

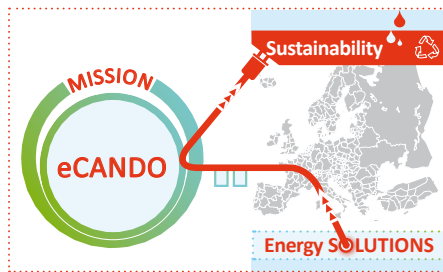
STRATEGIC PARTNERSHIP
FOR SUSTAINABLE ENERGY INNOVATION
AND CLIMATE CHANGE MITIGATION

TU Graz, Austria> **BUSINESS PARTNERS (38)**> ACCIONA ACC Austria GmbH Andritz Hydro GmbH Asset One Immobilienentwicklungs AG AT & S Austria Technologie & Systemtechnik AG Austrian Energy & Environment AG & CO KG AVL List GmbH BRP-Powertrain GmbH & Co KG Builddesk Österreich GmbH Continua Finanzdienstleistungs GmbH CPC- Austria Informationszentrum für umweltgerechte Produktion GmbH Denkstatt GmbH DI Karl Heinz Hinrichs Ingenieurbüro ELIN EBG Motoren GmbH Energie Steiermark AG Energy Services Handels und Dienstleistungs GmbH ennovatis GmbH FIBAG Gaulhofer Industrie-Holding GmbH Ing. Gerhard Agrinz GmbH IPUS - Industrie-, Produktions- und Umwelttechnisches Service GmbH Josef Binder Maschinenbau und Handelsges.m.b.H Kelag Netz GmbH Komptech Research Center GmbH KWB Kraft und Wärme aus Biomasse GmbH Ledon Lighting GmbH Magna Steyr Mondi Frantschach GmbH S.O.L.I.D. Solarinstallationen und Design GmbH Sinus Pro GmbH Spitzer GmbH STENUM GmbH Step Energiesysteme GmbH TEC Thermic Energysystems & Consulting GmbH Verbund AG voestalpine Stahl Donawitz GmbH & Co KG Voestalpine Stahl GmbH Windtec GmbH **SCIENCE PARTNERS (23)**> AEEINTEC Austrian Institute of Technology Austrian Energy Agency Baubiologisches Institut BIOS Bioenergysysteme GmbH CERE - Centre of Excellence for RE, EE and Environment FGM Forschungsgesellschaft Mobilität – Austrian Mobility Research GmbH FH JOANNEUM GmbH FH Oberösterreich Forschungs & Entwicklungs GmbH IFF/Social Ecology IFZ - Interuniversitäres Forschungszentrum IKUS Technologie GmbH Joanneum Research Forschungsgesellschaft GmbH Johannes Kepler Universität Linz Karl-Franzens-Universität Graz Montanuniversität Leoben Österreichischer Austauschdienst Universität für Bodenkultur Wien Universität Innsbruck Universität Klagenfurt Universität Salzburg Wegener Zentrum Technische Universität Wien. **CompetenceCentres (8)**> Austrian Bioenergy Centre GmbH BIOENERGY2020+ GmbH holz.bau.forschungs.gmbh Kompetenzzentrum das virtuelle Fahrzeug Forschungsgesellschaft mbH Kompetenznetzwerk Wasserressourcen GmbH Kompetenzzentrum Wood K plus GmbH Multifunctional Plug&Play Facades Materials Center Leoben Forschungs GmbH **Political, InterestGroup (11)**> Bundesministerium für Verkehr, Innovation und Technologie Bundesministerium für Wirtschaft, Familie und Jugend Bundesministerium für Wissenschaft und Forschung Das Land Steiermark Eco World Styria ICS - Internationalisierungscenter Steiermark Industriellenvereinigung Institut für Höhere Studien Landesenergieverein ÖKOCLUSTER Stadt Graz **TUHH, Germany**> **BUSINESS PARTNERS (6)**> Hamburg Innovation GmbH Hamburger Stadtentwässerung Hamburger Wasserwerke GmbH Stadtreinigung Hamburg TuTech GmbH Zellstoff- und Papierfabrik Rosenthal GmbH (ZPR) **SCIENCE PARTNERS (5)**> German Biomass Research Centre, Leipzig (DBFZ) Hamburg University of Applied Sciences Helmut-Schmidt-University Kassel University University of Hamburg **Fondazione Bruno Kessler, Italy** > **BUSINESS PARTNERS (12)**> AERMEC Diatec Holding SpA DiTNE National Technological District on Energy Dolomiti Energia S.p.A. El.Ma. Electronic Machining srl Engineering Ingegneria Informatica Fondazione Edmund Mach Habitech – District Technological Trentino S.C.ar.l. ITEA Institute Trentino Edifizia Abitativa S.p.A. Opto-i Microelectronics – Optoelettronica Italia srl. Prysmian Thetis S.p.A. **SCIENCE PARTNERS (7)**> CIRP (Regional InterUniversity Consortium of Puglia) European Academy Bolzano (EURAC) Politecnico di Milano University of Bologna University of Bozen University of RomaTRE University of Trento University of Twente, The Netherlands **SCIENCE PARTNERS (1)**> SINTEF Acciona, Spain> **BUSINESS PARTNERS (3)**> Mostostal Krakow S.A. Solintel Tecnalia Technological Corporation **SCIENCE PARTNERS (5)**> CIEMAT Centro de Investigaciones Energeticas Medioambientales Technical University of Madrid CSTB – Centre Scientifique et Technique du Bâtiment University of Zaragoza Tokyo University of Technology

