



UNIVERSITIES IN THE SET-PLAN

UNI-SET - Mobilising the research, innovation and educational capacities of Europe's universities in the SET-Plan

Insights into the future energy labour market

25 February 2015

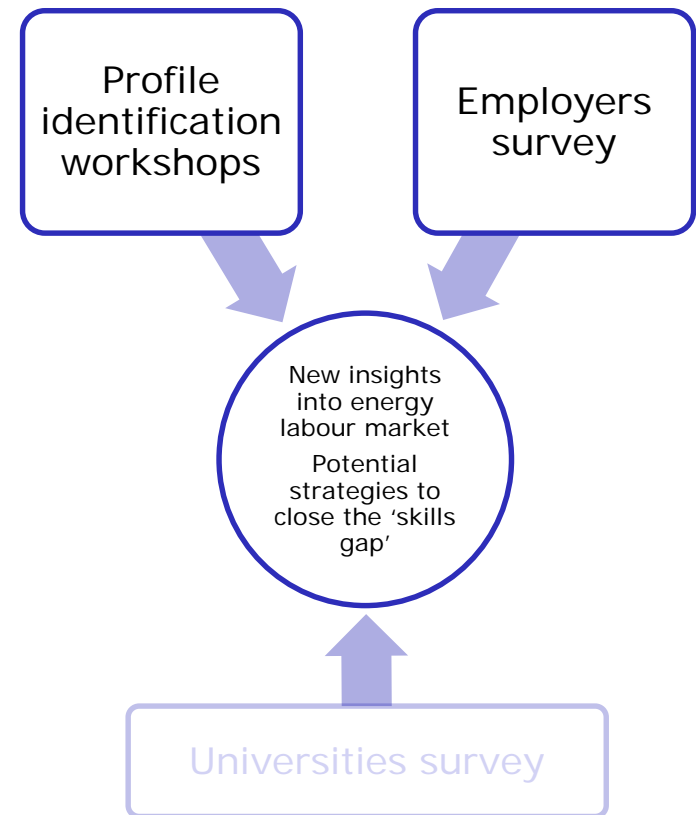
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KU Leuven & KIC InnoEnergy

KIC InnoEnergy



KIC InnoEnergy in UNI-SET

- Strong in university-business links and collaboration
- Contribution: identify skills and professional profiles in the energy field in six different thematic fields
- Taken together with the university mapping, UNI-SET will provide unique insights into current labour market requirements and education offered at universities



UNI-SET Profile Identification Workshops

- A series of 7 Profile Identification Workshops held at different offices of KIC InnoEnergy or back to back with international relevant industry events:
 - ✓ May KU Leuven
 - ✓ June Grenoble Institute of Technology INP
 - ✓ October Universitat Politecnica de Catalunya, Barcelona
 - ✓ October Karlsruhe Institute of Technology
 - ✓ November KU Leuven at the European Utility Week, Vienna
 - ✓ November Jagiellonian University, Krakow
 - ✓ November KTH Royal Institute of Technology, Stockholm



UNI-SET Profile Identification Workshops by KU Leuven (contact: mar.martinez@esat.kuleuven.be)

May in Leuven, Belgium:

- Side event: iiESI course.
- Attendees from industry, Universities and Research centers.



November in Vienna, Austria:

- Side event: European Utility Week.
- Attendees from industry, human resources, consultants, Universities, KIC InnoEnergy representatives, master/PhD students and Alumni.



