IEA Experts' Group on R&D Priority-Setting and Evaluation

DEVELOPMENTS IN ENERGY EDUCATION: Reducing Boundaries

Copenhagen 9-10 May 2012

International Energy Agency

Energy Technology Network

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Reducing Boundaries

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Rationale

To achieve the shared vision of a sustainable energy society there is need for substantial improvement and growth in the talent pool to accelerate energy technology research and innovation. Many new energy technologies are physically and technically complex, not only in their manufacture but also their design, installation, system integration, operation and maintenance.

As a means to accelerate innovation, cross-disciplinary whole system or cross-discipline approaches are on the rise. Cross-border university collaboration is also on the rise, with universities from one country founding excellence centres in another to capitalise on the expertise of the host country and to broaden the student base and international perspectives. On another axis of cross-boundary approach, research conducted in cooperation between a private company, an industrial doctoral student and a university aims at creating new knowledge relevant to the business while also educating the next generation of researchers.

As a result, intellectual and institutional boundaries are also becoming less distinct. The effect of these changes on the structure and role of knowledge institutions carrying R&D on energy technologies is the focus of this workshop.

Scope

This workshop sets out to examine how these trends affect traditional education and competencies and the influence on innovation. Some pertinent examples include the Swedish Whole Energy Systems Graduate School that promotes inter-disciplinary collaboration and whole systems thinking and analysis; the European wide Knowledge and Innovation Community (KIC) InnoEnergy that brings together universities and industry in the overall effort to develop leaders in technology and entrepreneurship; the Sino-Danish University Center for Education and Research on sustainable energy; and the variety of innovation training camps for energy sector stakeholders.

Questions to be addressed by experts include:

- ***Do cross-disciplinary programmes and initiatives accelerate innovation?***
- ***How can universities implement energy R&D and whole-systems or cross-discipline programmes and approaches?***
- ***What are the spillover effects of education developments on employment?***
- ***What are the barriers and opportunities to expanding university programmes across borders or regions?***
- ***How can higher education and R&D address the needs of enterprise in a global economy?***
- ***What lessons can higher education learn from 'teaching the public' (and vice-versa)?***

Target Audience

Energy technology experts from government, academia, and research laboratories.

For more information

Presentations for which signed waivers have been received will be posted soon after the meeting on the IEA web pages for the Experts' Group on R&D Priority-Setting and Evaluation (EGRD).

AGENDA

Wednesday 9 May

Technical University of Denmark
Lyngby Campus
Anker Engelundsvej 1, Building 101, Room S09
DK-2800 LYNGBY

WELCOME AND INTRODUCTIONS			
9:00	1	**Welcome**	*Dr. Martin P. Bendsøe, Senior Vice President and Dean, Technical University (Denmark)*
9:10	2	**IEA Experts' Group on R&D Priority-Setting and Evaluation**	*Rob Kool, EGRD Chair, NL Agency (Netherlands)*
9:20	2	**Introduction and Meeting Objectives**	*Birte Holst Jørgensen, Vice Chair EGRD, Dep. Dir., Management Engineering, DTU (Denmark)*
9:30	3	**Opening Remarks**	*Lars Georg Jensen, International Chief Advisor, Danish Energy Agency*
A. NEEDS ASSESSMENT OF COMPETENCIES AND REQUIREMENTS			
Moderator: Rob Kool, EGRD Chair (Netherlands)			
10:00	1	**Preparing a Modern Energy Workforce: Federal and Private Sector Initiatives in the United States**	*Craig Zamuda, Senior Policy Advisor, Department of Energy (United States)* *Ann Shikany, Programme Analyst, Department of Energy (United States)*
10:30	2	**European Strategic Energy Technology Plan – Energy Education and Training Roadmap**	*Miroslava Naneva, Energy Policy Officer, DG Research and Innovation, European Commission*
11:00	3	Break	
11:30	4	**Discussion and Key Messages**	*Moderator*
12:00		Lunch – invitation by DTU	
B. THE EDUCATION VALUE CHAIN			
Moderator: Robert Marlay, EGRD Vice Chair (United States)			
13:00	1	**Whole Energy Systems Graduate School**	*Mats Söderstrom, Linköping University*
13:30	2	**Teaching New Energy Technologies and Systems**	*Prof. Hester Bijl, Head of the Energy Initiative, Head of Department, Delft Technical University*
14:00	3	**Talent Factory for Wind Power**	*Anders Dalegaard, Danish Wind Power Assoc.*
14:30	4	**Sustainable Energy, Sino-Danish Center on Research and Education**	*Birte Holst Jørgensen, Principal Coordinator, DTU*
15:00		Break	
15:30	5	**Cross-Fertilisation for Innovation**	*Tbc, UKERC Summer School*
16.00	6	**Discussion and Key Messages**	*Moderator*
17:00		**Close Day 1**	
18.30-		DTU hosted dinner, Nimb Brasserie, Tivoli (www.tivoli.dk/composite-7553.htm)	

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Thursday 10 May

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C. CAPACITY BUILDING – A GLOBAL RESPONSIBILITY			
Moderator: Carrie Pottinger, EGRD Secretary (IEA)			
9:00	1	**UNEP Capacity Building**	*John Christensen, Head of Risø UNEP Center*
9:30	2	**Forming Tomorrow's Leading Experts on CCS**	*John Gale, General Manager, and Tim Dixon, Greenhouse Gas IA*
10:00	3	**Training and Capacity Building**	*Assen Gasharov, Programme Manager, Training and Capacity Building Programme, IEA*
10:30	4	**Module on Modelling**	*Uwe Remme, Senior Analyst, Energy Technology Perspectives Division, IEA*
11:00	5	**Discussion and Key Messages**	*Moderator*
12:00		Lunch and visit to PowerLabDK	
D. TEACHING THE GENERAL PUBLIC			
Moderator: Sea Rotmann, EGRD Delegate (New Zealand)			
14:00	1	**Educating the Public to Save Electricity in Times of Crisis**	*Sara Pasquier, Programme Manager, Energy Efficiency, IEA*
14:30	2	**The District of Tomorrow**	*Ludo Kockelkorn, Zuyd University of Applied Sciences (Netherlands)*
15:00	3	**Policies and Programmes to Educate the Public**	*Emilie Carmichael, Head, EU Programme, Energy Saving Trust (tbc)*
15:30	4	**Discussion and Key Messages**	*Moderator*
E. NEXT STEPS			
Moderator: Birte Holst-Jørgensen, EGRD Vice Chair (Denmark)			
16:00	1	**Discussion and Key Messages**	*Moderator*
17:00	2	**Workshop Conclusions**	*Moderator*
17:30	3	**End of Workshop**	
19.30		Group dinner, Cap Horn Restaurant, central Copenhagen (www.caphorn.dk/)	

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Friday 11 May 2012

Technical University of Denmark
Risø Campus
Frederiksborgvej 399, Building 130
DK-4000 Roskilde

EGRD MEMBERS MEETING	
9.00 – 11.00	EGRD Members Meeting (separate agenda)
SITE VISITS	
11.00	Visit to DTU Wind
12.00	Lunch
13.00	Visit to DTU Energy Conversion (solar and fuel cells)
15.30	Transfer to Roskilde
18.00-21.30	Dinner on the ship Sagafjord (www.sagafjord.dk/)
22.00-	Train to Copenhagen