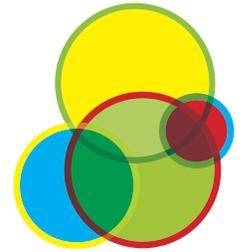




eseia



european sustainable energy
innovation alliance

Annual Report 2011



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“European funding is now more important than ever, and as FP7 transitions into Horizon 2020, it seems larger, more ambitious and cohesive groupings will have a big advantage; eseia will be enabling participation on the European level that will be essential for the competition of the next ten years“

Brigitte Hasewend, Director of eseia

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Message from the President of eseia

2011 was a successful year, a year of powerful activities and significant accomplishments. As eseia entered its second year, we focused on carefully refining its profile and improving the services offered to its distinct members. This resulted in the launch of various actions, such as the individual member specific funding profile and eseia's interactive website.

In order to fulfil its mission, eseia furthermore focused on five strategic directions: **systemic**, to identify eseia model regions; **participatory**, to establish eseia consumer participation models; **technological**, to develop renewable energy solutions; **educational**, to establish an eseia training brand and, finally, **strategic management**.

I am pleased to mention that a wide range of projects has been developed, including the 'Living Regions' proposal which will be submitted under the FP7 Regions of Knowledge call, and that significant efforts were put into structuring the eseia Educational Challenge, resulting in the successful development of eseia COPOEN. To further increase the visibility of eseia, the Secretariat was present at a number of conferences, where eseia was presented to politics and business – allowing the discussion of joint ideas and projects.

During the past two years of my Presidency, I have had the pleasure of seeing eseia develop from its inaugural idea to a well established and vital European cross-sector association with 30 member organisations from 13 countries. With a global transition towards sustainability on its way, I am convinced eseia is well placed to take a leading role, make a difference and continue to develop into an active and reliable association, aimed at advising European and International communities on sustainable energy solutions. Due to the end of my term in office as Rector of Graz University of Technology, and in order to serve eseia best, 2011 will be my last year serving as President of eseia. I strongly believe that the eseia Presidency should be linked to the leadership of one of our eseia member organisations, ensuring that we will continue to grow and serve as a reliable partner for decision makers at all levels. I am certain that my successor, Harald Kainz, will continue to support eseia in becoming an even more successful international player in upcoming years.

I am highly pleased to present this Annual Report which gives an excellent overview of the large spectrum of eseia's activities in 2011. Sharp focus was put on our member organisations, on the strengths eseia derives from its members' diversity. This is demonstrated in a competence matrix in which members are briefly presented. I hope you will enjoy reading about our achievements in 2011 and support eseia in becoming a crucial international player in the field of sustainable energy innovation.

Yours sincerely,
Hans Sünkel, President of eseia
Graz, December 2011



About eseia

eseia, the European Sustainable Energy Innovation Alliance, is an association of leading membership organisations spanning a number of European countries operating in the field of sustainable energy systems, from energy provision to energy consumption in research, teaching and innovation. The cross-sector membership of scientific, business and political partners is dedicated to advancing innovation to implement renewables and sustainable technologies in Europe as well as on a global scale.

The members hold wide-spread knowledge and experience which is brought together in eseia providing a valuable knowledge pool for almost any sustainable energy innovation challenge from renewable resources to consumption and implementation. eseia is active in several fields such as management of sustainable energy innovation programmes, organisation of expert panels, design of entrepreneurial education programmes and dialogue with the public as well as lobbying for sustainable energy solutions on various levels and fostering international cooperation.

eseia Vision

eseia envisions strong innovation regions which lead by example through building on the rich diversity of Europe and utilise international leadership to contribute to sustainable global change. eseia believes Europe will rely on regionally focused sustainable energy systems to drive a vibrant, innovative and sustainable society. In turn, this will call for regions to be responsible for their environment, renewable resources, and energy infrastructure and services, and will require regional administrations to act as the institutions in charge of planning, selecting, funding and implementing energy solutions. By ensuring the efficient use of renewable energy, regions will enhance their role in politics and society, grow their economies, and preserve their natural and cultural diversity. For regional success eseia believes that it is vital to improve the cooperation between science, industry and politics, as research and innovation are key drivers of

competitiveness, employment, sustainable growth and social progress. eseia therefore promotes the formation of clusters to bring together research and innovation addressing major challenges and fostering regional energy systems within the European Union.

eseia Aims

- Advise and support regional decision-makers to reach their energy strategies for 2020 by being an active and reliable partner in their attempt to implement energy solutions;
- Develop innovative concepts from new knowledge, education programmes to information measures and disseminate these to initiate wide-scale implementation in regions globally;
- Contribute to enabling Europe to take the leading role as the most innovative region towards global sustainability and optimise Europe's position in competitive future markets.



eseia Highlights 2011

In order to fulfil its mission, eseia focused on sharpening its profile and consolidating the alliance as a basis for successful enlargement. The main outputs of eseia and its member organisations in 2011 are summarised below according to the eseia challenges and supporting activities:

Challenge: Systemic	Accomplishment: Implementation of eseia model regions - Regions of Knowledge proposal eseia Open Access Online Journal 'Energy, Society and Sustainability' Central Europe project "Introduction of Regional Energy Concepts"
Participatory	"Smart Energy Regions of Tomorrow" Workshop at EUSEW
Technological	6 COST proposals submitted, focusing on biotechnologies and sustainable living
Educational	eseia Experts for the SET-Plan education and Training Initiative eseia Co-operative Practice Oriented Education Network Initial Training Network Research Programme Submission RENERTech & ENCORE-Energy

Management

New interactive eseia Website, eseia Newsletter

eseia Staff Exchange

eseia Events

eseia Business Meetings, Brussels, 12 April

'European Research and Innovation Area Update', Brussels, 16 June

SciTech Europe 2011, eseia exhibition, Brussels, Belgium, 24 November

eseia Business Meetings, Brussels, 8 December

International Conference on Sustainable Intelligent Manufacturing, Leiria, Portugal

3rd Conference on Sustainable Energies, Brasov, Romania

Regional Innovation Meets Sustainability, BRP-Powertrain and TU Graz

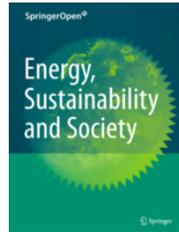
eseia Challenges

eseia Systemic Challenge

Through the following activities eseia focused on establishing itself as a strategic partner for European model regions:

Launch of eseia Open Access Online Journal 'Energy Sustainability and Society'

Together with Springer and the Helmholtz Association, eseia established the online journal 'Energy, Sustainability and Society' to offer an international and holistic platform for discourse between natural scientists, engineers, social & political scientists as well as experts from industry who drive the innovation of sustainable energy systems.