Views and recommendations for Universities from the employers in Energy for Smart Cities

<ul style="list-style-type: none"> • University Education & fundamental knowledge in Energy <ul style="list-style-type: none"> ▪ MSc ▪ PhD 	<ul style="list-style-type: none"> + “There is a need for multidisciplinary profiles”. Need for broader profiles instead of specialized profiles, but technical knowledge is important. Combining energy and markets, and energy and sociology. + “Master degree is interpreted as basis for a career in industry” + A PhD can add added value for industry. - Regional differences in appreciation of degree type: “A PhD is in some regions seen as overqualified for (non-research) industry”.
<ul style="list-style-type: none"> • Extracurricular activities <ul style="list-style-type: none"> ▪ Mobility ▪ Industry Involvement 	<ul style="list-style-type: none"> + International mobility and internship are ranked high, “higher than finishing studies in time”. “Mobility is often ranked higher than internship experience”. - “Universities are often not really flexible towards internships”.
<ul style="list-style-type: none"> • Languages & Soft Skills 	<ul style="list-style-type: none"> + “Mother tongue plus English is required”. - “Give students time to develop skills”. Grades are not all that count, also soft skills are important.

UNI-SET Profile Identification Workshops by Grenoble INP (contact: beatrice.cabon@grenoble-inp.fr)

June in Lyon, France:

- Side event: CIRED, International Conference and Exhibition on Energy Distribution.
- 6 Leading Experts as speakers:
 - ✓ 2 professors in Energy Distribution and Nuclear, Engineering Schools;
 - ✓ 2 SMEs Directors: HESPUL (Renewable and Energy Efficiency, Photovoltaic); OPERA ENERGIE (Business and Energy);
 - ✓ 2 Large Enterprises Directors: EDF (Human Resources), UDIMEC (Nuclear, Electrical Services in Industry).
- 1 Engineering student as moderator (Nuclear) and Audience: KIC IE -PhD School Director CC France, EUA representative, KUL representatives, Organisers from Grenoble INP, and the Director of Long Life Training Department at Grenoble INP.



Views and recommendations for Universities from the employers in Nuclear and Renewable convergence

<ul style="list-style-type: none"> • University Education & fundamental knowledge in Energy <ul style="list-style-type: none"> ▪ MSc, PhD 	<ul style="list-style-type: none"> + Need for technical and support team experts - need for team managers as well. + Diversity of profiles for working at international, and in satellite companies in Large Enterprises like EDF. + In France, more Engineers recruited than MSC students. +/- PhD is more needed where both global knowledge supervision is required; or in specific R&D.
<ul style="list-style-type: none"> • Extracurricular activities <ul style="list-style-type: none"> ▪ Mobility ▪ Industry Involvement 	<ul style="list-style-type: none"> + Associative involvement with social activities needed in CV + Life and social science skills needed especially for SMEs. +/- Great diversity in recruitment in SMES, less sectarian than Large enterprises. + Industrial experience not required in 1st employment.
<ul style="list-style-type: none"> • Languages & Soft Skills 	<ul style="list-style-type: none"> + Need for soft skills in priority since technical can be easier to learn. + Fundamental concept is sharing-partnership creation spirit + English required everywhere.

UNI-SET Profile Identification Workshops by Karlsruhe Institute of Technology (contact: sauer@kit.edu)

October in Frankfurt, Germany:

- Side event: Conference Energy from Chemical Fuels by KIC InnoEnergy.
- Attendees from universities, consulting business, industry and research center.



Views and recommendations for Universities from the employers in Energy from Chemical Fuels

<ul style="list-style-type: none"> University Education & fundamental knowledge in Energy <ul style="list-style-type: none"> MSc, PhD 	<ul style="list-style-type: none"> - MSc degree (esp. in chem. industry) still considered as inequivalent to former German diploma. + "A PhD is able to work independently and has already experience in project management and leadership skills." PhD basic qualification in Chem. Industry. - PhDs might be too focused on special topics.
<ul style="list-style-type: none"> Extracurricular activities <ul style="list-style-type: none"> Mobility Industry Involvement 	<ul style="list-style-type: none"> + "The student's personality needs time to develop" to be flexible, to make own decisions, to work in teams, and to look into industry in order "to develop an own profile". + Flexibility is more important than studying in the shortest time possible.
<ul style="list-style-type: none"> Languages & Soft Skills 	<ul style="list-style-type: none"> + English is mandatory, Chinese and Russian are important. + Cross subjects and soft skills are good, however, not on the expenses of technical knowledge.

