

The European Platform of Universities engaged in Energy Research (EPUE), an EUA Initiative

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Introductory Remarks

- Universities are main stakeholders in basic research and in higher education and training, as well as in innovation oriented research. They should be an integral part of the European organisations and expert groups in charge of designing roadmaps for progress in this field.
- The universities have a unique opportunity to work in the knowledge triangle of education, research and industrial innovation.

Educating master and doctorate candidates is the most efficient way to disseminate research knowledge, and enable innovation based on new research results.

Challenges (1)

Sharp rise in institutional research and industrial R&D to realise the SET-Plan objectives

- SET-Plan objectives
 - ✓ By 2020: Greenhouse gas (GHG) emission down 20%, 20% renewable energy, 20% reduction of energy use
 - ✓ By 2050: Reduction of GHG emissions by 60-80%
- A paradigm shift using new and yet to be developed technologies in innovative ways is required to achieve these objectives
- There is a massive need for new talent, and upgrade of the existing competencies in society for this development
- Candidates from the knowledge triangle - education/research/innovation can be the change agents that society needs

Challenges (2)

- Recruiting the best young talent for careers in the energy sector – a global market and global competition
- Building increased Education&Training capacity fast enough
- Making state-of-the-art education programmes with the latest knowledge available widely in Europe
- Achieving the integration of education, cutting edge research, and a rich innovation environment at sufficiently many locations in Europe

“European Strategic Energy Technology Plan (SET-Plan): Towards a low carbon future” - (2007)

IN this plan, the Commission proposed to create a **European Energy Research Alliance (EERA)** based on potential joint programmes that would “include basic *energy science*, enabling and breakthrough technologies and advanced energy efficiency.”

The EC acknowledged the “excellent research teams” in universities as well as their role in education and training in the field. The EC engaged in a dialogue with EUA to become part of the EERA.

Developing an initiative for energy education and training in Europe

- The European Commission also sees human capacity challenge, and wants to develop an initiative for education and training as an integral part of the SET-Plan, which involves all actors in the value chain
- For the implementation of such an initiative to be successful, the capacity of the universities of Europe must be mobilised widely
- The European University Association has taken an initiative to contribute to this mobilisation by creating a European platform of universities engaged in energy research and education - EPUE

Universities in the EU SET-Plan policy context

- **EUA joined the European Energy Research Alliance (EERA)** in an observer capacity in October 2008 after a decision of the **EUA Council** in Rotterdam, following the invitation of the European Commission.
- **EUA launched Questionnaire** to European universities to identify university research and training capacity in the field of energy with the objective to build a European Platform of Universities Engaged in Energy Research (EPUE).

EUA-EPUE Platform: Main Objectives

- To facilitate competitive European university groupings to participate in the realization of the SET-Plan, through cooperation with the European Energy Research Alliance (EERA) and the Joint Programming activities, the European Industrial Initiatives (EIIs) and other initiatives.
 - To ensure that university capabilities in long term fundamental research and training are utilized in the upcoming EU energy activities, and that a good balance between top-down and bottom-up research strategies is applied.
 - To mobilize cross disciplinary research and education, encompassing from natural sciences and engineering to social sciences, arts and humanities to best enable development of innovative energy technologies, and their implementation in society. ...9...
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**Country
Breakdown of
universities in
EUA-EPUE,
January 2012**

	Country	Number of institutions per country
EU 27 and Associated Countries	Austria	4
	Belgium	7
	Bosnia and Herzegovina	1
	Czech Republic	4
	Denmark	4
	Estonia	1
	Finland	6
	France	6
	Germany	17
	Greece	1
	Hungary	2
	Ireland	3
	Italy	20
	Lithuania	1
	Netherlands	4
	Norway	5
	Poland	18
	Portugal	3
	Slovakia	3
	Slovenia	2
	Spain	21
Sweden	3	
Turkey	4	
UK	19	
Others	Azerbaijan	1
	Georgia	1
	Iceland	1
	Russia	1
	Ukraine	1
		164

EPUE Questionnaire - Summary of Outcomes (1)

- **EPUE:** 154 members, 29 countries

- **University Research Areas in the Energy Field**
 - Specific topic areas, Total Number **1.473 topics**
 - **Research staff(*)**, Total Number **19.681 persons**
 - **Average group size (FTE) per specific topic** **13 persons**
- (*)Professors, faculty, doctoral holders, doctoral candidates, other researchers, technical assistants

- **Total approximated university research budgets:** **7 Billion €**
- **Energy-related estimated research budgets:** **986 Million €**

- **Doctoral Programmes in the Energy Field** **556**
- **Master Programmes in the Energy Field** **853**

Actions in 2012 (1): EUA-EPUE Inaugural Event, 23-24 February, TU Delft, The Netherlands

- To discuss the potential roles and development of the European Platform: “From Concept to Implementation”
- To consider a range of activities addressing the following missions to:
 - establish a strong voice for university energy research and education at the European level,
 - ensure that characteristic university attributes such as fundamental research and training, and collaborative activities with industry partners, are properly included in forthcoming EU energy activities in Horizon 2020,
 - help competitive European university groupings to participate in the realisation of the Strategic Energy Technology Plan (SET-Plan),
 - bind more strongly the various disciplines ranging from natural sciences and engineering to social sciences and arts/humanities to best fulfill the needs of society in energy research,
 - speak for long-term thinking in European research agendas and initiatives, with due consideration given to a balance between top-down and bottom-up research strategies.

Actions in 2012 (2): Input to the SET Plan Energy Education and Training Initiative, established by the European Commission

Initial Recommendations:

- The objective of the effort must be to produce a basis from which the main stakeholders can plan and prepare for education and training for the future energy markets, directly or indirectly. These stakeholders include:
 - education institutions
 - research institutions
 - governmental bodies
 - industry
 - young people seeking education
 - current professionals seeking further education

Actions in 2012 (3): Input to the SET Plan Energy Education and Training Initiative, established by the European Commission

Initial Recommendations:

- Addressing societal challenges through multidisciplinary and cross border collaboration (e.g. accreditation of curricula) .
- Leveraging public investment: publicly funded research should be used to provide input to curriculum outlines
- Linking education to research: Graduates should be able to act as first tier disseminators and innovators in industry and society, applying new research based knowledge
- Immediate implementation of education initiatives: Immediate efforts should be initiated to develop short/medium term skill requirement forecasts, curricula and dissemination planning.
- Doctorate education: The need for researcher training in key scientific fields for energy related research should be assessed and acted upon.

<http://www.eua.be>

**Click on Events, follow Upcoming and find
program and registration information for
the EPUE Inaugural Event
at TU Delft 23 - 24 February 2012**

Thank you for your attention!