Implementation of eseia model regions - Regions of Knowledge proposal

The 'Living Regions' proposal, under the FP7 Regions of Knowledge funding scheme, aims at bringing together energy clusters in smart building for the built environment. Specifically, the consortium intends to address the global lack of regionally sensitive, integrated smart buildings solutions for both new built and retrofitted environments. Living Regions will integrate new approaches to urban planning, sustainable construction methods and innovative technology integration in buildings.



Central Europe Project: "Introduction of Regional Energy Concepts"

Regional Energy Concepts will support the use of RES and its increasing energy efficiency, the promotion of RESs and the utilisation of RESs as a key factor in business and sustainability

development at the regional/local level. The project's specific objectives are the visualisation and quantification of energy demand at the regional/local level as a first step in an effort to promote renewable energy sources and the mobilisation of the endogenous energy and business potential as guarantees of sustainable energy supply. Further objectives are to support the discussion on the regional energy demand and supply, and the negotiation of the strategy to be followed as well as the promotion of RESs as an instrument and a prerequisite for sustainable energy supply at the regional, local, national and CE level. Transnational cooperation is an added value to reach the project goals.





eseia Workshop at EUSEW

Left to right: Josef Furlinger, RIC; Lloyd Russel-Moyle, European Youth Forum; Franz Stelzer, TU Graz.



The 'Living Regions' Team at Work

Left to right: Luigi Crema, FBK; Christian Köberl, ECO WORLD STYRIA; Gintaras Stauskis, VGTU; Anca Duta, UTBv; Bram Hendriks, Region Twente.

eseia Participatory Challenge

eseia supported European regions in promoting consumer involvement in the innovation process by carrying out the following task:

eseia at the EUSEW – European Sustainable Energy Week on Smart Energy, Regions of Tomorrow

In the context of EUSEW eseia held a workshop at the eseia Office 13 April 2011 on how young people would like to see their regions develop in terms of renewable energies. In particular, the workshop highlighted the role of young people in promoting change as well as new job profiles and business ideas that turn the global energy challenge into a chance for the next generation. Furthermore, eseia members received a selection of recommended EUSEW events to facilitate choice.



eseia Technological Challenge

Submission of a number of COST proposals

In 2011 eseia supported the submission of COST proposals on the following topics:

1. Efficient Management of Bio-resource Flows (BIOFLOW), Coordinator TuTech Innovation GmbH, 14 partners;
2. Algae Biomass Refinery for the simultaneous capturing of CO₂ and the generation of fine chemicals and bio fuels, Coordinator: TU Graz, 11 partners;
3. Energy Grid Link, Coordinator: Luigi Crema, Fondazione Bruno Kessler, 23 partners;
4. Life Cycle wide environmental assessment for provision of agricultural goods and services (AGRO-EVAL), Coordinator: University of Maribor, 20 partners;
5. Sustainable-living - Towards Affordable and Sustainable Living Models for European Communities Coordinator: IFZ, and 11 partners;
6. Bio-Business Models, Coordinator: University of Twente and 11 partner.



eseia Educational Challenge

eseia established its own education and training brand staging the following activities:

eseia Experts for the SET-Plan Education and Training Initiative

eseia was invited to nominate members for an expert group to develop the EC SET-Plan Education and Training Initiative in recognition of previous eseia activities. The European Strategic Energy Technology (SET) - Plan aims at providing a framework to accelerate the development and deployment of cost-effective low carbon technologies and to provide a decision-making support tool for the European Energy Policy. To reach this goal strategic energy technologies were defined: wind energy, photovoltaics, concentrated solar power, carbon dioxide capture and storage, bio-energy, fuel cells and hydrogen, electricity grids and nuclear power. Expanding the human resource base has been identified as a key issue for the implementation of the SET-Plan.

As a result the SET Education and Training Initiative was launched. In a first step eseia nominated Teresa Ponce de Leão, LNEG, and Michael Narodoslawsky, TU Graz, as experts. The EC expert group will also include representatives from the European Platform of Universities Engaged in Energy Research (EPUE), the European Energy Research Alliance (EERA) and the Inno-Energy KIC. The representation of eseia in the SET Plan Education and Training Initiative offers a great opportunity to further improve the visibility and prestige of eseia and eseia member organisations.

eseia Co-operative Practice Oriented Education Network

eseia Co-operative Practice Oriented Education Network (eseia COPOEN) aims at combining high quality academic education with top grade practical experience. It provides an international approach to offer particularly bright and interested students as well as practitioners (in life-long learning schemes) education in key competences that meet the challenges to work in the very dynamic and

multidimensional field of sustainable technologies. eseia COPOEN is currently in the module development process. Several eseia members have already expressed their interest. Among them are TU Graz, University of Twente, LNEG and DIT. eseia-COPOEN will organise comprehensive courses at different locations in Europe, dedicated to cross cutting topics (biomass combustion, regional energy systems integration) that combine academic with practical experience provided by business experts and hands-on learning experience in real life work environments.