UNI-SET Profile Identification Workshops by UPC (contact: josep.bordonau@upc.edu)

October in Barcelona, Spain:

- Side event: the Monthly Meeting of the KIC InnoEnergy Iberian Ventures.
- Attendees from industry (large companies, SMEs, and start-ups), human resources, consultants, and KIC InnoEnergy representatives.



Views and recommendations for Universities from the employers in Renewable Energy

<ul style="list-style-type: none"> • University Education & fundamental knowledge in Energy <ul style="list-style-type: none"> ▪ MSc ▪ PhD 	<ul style="list-style-type: none"> + Companies in general feel happy about the technical skills of graduates. - Multidisciplinary and polyvalence are collective demands. - Lack of entrepreneurship training is detected by some start-up's representatives. Proposal: New MSc programmes focused on a final objective of setting up a new company (with entrepreneurship training).
<ul style="list-style-type: none"> • Extracurricular activities <ul style="list-style-type: none"> ▪ Mobility ▪ Industry Involvement 	<ul style="list-style-type: none"> - General agreement: "there is a necessity of increasing the presence of the students in companies during their studies". - "Internships in companies have to be mandatory in MSc programmes to gain practical experience".
<ul style="list-style-type: none"> • Languages & Soft Skills 	<ul style="list-style-type: none"> - "English is indispensable". Other languages are considered to be important but not mandatory. - "Soft skills have to be improved. They are essential to be more efficient and competent."

UNI-SET Profile Identification Workshops by the Jagiellonian Univ. (contact: adamski@chemia.uj.edu.pl)

November in Krakow, Poland:

- UNI-SET dedicated event.
- Attendees:
 - ✓ state and private,
 - ✓ big and small companies, administrative and educational bodies;
 - ✓ research-oriented institutions and technology users;
 - ✓ partners representing both conventional and renewable energy fields.



Views and recommendations for Universities from the employers in Clean Coal & Gas Energy

<ul style="list-style-type: none"> University Education & fundamental knowledge in Energy <ul style="list-style-type: none"> MSc PhD 	<ul style="list-style-type: none"> + High level of formal education is vital especially in the case of more experienced specialists employed. + If a candidate can demonstrate his/her skills and competences in a given job area, his/her nominal field of study remains sometimes of secondary importance. + Interdisciplinary and cross-competences exhibited by candidates make their future work easier and more efficient. - Sometimes the specific research field at Ph.D. level too strongly preorientates further career of an employee.
<ul style="list-style-type: none"> Extracurricular activities <ul style="list-style-type: none"> Mobility Industry Involvement 	<ul style="list-style-type: none"> + Very appreciated by employers if a candidate has already any kind of experience in his/her future work. + Also appreciated: the ability to define and solve practical problems and to contribute at project proposal preparation. - Additional activities may be not OK for potential employers if completely accidental or generated just to improve CVs.
<ul style="list-style-type: none"> Languages & Soft Skills 	<ul style="list-style-type: none"> + The communicative level of English is generally useful in energy sector, however it strongly depends on the employer. - Some international companies prefer also other languages. - Soft skills are not always efficiently developed, appropriate teaching methods have to be introduced or adapted.

UNI-SET Profile Identification Workshops by KTH-Royal Insitute of Technology

(contact: justin.chiu@energy.kth.se)

November 2015 in Stockholm, Sweden:

- Side event: Energy Dialogue.
- Attendees from Industries, Universities and Agencies:
 - ✓ VattenVall
 - ✓ Fortum
 - ✓ Scania
 - ✓ KTH, school of engineering
 - ✓ International Energy Agency

