja Paik (<i>chair</i>) : John Nail, Patrick Davis Mike Curtis	Fuel cells Advanced turbine
Canada	A. Desgagne & G. MacDonell	Fuel cells
France	Bernard Bourgeois	Fuel cells Oil & gas
Germany	Jürgen Wengel	Fuel cells
Italy	Oronzo Tampone	Fuel cells
Japan	Akira Maeda	Fuel cells
Korea	Sung-Chul Shin	Fuel cells Renewables
Norway	Helge Godø A. Mikkelsen, Jon Moxnes Steineke	Fuel cells Oil & gas
UK	Roy Williamson Barbara Hammond	Fuel cells Renewables
OECD & IEA	J. Sheehan, Y. Fukasaku, E Hassan, M. Woodruff	Bibliometrics Industry Overview

Timetable

1st meeting of energy group: Preliminary discussion of country interests, technologies, methodology.	June 2002
2nd meeting: Agree on scope, approach; review statistics; select technologies.	October 2002
3rd meeting : Progress reports, new members, agreement on next steps	March 2003
Washington Conference	September 2003
4th meeting: Discuss results of conference, plan final report.	October 2003
Draft final report on energy case study	December 2003
Synthesis report on 3 case studies	Mid 2004

Remainder of afternoon session

- Presentations of OECD & IEA contributions
 - **Madeline Woodruff & Yukiko Fukasaku**, Trends in energy supply, demand, R&D and innovation)
 - **Emmanuel Hassan**, Bibliometric study
- Energy innovation in the US
 - **Mike Curtis**, Advanced turbine system
 - **John Nail**, Stationary fuel cell applications
 - **Patrick Davis**, Automotive fuel cell applications
- First international comparisons
 - **Jürgen Wengel**, Germany
 - **Glenn MacDonell**, Canada
 - **Akira Maeda**, Japan