European Sustainable Energy Innovation Alliance (ESEIA) (72)> **AUSTRIA, Strategic Partner**> Austrian eCANDO Partnership **BELGIUM**> Ghent University Association **BULGARIA**> University of Rousse **CZECH REPUBLIC**> Brno University of Technology **VŠB-Technical University of Ostrava** **GERMANY, Strategic Partner**> German eCANDO Partnership **Deutscher Akademischer Austausch Dienst** **GREECE**> National and Kapodistrian University of Athens **National Technical University of Athens** **HUNGARY**> Agricultural Research Institute of the Hungarian Academy of Sciences **Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences** Institute of Materials and Environmental Chemistry, Chemical Research Center, Hungarian Academy of Sciences **Research Institute for Technical Physics and Materials Science of the Hungarian Academy of Sciences** University of Pannonia **IRELAND**> Dublin Institute of Technology **National University of Ireland Dublin (NUID)** University College Dublin **University of Limerick** **ITALY, Strategic Partner**> Italian eCANDO Partnership **Sapienza University of Rome** **LITHUANIA**> Kaunas University of Technology **Lithuanian Energy Institute** Vilnius Gediminas Technical University **MALTA**> Projects in Motion Ltd. **NORWAY**> SINTEF **Institute of Transportation Economics of Oslo** **POLAND**> Energa-Operator S.A. **Gdansk University of Technology** Poznań University of Economics **Sygnity S.A.** **PORTUGAL**> National Institute for Engineering, Technology and Innovation (INETI) **The Polytechnic Institute of Leiria** **ROMANIA**> Transilvania University of Brasov **SLOVAKIA**> Agricultural Technical and Testing Institute (ATTI) **Catholic University of Ružomberok** Institute of Electrical Engineering, Slovak Academy of Sciences **Institute of Inorganic Chemistry, Slovak Academy of Sciences** Institute of Materials and Machine Mechanics, Slovak Academy of Sciences **Institute of Physics, Slovak Academy of Sciences** Institute of Technology, Slovak Academy of Sciences **Prešovska univerzita v Prešove** Slovak University of Agriculture in Nitra **Slovak University of Technology in Bratislava** Technical University in Zvolen **Technical University of Košice** University of Economics in Bratislava **University of Prešov** University of Žilina **Univerzity of SS. Cyril and Methodius in Trnava** Vysoká škola manažmentu **SLOVENIA** > Jožef Stefan Institute **Republic of Slovenia, Ministry of Higher Education, Science and Technology** University of Maribor **University of Primorska** University of Ljubljana **University of Nova Gorica** **SPAIN, Strategic Partner**> Acciona S.A. **Cartif Technology Center** CIRCE Foundation - Centre of Research for Energy Resources and Consumption **Leitat Technological Center** University of Valladolid **SWITZERLAND**> Ecole Polytechnique Fédérale de Lausanne **THE NETHERLANDS, Strategic Partner**> Dutch eCANDO Partnership **University of Groningen** Utrecht University **TURKEY**> Ege University **Mugla University** TÜBITAK Marmara Research Center **International Centre for Hydrogen Energy Technologies (UNIDO-ICHET)** Union of Municipalities of the Marmara Region (UMMR) **UKRAINE**> National Technical University of Ukraine **UNITED KINGDOM**> Energy Technology Partnership Scotland



