

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

## **DEVELOPMENTS IN ENERGY EDUCATION: Reducing Boundaries**



**Copenhagen 9-10 May 2012**



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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:

#### Needs Assessments of Competencies and Requirements

- *What are the human resource and educational requirements of energy enterprises in the global economy? How can they be identified?*
- *Do current educational programmes meet the needs of industry?*
- *How can industry work with educators to create stronger curricula?*

#### The Education Value Chain

- *What can educational organizations do to accelerate innovation?*
- *What initiatives are proven to accelerate innovation, what initiatives look promising, and what new ideas are there?*
- *To what extent can cross-disciplinary educational programmes and initiatives accelerate innovation?*
- *What are the spillover effects of education developments on employment?*

### Capacity Building – a Global Responsibility

- *What are the barriers and opportunities to expanding university, training or capacity-building programmes across borders or regions?*
- *What does it take to influence education institutions to expand their programmes?*

### Civil Society and the Role of Energy Education

- *What are the most effective approaches to educating the public? Why?*
- *What entity is best suited to teach the public - universities, government, private sector, or non-profits?*
- *Are top-down or bottom-up approaches more successful?*
- *What can be done to improve and further careers in the field of public energy education and training?*

### **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 \(EGRD\)](#).