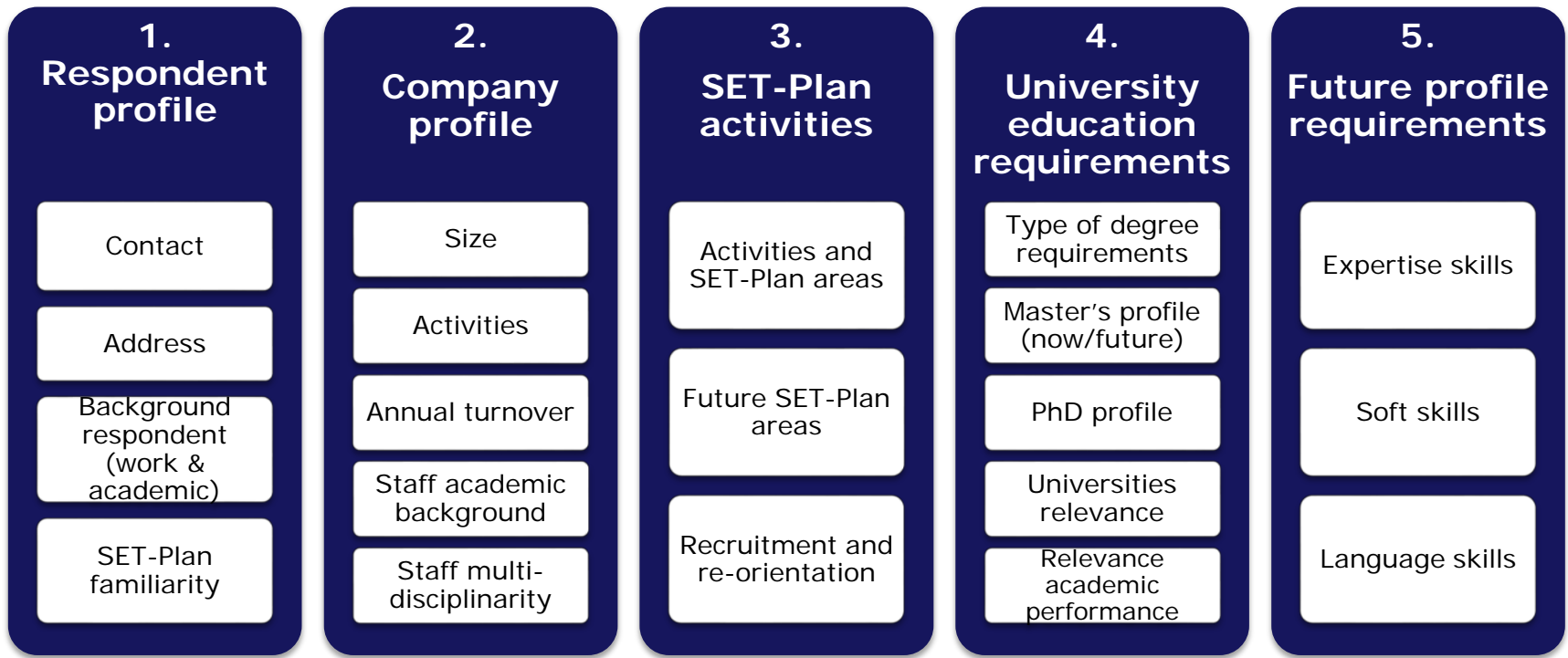


Views and recommendations for Universities from the employers in Smart Grids

<ul style="list-style-type: none">• University Education & fundamental knowledge in Energy<ul style="list-style-type: none">▪ MSc▪ PhD	<ul style="list-style-type: none">+ Specialization is as important as multidisciplinary.+ Different work positions would require different educational level and background.- Over qualification is as deterring as under qualification.
<ul style="list-style-type: none">• Extracurricular activities<ul style="list-style-type: none">▪ Mobility▪ Industry Involvement	<ul style="list-style-type: none">+ Work experience carries often more weight than academic grades in hiring process.- It is essential to maintain the focus on technical specialization.
<ul style="list-style-type: none">• Languages & Soft Skills	<ul style="list-style-type: none">+ The graduates should be flexible to switch to other fields.- This helps integrate to working environment and provide positive outcome to the work.- Very case specific.

The UNI-SET Employers Survey is looking for your contributions!

- URL: <http://employers.uni-set.eu>
- Online survey send to companies by KIC InnoEnergy Universities



- Contact: uni-set@kic-innoenergy.com