The eCANDO Consortium was established in August 2009 to create **Europe's premier innovation institution in sustainable energy systems.**



Starting Grid

Lead initiatives

Platform 1: Usage Scenarios

Low carbon industrial park systems
+ energy settlements and multi-energy storage buildings
Smart grids for e-mobility

Platform 2: Energy Provision

Bio-carbon capture and re-utilisation:
biofuels from flue gases
Source to use biomass value chain optimisation

Platform 3: Energy Intelligence

+ energy building monitoring and control strategies
Intelligent provider-consumer link systems

Platform 4: Policy Options

Mobilising biomass: Incentive system to provide adequate biomass supply
Regional energy resource management policy options

eCANDO integrates

- key players and their potentials for innovation from science, education and innovation
- innovation efforts in education, research and business
- disciplines across the board to achieve a step change in the innovation system
- European regions and their citizens and innovators developing sustainable energy solutions

eCANDO sets out to achieving the following major outputs:

- Sustainable energy solutions independent of nuclear energy
- Highly qualified innovators that will be global leaders of innovation
- New products for new markets and better business for European SMEs as well as large multi-nationals

The eCANDO partnership has submitted a proposal to the European Institute of Innovation and Technology (EIT) to establish a knowledge and innovation community (KIC) in sustainable energy. In this context eCANDO has drawn **120 Mio € of commitments per year** for the first four years from partners in business, science and public services.

In addition to this effort towards the EIT, the eCANDO Consortium is honouring the interest of various partners by realising the potential of its powerful partnership on other opportunities as well.