Initial Training Network Research Programme Submission RENERTECH & ENCORE-Energy

A consortium of 6 scientific eseia members (TU Graz, Parthenope University of Napoli, Dublin Institute of Technology, University Twente, University Maribor and Akershus University College) and 10 private sector partners submitted a proposal in the Marie Curie Initial Training Network Programme in mid-January 2011. The project on "Regional Optimisation of Renewable Energy Systems" will develop tools for planning and optimisation of regional sustainable energy systems with an interdisciplinary focus and train early stage researchers in the planning and implementation of regional solutions. eseia will support links to the EC policy framework, and the dissemination and transfer of the project results for further development among members. The first proposal, RENERTECH, was redesigned based on feedback from the evaluators and adapted to become ENCORE-Energy which included the Cologne University of Applied Sciences and 11 associate partners. After submission early in the new year, first results are expected for mid- May 2012.

eseia Management Challenge

eseia created tools to become more visible in the international arena. For this purpose eseia ran the following activities:

New interactive eseia Website, eseia Newsletter

In 2011 eseia enhanced its web services by providing an interactive knowledge and innovation management tool on the eseia website. The quarterly released eseia newsletter feeds eseia members with news from the grapevine, information about running and forthcoming projects, events, publications and top news from the European Commission and other funding organisations. It provides a tool for eseia members to exchange information over a central platform, strengthening collaborations and attracting new members.



eseia Staff Exchange

eseia member organisations have the opportunity to nominate candidates for a secondment to the Brussels Office. From January to July, Ina Körner, Professor at TU Hamburg Harburg (TUHH), joined the eseia Office in Brussels as Research Advisor. Ina Körner has supported the following two main activities, an FP7 KBBE Proposal coordinated by TUHH in cooperation with eseia as well as a revamp of a COST proposal on bioresources and the eseia Workshop in the context of the European Sustainable Energy Week 2011. eseia wishes to thank TU Hamburg-Harburg (TUHH) for seconding Ina Körner to support the eseia activities in Brussels.



eseia Staff exchange
Ina Körner, TUHH.



eseia Brussels Office
Avenue de Tervuren 84, Brussels, Belgium

“A stay in the eseia Brussels Office enables a wide range of valuable activities, contacts and experiences. I value the possibility of personal contacts with Brussels-based representatives of European regions.”

Ina Körner, TUHH

eseia Membership

Members of eseia are leading international innovation actors from all sides of the knowledge triangle, businesses, research and education organisations as well as public institutions that pursue the goal of advancing sustainable energy systems. The combined competencies of eseia members provide a valuable knowledge pool for a one-stop-shop for almost any sustainable energy innovation challenge from renewable resources to consumption. Each partner acts as a focal point in their particular national, regional, and topical context. The alliance spans the whole of geographical Europe.

In 2011, eseia was a network of 30 organisations from 13 countries. At the moment, the majority of eseia members are from research and education. eseia counts 5 businesses among its membership including the world's best 'Green Tech Cluster': ECO WORLD STYRIA. The eseia Secretariat intensified the efforts in widening the eseia network towards business and policy-makers, especially on the regional level with the Region of Styria supporting eseia projects on a larger scale. For the purpose of strengthening the alliance, eseia promoted memberships with project partners outside the eseia network.

List of members by country and partner type*:

Austria: Graz University of Technology (TU Graz)
BRP-Powertrain GmbH & CoKG
ECO WORLD STYRIA
ELIN Motoren GmbH
FH Joanneum Gesellschaft mbH
Interuniversitäres Forschungszentrum für
Technik, Arbeit und Kultur (IFZ)
JOANNEUM RESEARCH
Karl Franzens Universität Graz
Kompetenzzentrum Holz GmbH (Wood k plus)
LandesEnergieVerein Steiermark
Montanuniversität Leoben
Technische Universität Wien
voestalpine Stahl Donawitz GmbH & Co KG

Belgium: Ghent University

Italy: Fondazione Bruno Kessler (FBK)
The Parthenope University of Naples

Ireland: Dublin Institute of Technology (DIT)
University College Dublin (UCD)

Germany: Technische Universität Hamburg-
Harburg (TUHH)/ TuTech Innovation GmbH

Lithuania: LEI – Lithuanian Energy Institute
Vilnius Gediminas Technical University (VGTU)

Norway: Høgskolen i Oslo og Akershus (HiAO)
Sintef Energy Research

Poland: Poznań University of Economics

Portugal: Instituto Politécnico de Leiria (IPL)
LNEG – National Laboratory of Energy and
Geology