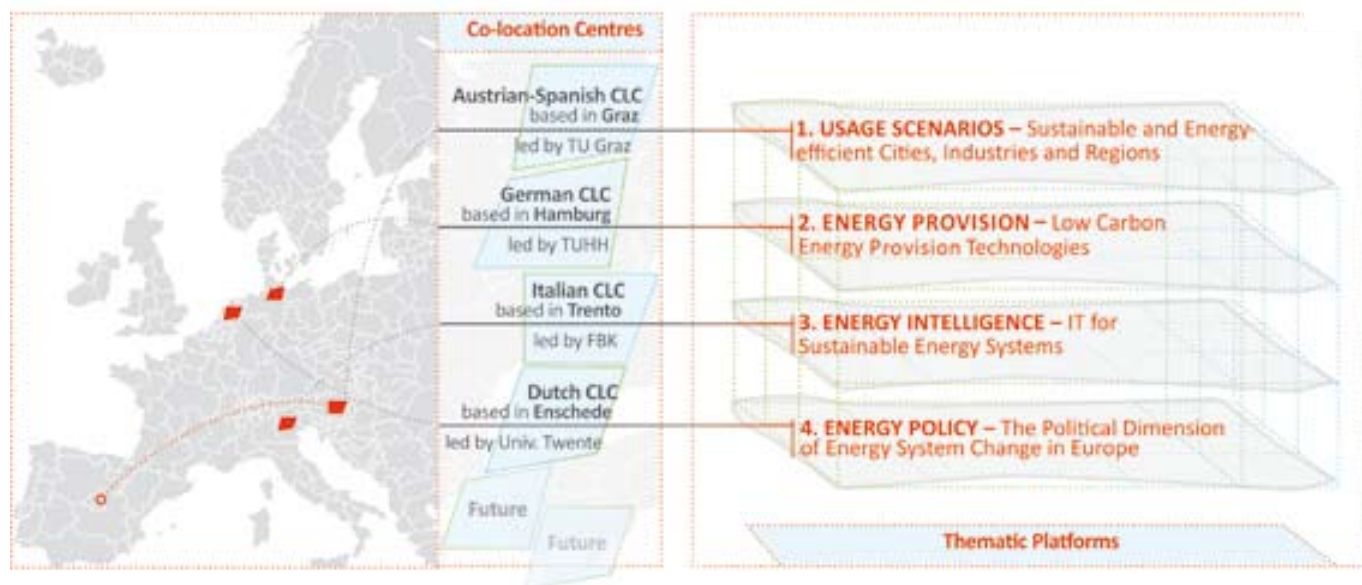
Starting Up

eCANDO is ready to start operations beginning 2010. eCANDO has identified a “starting grid” of lead initiatives that can be immediately pursued. One focus area will be **Entrepreneurial Education.**



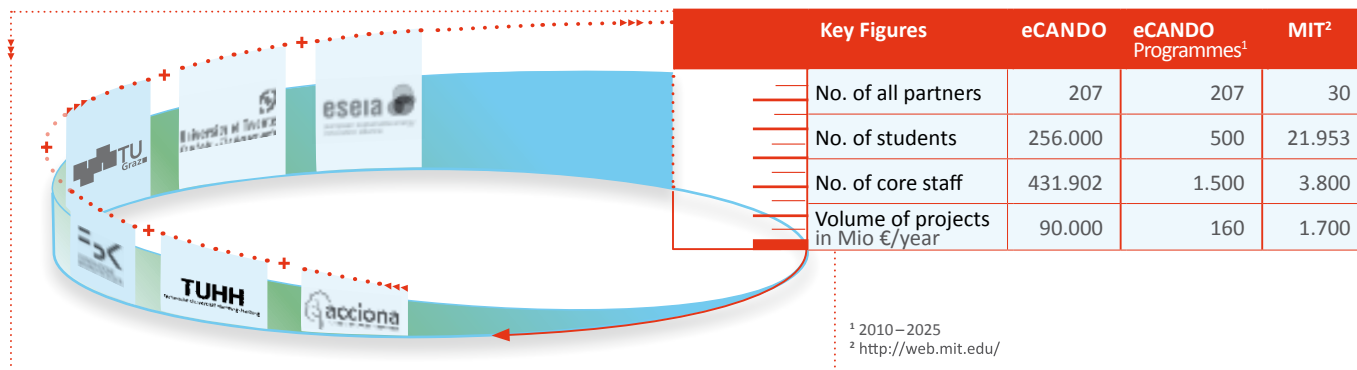
What are the key structures of *eCANDO*?

eCANDO will have a Holding company which functions as **hub** and headquarters based in Graz, Austria. In addition, each Strategic Partner will establish a new knowledge and innovation **Co-Location Centre**, with facilities in Graz, Hamburg, Enschede and Trento with the intention to grow from four to six. These CLCs are each characterized as **Thematic Platforms** within a matrix structure, dedicated to the following aspects of innovation in sustainable energy systems.



Who is promoting eCANDO?

The eCANDO Consortium represents a vibrant interdisciplinary mix of more than 200 European organisations covering all major aspects of sustainable energy systems including their market deployment and adaptation in regional contexts. The key figures of eCANDO show that the Consortium can easily compete on a global scale. TU Graz is the leader of the eCANDO Consortium including the following Strategic Partners:



eCANDO People

Governing Board Members:

TU Graz: Hans Sünkel, Brigitte Hasewend
 TUHH: Martin Kaltschmitt, Monica Schofield (TuTech)
 FBK: Francesco della Porta, Paolo Traverso
 University of Twente: Sjoerd van Tongeren, Maarten Arentsen