Romania: Transilvania University of Braşov

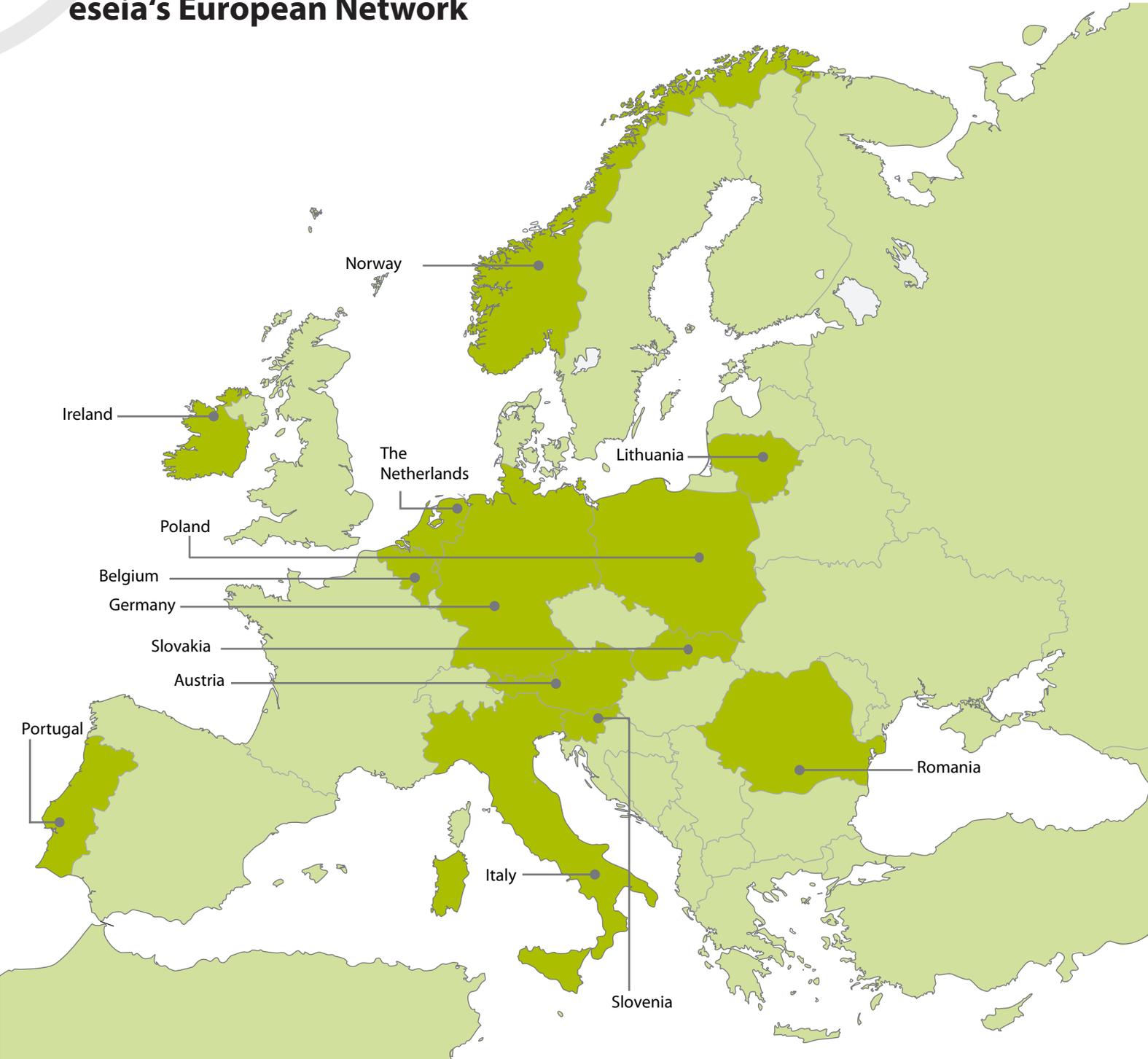
Slovenia: University of Maribor

Slovakia: Slovak University of Technology (STU)
in Bratislava

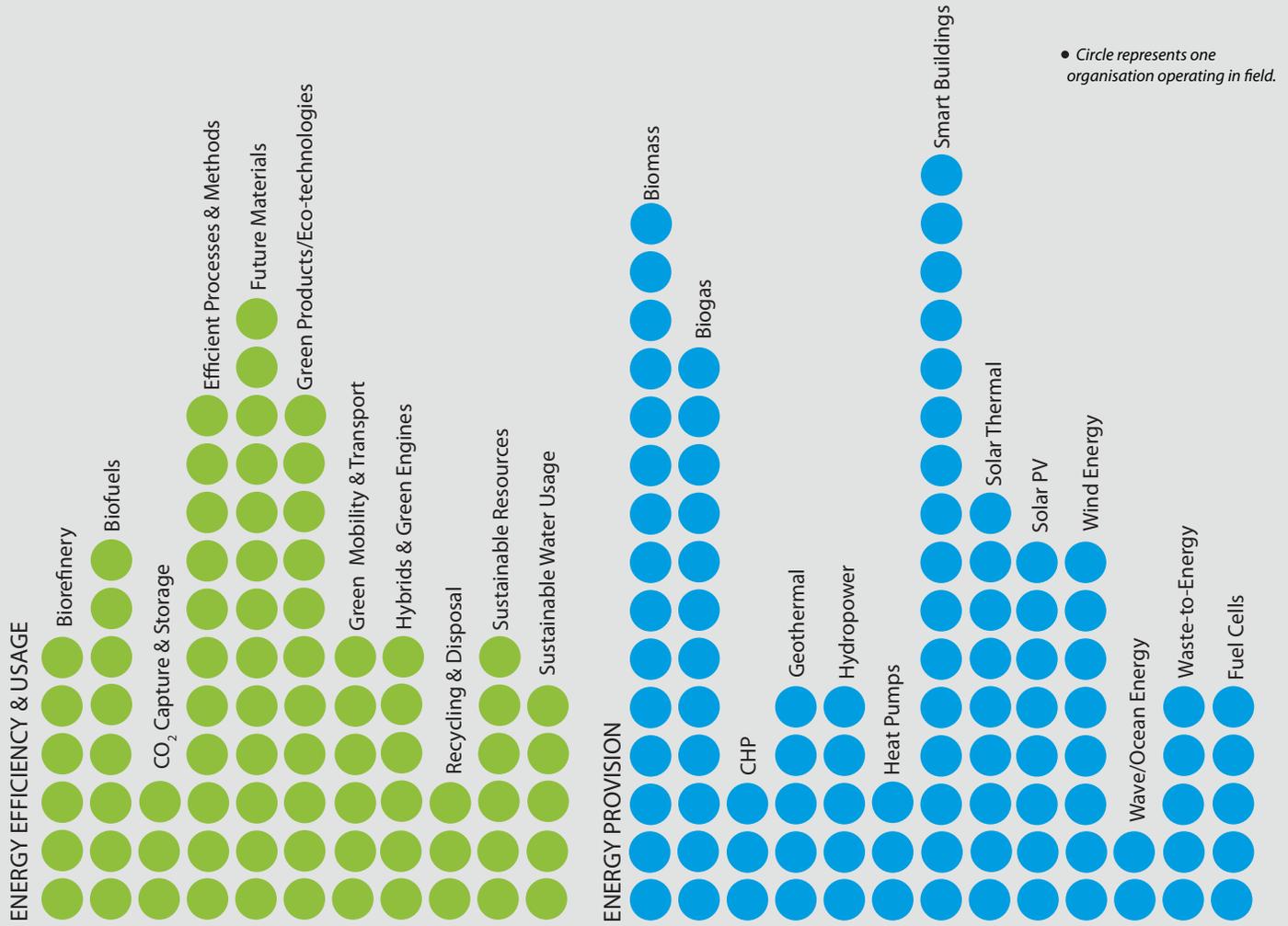
The Netherlands: University of Twente

*Science Partners, Business Partners & Political Partners

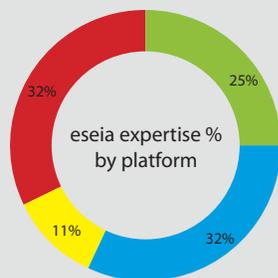
eseia's European Network



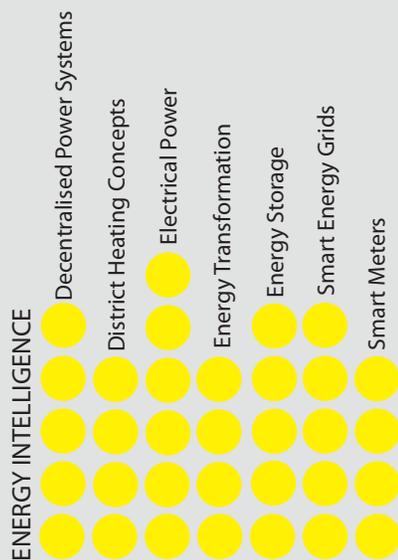
eseia Expertise



eseia brings together members from across Europe increasing the potential for joint collaboration in the field of sustainable energy. eseia's expertise is made up from the combined competences of the membership organisations and these in turn contribute to the strengths which eseia currently holds. The expertise has been split under four platforms: ENERGY EFFICIENCY & USAGE, ENERGY PROVISION, ENERGY INTELLIGENCE & ENERGY INTEGRATION. These platforms describe the spectrum of work and the 360° approach which eseia takes to the sustainable energy solutions. eseia's biggest platforms are ENERGY INTEGRATION and ENERGY PROVISION both with 32% of competences in these areas. ENERGY INTEGRATION has a range of 11 fields and ENERGY PROVISION holds eseia's biggest range covering 13 individual fields.



■ ENERGY EFFICIENCY & USAGE
■ ENERGY PROVISION
■ ENERGY INTELLIGENCE
■ ENERGY INTEGRATION



eseia top expertise:

11 organisations operating in the field of **Efficient Processes & Methods & Green products/ Eco-technologies**

13 organisations operating in the field of **Future Materials**

15 organisations operating in the field of **Bio-mass**

12 organisations operating in the field of **Biogas**

16 organisations operating in the field of **Smart Buildings**

14 organisations operating in the field of **Environmental Analysis**

12 organisations operating in the field of **Regional & Urban Development**

The real benefit of eseia is the integration of members' knowledge by a joint structure which is the eseia Secretariat, the individual competences per organisation are detailed on the following page. The eseia expertise defines the work programme of eseia and is therefore reflected in the work of 2011. Projects have been developed to utilising the membership competences, for example; on **regional development** leading to the submission of the 'Living Regions' project focusing on **Smart Buildings**. Further to this, due to the high number of Higher Education Institutes projects such as ENCORE-Energy and eseia COPOEN have been initiated focusing on innovative education on **regional implementation** of sustainable energy solutions.

eseia Competence Matrix

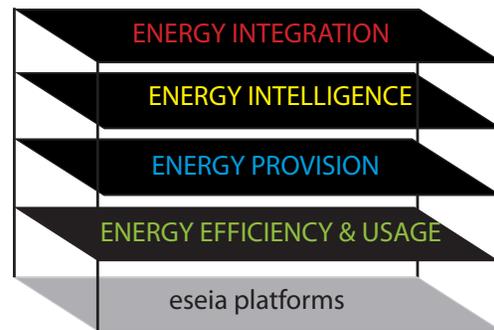
	ENERGY EFFICIENCY & USAGE											ENERGY PROVISION												
	Biorefinery	Biofuels	CO ₂ Capture/Storage	Efficient Processes & Methods	Future Materials	Green Products & Technologies	Green Mobility & Transport	Hybrids & Green Engines	Recycling & Disposal	Sustainable Resources	Sustainable Water Usage	Biomass	Biogas	CHP	Geothermal	Hydropower	Heat Pumps	Smart Buildings	Solar Thermal	Solar PV	Wind Energy	Wave/Ocean Energy	Waste-to-Energy	Fuel Cells
BRP-Powertrain GmbH & Co KG							◆	◆																
Dublin Institute of Technology					◆	◆												◆	◆	◆				◆
ECO WORLD STYRIA		◆				◆			◆		◆	◆	◆					◆	◆	◆	◆			◆
Elin EBG Motoren GmbH																						◆		
FH Joanneum					◆	◆	◆	◆			◆							◆		◆				
Fondazione Bruno Kessler		◆			◆	◆	◆				◆		◆	◆				◆	◆					◆
Ghent University				◆														◆						
Graz University of Technology							◆	◆			◆	◆			◆	◆	◆							
Hamburg University of Technology/TuTech Innovation				◆	◆					◆	◆	◆	◆				◆							
Høgskolen i Oslo og Akershus (HiAO)				◆	◆								◆		◆									
IFZ										◆								◆		◆				
Joanneum Research				◆						◆	◆			◆										
Karl-Franzens University of Graz										◆														
Kompetenzzentrum Holz GmbH (Wood k plus)	◆	◆			◆	◆				◆	◆													◆
LandesEnergieVerein (energy agency Styria)	◆	◆									◆	◆			◆		◆	◆			◆			
Lithuanian Energy Agency											◆	◆									◆			
Montanuniversität Leoben					◆				◆															
National Laboratory For Energy and Geology (LNEG)		◆		◆	◆					◆	◆		◆				◆	◆	◆	◆	◆	◆		◆
Poznań University of Economics					◆																			
Parthenope University of Naples	◆			◆		◆	◆				◆	◆												
Polytechnic Institute of Leiria						◆																		
SINTEF	◆		◆		◆	◆					◆	◆			◆	◆	◆	◆	◆	◆	◆			
Slovak University of Technology				◆		◆																		
Transilvania University of Brasov				◆	◆	◆												◆		◆				
University College Dublin							◆				◆	◆						◆	◆		◆			
University of Maribor		◆						◆			◆	◆		◆					◆	◆	◆	◆	◆	◆
University of Twente	◆	◆	◆							◆	◆	◆						◆					◆	
Vienna University of Technology	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆	◆				◆	◆	
Vilnius Gediminas Technical University				◆														◆						
voestalpine Stahl Donawitz GmbH & Co KG				◆	◆																			

Table displays the individual competences of the member organisations, ◆ represents operation in this area.