Platform Leaders:

1. Usage Scenarios: Michael Narodoslowsky
2. Energy Provision: Ina Körner
3. Energy Intelligence: Paolo Traverso
4. Policy Options: Maarten Arentsen

Industry Representatives:

ACCIONA: Juan Manuel Mieres Royo
 BRP-Powertrain: Josef Furlinger





Graz University of Technology (TU Graz), Graz, Austria

Leader of Platform 1. In cooperation with ACCIONA. With 2,000 staff and 11,000 students, TU Graz is known for its close business ties, especially car industry and bioenergy, and a considerable number of successful spin-offs. TU Graz is the leader of the Austrian Sustainable Energy Innovation Alliance which relies on the membership of the most prestigious research institutions and universities in Austria. Renewable energy technologies and energy efficiency improvement constitute a longstanding focal point of research, teaching and innovation activities in Austria. Excellence has been achieved in areas of the built environment and energy infrastructure, sustainable mobility as well as ecological, economical and societal research linked to innovative energy systems.



Hamburg University of Technology (TUHH), Hamburg, Germany

Leader of Platform 2. Situated in Hamburg, the “European Green Capital 2011” with its vibrant port and tradition of knowledge transfer, TUHH is a competition-oriented, entrepreneurial higher education institution with high standards of performance and quality. It offers first-class teaching and excellent research in energy conversion and distribution technologies, technologies for the efficient utilisation of biomass and other low carbon technologies and energy efficient technologies for residential, industrial and rural areas.



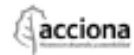
Fondazione Bruno Kessler (FBK), Trento, Italy

Leader of Platform 3. The foundation, with more than 350 researchers, conducts studies in the areas of Information Technology, Materials and Microsystems. Thanks to a close network of alliances and collaborations, FBK also conducts research in theoretical nuclear physics, networking and telecommunications and social sciences. A successful research organisation, FBK is established in the setting of a strong Italian partnership, called the SMART Alliance including the University of Trento which recently came out first on the national ranking of Italian universities.



University of Twente, Enschede, The Netherlands

Leader of Platform 4. 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 of Twente offers research and degree programmes in technology and in the social and behavioural sciences. In keeping with its enterprising spirit, the University is committed to making an economic and social contribution to the region of the Netherlands where it is based. The UT collaborates with TU Delft and TU/e Eindhoven under the umbrella of the 3TU Federation, and is also a partner in the European Network of Innovative Universities (ECIU).



ACCIONA, Spain

Co-Leader of Platform 1. In cooperation with TU Graz. The Spanish company has an international presence in more than 30 countries and its total turnover in 2006 was 3.6 billion €, employing 14.000 people. It is part of ACCIONA Group, whose business lines are Construction, Real State, Urban-Environmental Services, Energy, Logistic Estate and Transport. Acciona is the leader of the European Technology Platform on Sustainable Construction.



European Sustainable Energy Innovation Alliance (ESEIA), EU

ESEIA was established in August 2009. The Alliance is the pool from which two more co-location centres will be created over the lifetime of eCANDO. ESEIA represents some 70 partners from 23 European countries covering all relevant sustainable energy fields. ESEIA also offers a number of high-level master’s and PhD programmes which will form the backbone of the human resource development measures of eCANDO.



What services does *eCANDO* have to offer?

1. EXCELLENCE

One-stop Solutions:

An integrated suite of solutions from one source

eCANDO is your one-stop innovation partner. Whether you are an entrepreneur, a policy-maker, an innovator or a sustainable energy-literate European citizen, *eCANDO* will have the right package of services for you to help you change towards a climate-friendly sustainable energy system. *eCANDO* focuses on energy innovation taking into consideration the diversity of European energy regions to come up with transferrable implementation strategies, such as new business models. A central strategy of the *eCANDO* structure is to add value by integrating existing innovation efforts and avoiding duplication. More than 200 partners in almost all European countries and internationally *eCANDO* is close to where you are and where innovation is needed.