ENERGY INTELLIGENCE								ENERGY INTEGRATION										
Decentralised Power Systems	District Heating Concepts	Electrical Power	Energy Transformation	Energy Storage	Smart Energy Grids	Smart Meters	Earth/Climate Sciences	Economics/Market Analysis	Energy Demand Modelling	Energy Policy	Environmental Analysis	Master Planning	Regional & Urban Development	Sustainable Consumption	Technology Assessment	Water Management	Waste Management	
		◆	◆		◆	◆			◆	◆	◆	◆	◆					
									◆							◆		
◆		◆																
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		◆	◆					◆			◆							
								◆	◆		◆		◆	◆				
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							◆	◆			◆	◆	◆	◆				

eseia Platforms

The four platforms are ENERGY EFFICIENCY & USAGE, ENERGY PROVISION, ENERGY INTELLIGENCE & ENERGY INTEGRATION. These platforms form the content of work which provides the organisations with links and opportunities for collaboration. The platforms take a four step approach (reduction, production, implementation and integration) vital for implementing sustainable energy systems. The first step is based around reduction, the ENERGY EFFICIENCY & USAGE platform focuses on increasing energy efficiency and pushes innovation in both new and existing technologies. The ENERGY PROVISION platform is the second step, production of clean energy through a wide range of resources and methods. The third step is the implementation of clean energy through the ENERGY INTELLIGENCE platform with expertise, such as smart grids, which provide the infrastructure to distribute to the user. The last platform, ENERGY INTEGRATION provides the necessary parameters to integrate the energy systems in the regional environment, including policy measures, master planning & environmental analysis.



eseia Events



eseia General Assembly
Members of the general assembly



eseia Business Meeting
Left to right: Martin Fellendorf, TU Graz; Ina Körner, TUHH; Otto Nowak, Joanneum Research



eseia at SciTech Europe
Left to right: Brigitte Hasewend, eseia Director; Eva Schwinger, TU Graz.

To increase the visibility of eseia and to develop the strategy of eseia, eseia participated in a number of events:

eseia Business Meetings in 2011

In the eseia General Assembly meeting on 13 April 2011 eseia presented the Annual Report 2010, the Newsletter, 1st Edition (Annex 5) as well as the new eseia Flyer. The eseia Secretariat gave an overview of activities and services rendered to eseia members.

eseia members gathered on the 8th of December for an eseia General Assembly Meeting. The focus of this meeting was the eseia Work Programme 2012, including the strategic development of eseia. It was decided that the main focus of eseia in 2012 should lie on offering more member targeted service, attracting more business organisations and further improving the visibility of eseia.

European Research and Innovation Area Update

eseia and Universities Austria invited to an evening session which gave an update on the topic of the European Research and Innovation Area. Key note speaker was Anneli Pauli, Deputy Director-General, DG Research & Innovation.

The event also provided a forum to present sustainable

energy innovation highlights from eseia. It took place on 16 June in the eseia Office in Brussels.

eseia at SciTech Europe

Facing the various challenges of the Innovation Union, SciTech Europe 2011 created an integrated approach to research. 480 delegates from 21 countries discussed appropriate conditions for innovation, invention and industry by connecting innovators, policy makers and stakeholders. Due to the significance of the Vision of the Styrian Green Tech Valley shared by TU Graz, the focus was on the competence field, Sustainability in Design, Construction and Energy Systems'. Thus, presence of TU Graz at SciTech Europe was supported by eseia, represented by Brigitte Hasewend, Director of eseia. In the exhibition zone, the TU Graz and eseia booth was a highly frequented meeting point for delegates and located close to neighbours such as Fraunhofer IFAM, University of Turku and Aalta University.

3rd Conference on Sustainable Energy

A joint effort coming from RTD, education, companies, administration and policy makers resulted in a significant increase in the amount of renewables already implemented.



Group Photo at Sustainable intelligent Manufacturing Conference
eseia members & conference attendees



3rd Conference for Sustainable Energy
eseia members with Anca Duta from Transilvania University of Brasov in the newly built Green Tech Campus

The 3rd edition of the Conference for Sustainable Energy (CSE) organised by the Transilvania University of Brasov represented the opportunity to analyse the progress and possible openings expected for the next years. It took place from 10 – 12 November 2011 and was supported by eseia with two workshops on the 'eseia Co-operative Practice Oriented Education Network' and on 'Regions of Knowledge'.

Sustainable Intelligent Manufacturing Conference

The International Conference on Sustainable Intelligent Manufacturing (SIM 2011) was held in Leiria, Portugal, from June 29 to July 1, 2011 by the Centre for Rapid and Sustainable Product Development, Polytechnic Institute of Leiria. The conference provided an international forum for academics, researchers and industrial partners to exchange ideas in the field of sustainable intelligent manufacturing. eseia participated in this conference with two eseia Workshops 'Regions of Knowledge' and 'Joint Curriculum Development', and a presentation of eseia.



Regional Innovation Meets Sustainability: All eyes on Green Powertrain Systems, a BRP-Powertrain and TU Graz Project Co-operation

Hosted by Josef Furlinger, Director of the eseia member organisation RIC, eseia took the chance to present its current networking and thematic activities at the Regional Innovation Centre in Gunskirchen, Austria, 12 October 2011. After a warm welcome by Josef Furlinger and by Vice-Rector for Research, Horst Bischof, on behalf of Graz University of Technology, we learned more about the roles of BRP-Powertrain and Graz University of Technology within the eseia network. eseia Director Brigitte Hasewend and member of the General Assembly Franz Stelzer held an informative presentation of eseia's past, present and future activities.

eseia Management

eseia Secretariat

eseia's operations are co-ordinated by the eseia Secretariat based in Graz, Austria with an Office in Brussels. The eseia Secretariat handles the day to day affairs of the Association and is headed by the Director, Brigitte Hasewend. Before joining Graz University of Technology in 2007, Brigitte Hasewend spent 10 years living and working in Brussels. During this time she held several positions at DG Research of the European Commission where she worked as a project officer for Marie Curie excellence actions, as well as policy officer for the 'Europe of Knowledge 2020' and the 'Forum on Science and Society'. Previously, Brigitte was an executive working as Deputy Director at the Academic Cooperation Association (ACA), an international organisation for higher education cooperation based in Brussels.

eseia General Assembly (GA)

eseia's highest decision-making body is the General

Assembly, which elects the President, admits new members, approves the Association's budget and accounts, decides on the internal regulations of the Association and other matters within its competence. All members and associate members are entitled to attend the General Assembly but only members have the right to vote. The Assembly meets at least once a year. The decisions taken by the General Assembly are based on the proposals made by the Governing Council which is responsible for the management of the Association.

eseia Governing Council (GC)

The GC is responsible for the management of the Association. The GC consists of 7 administrators, including the eseia Treasurer and the Vice-Presidents. The members of the GC are elected by the GA. The eseia President and the eseia Secretary General are members of the GC. The GC meets several times a year.

General Assembly

eseia's highest decision making body meets at least once a year

Governing Council

responsible for the strategic management of eseia

						
Hans Sünkel TU Graz, AT	Teresa Ponce de Leão INETI, PT	Brian Norton DIT, IE	Maciej Zukowski PUE, PL	Ion Visa UNITBV, RO	Francesco della Porta FPK, IT	Brigitte Hasewend TU GRAZ, AT
President	Vice-President	Vice-President	Vice-President	Vice-President	Treasurer	Director

Secretariat

co-ordinates eseia's day to day operations and is located in Graz, Austria

Financial Information

2011 was dominated by the economic crisis which hit Europe and eseia member organisations. Some of the eseia member organisations were severely impacted by the harsh financial situation. Overall, however, the remarkable membership resilience has shown that the benefit of cooperation and the added value offered by eseia are well acknowledged even, if not particularly, in critical times. Besides the membership fees from the 30 membership organisations, eseia already draws on new sources for financial income. eseia focuses on receiving money from large scale European funding through the development of multi-partner projects and initiatives.

The eseia finances allow eseia member organisations to enjoy a number of valuable services provided by the eseia secretariat:

- Close contact to the European Commission facilitated by our desk in Brussels
- Excellent contacts to various funding agencies and thorough know-how of funding programmes
- The preparation of funding profiles for proposals in various fields
- The provision of key fact sheets on the details of relevant calls
- The support for consortium building and the coordination of large scale proposal preparation process
- The quarterly newsletter, including news from the grapevine of European Union policy regarding renewable energies

The staff and officers of eseia are committed to improve eseia services and modify them according to the changing times and your needs and suggestions.

Yours sincerely,
Francesco della Porta
Treasurer



Looking to 2012

In order to fulfil its mission, eseia will focus on sharpening its profile and consolidating the alliance as a basis for successful enlargement. To establish eseia as a relevant international player and expand the visibility of eseia, we will concentrate our activities on five grand challenges:

1. The **systemic challenge** to establish eseia as a partner for European model regions;
2. The **participatory challenge** to establish eseia as a

partner to promote consumer involvement in innovation;

3. The **innovation challenge** to establish eseia as a leader in innovative pathways;
4. The **education challenge** to establish an eseia training brand; and
5. The **management challenge** to raise the visibility of the organisation.

Challenges	Activities	Aims	Objectives	Lead
Systemic	Innovative Regions	Establish eseia as strategic partner for European energy regions	Strengthen the research potential of European regions in the field of sustainable energy = Mission of eseia, including tools for regional authorities, urbanisation-de-urbanisation scenarios	TU Graz, eseia, FBK
	Open Access Journal: Energy, Sustainability and Society		Sharing the research strength of the partners, allowing dissemination of results, increasing the visibility of the journal	eseia
Participatory	Smart Cities	Establish eseia as partner for the sustainable development of cities and regions in co-operation with European citizens	Industrial leadership and municipality guidance, develop innovative solutions with high replication within 10 years	eseia
	Brussels Workshop: Smart Energy Regions of Tomorrow		Regional clusters for sustainable energy innovation	eseia
Innovation	Open platform for innovation analysis and foresight studies	Establish eseia as a leader in innovative pathways	Analysing and contemplating future developments	FBK, DIT, Joanneum Research
	Bioenergy and Resource Management		Biogas survey, bioenergy and residual management	TUHH, Joanneum Research
Educational	SET Plan Education and Training Initiative	Establish eseia as an education and training brand	eseia expertise and experts for the EC SET Plan	eseia
	ENCORE-Energy		Initial training network will provide excellent training opportunities for Early Stage Researchers (ESR)	TU Graz
	Green Powertrain Systems		Industry-academia mobility training programme initiated by BRP Powertrain	BRP-Powertrain
	eseia COPOEN		Build up an eseia 'Practice Oriented Education Network'	eseia
Management	eseia Visibility Action Plan	Establish eseia as a relevant international player and expand the visibility of eseia	eseia Experts for international Conferences, eseia Portfolio, presence of eseia at international conferences, eseia Advisory Board	eseia
	eseia Management		Enhance function of Brussel and Graz Offices, eseia Annual Report 2011, eseia Newsletter, set up meetings, invite EC representatives	eseia

eseia Member Descriptions

BRP-Powertrain GmbH & Co KG an affiliate of Bombardier Recreational Products Inc. (BRP), is a leader in the development and production of innovative 4- and 2-stroke high performance Rotax engines for BRP products (Ski-Doo and Lynx snowmobiles, Sea-Doo watercraft and boats, Can-Am all-terrain, Side-by-side vehicles and roadsters) as well as for motorcycles, karts, ultra-light and light aircrafts.



Regionales Innovations Centrum GmbH (RIC) is an affiliate of BRP-Powertrain GmbH & Co KG - has the focus on research and on building up knowledge. The RIC perfectly combines these pillars: R&D on one hand and high-level qualifications on the other. The RIC - an innovative platform for the exchange of creative thinking between universities and the industry, stands for the next generation of technology centres. The modern building is situated on BRP-Powertrain premises.



Since its foundation in 1992, **Dublin Institute of Technology (DIT)** has been recognised as a pioneer in technological higher education, and has become one of Ireland's largest third level institutions. In addition to various study programmes, DIT delivers Ireland's main Masters programme in Sustainable Development, with related programmes in Energy, Spatial Development, and Environmental Health.



ECO WORLD STYRIA is the globally leading business cluster in energy and environmental engineering. To further strengthen and extend international technology and market leadership, ECO WORLD STYRIA supports these companies and Styria – the World's Green Tech Valley – with services and projects focusing on innovation, know-how, and new markets. In early 2010, it was recognised as the world's best Green Tech Cluster by the international Cleantech Group (USA).



As one of the leading manufacturers of engines and generators, **ELIN EBG Motoren GmbH** can look back on more than 100 years of experience in the field of powerful, reliable and cost-optimised drive technology.



FH JOANNEUM – University of Applied Sciences - With currently 36 degree programmes in the areas of Health Sciences, Information, Design & Technologies, International Business, and Life, Building, and Environment and one Postgraduate programme in the area of management, FH JOANNEUM is one of Austria's leading universities of applied sciences.



Fondazione Bruno Kessler - The foundation with more than 350 researchers offers amongst others studies in Information Technology, and Materials and Microsystems. Its conducted research obtains recognition at an international level and is of strategic importance to the province.