2. QUALIFICATION

Human Resource Development:

Access to highly-educated, top-qualified employees

eCANDO will shape tomorrow's world-class energy innovators through its exclusive brand of entrepreneurial Master's and Doctoral Degree programmes. In addition, entrepreneurial qualification programmes for a range of professional profiles or designed tailor-made for company-specific innovation initiatives will be available.

3. INVOLVEMENT

International Communities:

Access to partners from the local to the global level

eCANDO represents a far-reaching strategic partnership of key players in education, science, business and government at all levels, with a specific emphasis on the regional dimension. Partners from all sectors are invited to take advantage of this extensive network to forge alliances for the multi-regional market deployment of sustainable energy technologies.

4. INNOVATION

Strategic Integration Programmes:

Systemic, solution-oriented approaches

Strategic Integration Programmes are large-scale international innovation initiatives that bring together the talent, creativity and know-how of the entire Consortium to address specific challenges for the European energy system. They address the whole innovation chain from the analysis of options and solutions to implementation pathways and innovative business models.



Platform descriptions

Platform 1:

USAGE SCENARIOS:

Sustainable and Energy-efficient Cities, Industries and Regions led by TU Graz in cooperation with ACCIONA, CLC Graz, Austria

This platform addresses aspects of a low carbon built environment as well as planning and efficiency optimisation for a low carbon European society. It will deal with four particular challenges, namely how to increase the energy efficiency of buildings, developing clean and efficient transportation systems, coupling energy demand by urban and rural settlements and industrial energy production and demand in efficient low carbon supply-and-demand-networks, and optimally allocating renewable resources to reliably supplying the necessary energy to support society as well as a competitive and sustainable European economy.

Platform 2:

ENERGY PROVISION:

Low Carbon Energy Provision Technologies, led by TUHH, CLC Hamburg, Germany

This platform will deal with the development of advanced technologies that provide energy (heat as well as electricity) and energy carriers (like bio fuels and hydrogen) with minimal contribution to climate change. This includes low carbon and carbon sequestration technologies based on fossil fuels as well as technologies based on biomass, wind, solar, geothermal and marine energy as well as various energy storage systems.

Platform 3:

ENERGY INTELLIGENCE:

IT for Sustainable Energy Systems led by FBK, CLC Trento, Italy

Sustainable energy systems require innovative approaches to information flow and control throughout tightly interlinked production and consumption networks as a major factor for the efficient use of renewable resources is the adaptation of demand to time dependent supply. Information technology is therefore a key field of innovation that will critically contribute to a sustainable energy system in Europe. This platform will address the role of IT in the technical field of control as well as in the societal field of information flow between actors critical to implementing and operating a sustainable energy system.

Platform 4:

POLICY OPTIONS:

The Political Dimension of Energy System Change in Europe led by the University of Twente, CLC Enschede, The Netherlands

The tasks of this platform are oriented around the necessary changes in the political, societal and economic framework to facilitate the implementation of a low carbon society in Europe. Special emphasis will be given to the interaction within new actor constellations (SME, agriculture, public authorities, ...) that may enhance the chances for implementing advanced energy systems and to the role regional actors will have to take in bringing the necessary changes to bear.



For further information please contact:

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Strategic Partners



Graz University of Technology (TU Graz), Austria,
www.tugraz.at



Fondazione Bruno Kessler (FBK), Italy,
www.fbk.eu



ACCIONA, Spain, www.acciona.com



Hamburg University of Technology (TUHH), Germany,
www.tuhh.de



University of Twente, The Netherlands,
www.utwente.nl



European Sustainable Energy Innovation Alliance (ESEIA)

How can I participate?

You can participate either as a Strategic or as a Community Partner. As a Strategic Partner you will have direct access to all key business and scientific actors in eCANDO and you will be able to participate strategically and thematically in all platforms. As a Community Partner you are invited to participate in eCANDO main programme lines, Strategic Integration, Technological Innovation and Entrepreneurial Education on a project-by-project basis.

If you are interested in joining this high-level community of industrial, scientific and educational players in sustainable energy systems, please register your interest with eCANDO.

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