Founded in 1817, **Ghent University** is a major university in the Dutch-speaking region and the low countries. Located in Flanders, the university is an active partner in national and international educational, and scientific and industrial cooperation. At the base of its education and research lie curiosity and ambition.



With more than 2,000 staff members and 12,000 students, **Graz University of Technology** is known for its close business ties and a considerable number of successful spin-offs. Excellence has been achieved in the areas of the built environment and energy infrastructure, sustainable mobility as well as ecological and societal research linked to innovative energy systems.



The **Hamburg University of Technology (TUHH)**, founded in 1978, is Germany's youngest university of technology. The TUHH offer first-class teaching and excellent research at a high international level, and provides intensive science and technology transfer in the field of engineering sciences.



Høgskolen i Oslo og Akershus - Oslo and Akershus University College of Applied Sciences (HiOA) is Norway's largest state university college, after a merger of Oslo and Akershus University College. The faculties resolve the major issues in the areas of education, health, technology and environment.



The **Interuniversitäres Forschungszentrum für Technik, Arbeit und Kultur (IFZ)** was established in 1988 as the Graz branch of the Klagenfurt University. It attempts to improve the understanding of technology's role in society and develop new approaches to shape technological change. IFZ deals with sustainable construction and efficient energy use, exploring the role of users.



With its 13 research units **JOANNEUM RESEARCH** Forschungsgesellschaft mbH is one of the largest non-university research institutions in Austria, offering a wide range of services: applied R&D for SMEs, technical business consulting, and support and project management in applications for national and international funding. Its research is geared towards the demands of business and industry.



Founded in 1585, **Karl-Franzens-Universität Graz** - the Karl-Franzens University of Graz is one of Austria's largest, most venerable and most innovative universities with about 3,500 employees in research, teaching and administration. Diversity characterises the educational offered at six faculties, one of which focuses on Environmental and Regional Sciences and Education.



Kompetenzzentrum Holz GmbH (Wood k plus) is a partnership of different companies and researchers in the areas of wood composites and chemistry. Wood K plus develops and optimises engineering processes that provide the basis for a new generation of innovative products based on wood and related natural substances, acting as a customer-oriented partner.



LandesEnergieVerein Steiermark (energy agency Styria) was founded in 1981 as an interface between administration, policy, research, and the consumers of energy in Styria, with the aim of increasing efficiency in energy use and the use of renewable, domestic sources of energy. Its activities comprise the support of energy projects, consciousness raising and PR work, training, and awarding of grants.



Lietuvos energetikos institutas - The Lithuanian Energy Institute (LEI) was established in 1956. The LEI is a technical research centre dealing with energy related research for the analysis of security of energy supply, development of energy planning methods, fuel cells and hydrogen, renewable energy, thermal physics and fluid mechanics, nuclear safety, structural integrity assessment of components and structures, and simulation of complex energy systems.



Montanuniversität Leoben - The University of Leoben was established in 1840 and is an internationally renowned "Center of Excellence" in the areas of "Mining, Metallurgy, Materials" (Triple M). The core competencies range from raw material extraction to manufacturing, and recycling and disposal considered as central tasks for future sustainability.



The **National Laboratory For Energy and Geology (LNEG)** is a public institution for research, development and demonstration within the Ministry of Economy in Portugal. The LNEG has a large number of renewable energy projects, from solar to bioenergy, and from developing patents, to pilot and full scale plant, and technical support to industry.



Established in 1926, the **Poznań University of Economics (PUE)** is one of the leading business schools in Poland, currently attended by over 15,000 students at 5 faculties. PUE specialises in educating economists, managers and specialists in management. PUE focuses on international market research in order to facilitate the expansion of Poland's export trade.



The **Parthenope University of Naples** was founded as the Royal Naval Technical Institute and was later the Istituto Universitario Navale. With the recent expansion and final accreditation as a full university, the current student population is about 15,000. It is well known for its curricula in Environmental Sciences, Applied Sciences, Industrial and Agricultural Biotechnologies, and Informatics.



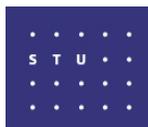
The **Polytechnic Institute of Leiria** is one of Portugal's first polytechnic institutions, founded in 1980. The institute has the mission to *train according to the legitimate expectations of the civil society, the students and their families*, and is a strong influence in the region.



SINTEF Energy Research is a part of the SINTEF Group. Its R&D activities are focused on power production and energy conversion, transmission, distribution and the end use of energy, including industrial processes and products.



Slovak University of Technology (STU) in Bratislava is the largest university of technology in Slovakia. It focuses on classical technical fields of study, economic and natural sciences, agricultural and forestry fields of study, as well as creative arts.



Transilvania University of Braşov founded in 1940 and is one of the largest universities in Romania, counting 15 faculties. The focus and development strategy lies on teaching, research, training, inter-university co-operation, university deontology, social protection of the university members, development and upgrading of the material base.



University College Dublin (UCD) - School of Agriculture, Food Science & Veterinary Medicine - The mission of the School is to develop and apply science and engineering scholarship to problems in animal health and welfare, human health, food systems and agriculture for the benefit of society through excellence in teaching and research.



The **University of Maribor** is a broad-based institution committed to excellence in education, the extension of knowledge through world-quality research and artistic expression. It will remain one of the leading academic institutions in Slovenia contributing to research in the arts and the sciences.



The **University of Twente** in Enschede is an entrepreneurial research university. It was founded in 1961 and offers education and research in areas ranging from public policy studies and applied physics to biomedical technology. The University is committed to making an economic and social contribution to the region of the Netherlands where it is based.



The **Vienna University of Technology** is Austria's largest scientific technical research and educational institution, developing scientific excellence and wide-ranging competence. Its research focus "Energy and Environment" comprises more than 80 research groups from all eight faculties and pursues a technological and interdisciplinary approach, providing integrated solutions.



Currently **Vilnius Gediminas Technical University (VGTU)** includes 8 faculties. The university takes an active part in the process of developing a common environment for European Science and Studies.



voestalpine Stahl Donawitz GmbH & Co KG can look back upon more than 125 years of experience in steelmaking technology. Donawitz has been and continues to be one of the major names in Austria's Upper Styrian steelmaking tradition.



ONE STEP AHEAD.



european sustainable energy
innovation alliance

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