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TU WIEN CONTINUING EDUCATION CENTER

ENERGIE PARK BRUCK AN DER LEITHA

Renewable Energy Systems

TU Wien I Energiepark Bruck/Leitha

ASIIN

Postgraduate MSc Program
Master of Science (MSc)
4 semesters, part-time

MSc Renewable Energy since 2005

Become AN EXPERT for the most important topic of your generation

The global economic challenge for the next decades will be the question in availability of energy resources. The dependability of supply and acceptable costs will be of vital importance for all of us – in both industrialized and developing countries.

Never before has the demand for employees in this field been so high. You are required to contribute in-depth knowledge, as well as ensure your own ongoing education to stay abreast of technological progress. In the part-time MSc Program "Renewable Energy Systems" participants will receive the very best preparation for the demands of sustainable energy economics. It will provide them with an opportunity to specialist roles in the challenging and rapidly expanding field of renewable energies and energy efficiency systems.

Our graduates will be able to add impetus to the energy rethink currently underway in different positions in business and society:

- It takes project implementation specialists to plan and operate alternative energy production facilities;
- Financing institutions and governmental agencies will face the challenge of having to competently assess such projects more and more frequently;
- Even conventional energy providers see good business opportunities in this field in the future.

In this growing sector, the demand for well-founded know-how has increased. The complementary strengths of the TU Wien and Energiepark Bruck/Leitha partnership make this MSc Program an outstanding opportunity to satisfy the market demand worldwide.

The interdisciplinary part-time MSc Program is offered by TU Wien in cooperation with Energiepark Bruck/Leitha.

TU WIEN

Technology for People -
Developing Scientific Excellence and Enhancing Comprehensive Competence

The TU Wien – located in the heart of Europe and Vienna - is the largest Austrian institution in research and education within the areas of technology and natural sciences. Even though the beginnings of TU Wien reach back more than 200 years research, teaching, and learning are state-of-the-art.

ENERGIEPARK BRUCK/LEITHA

Think Globally, Act Locally – more than 20 years of experience in the field of renewable energy and regional development.

The association Energiepark Bruck/Leitha was established in 1995 and acts as an innovation center for renewable energy, energy efficiency, climate protection and regional development. Since then a wide range of renewable energy projects have been realized. Based on Energiepark's activities the region already reached energy autonomy in the field of power.

FURTHER PARTNERS

Tailor-made country modules are offered to gain in-depth knowledge on energy markets in selected European countries.

Contributions will be made by:
University of West Hungary (Györ), Czech Technical University (Prague), AGH-University of Science and Technology (Krakow), Ege University (Izmir), Energetski Institut Hrvoje Pozar (Zagreb), ApE-Agencija za prestrukturiranje energetike (Ljubljana), BGWEA Bulgarian Wind Energy Association (Sofia).

Renewable energy and energy-efficiency improvements are the cornerstones in heading toward sustainable energy systems. In recent years, electricity production from renewable energy sources has increased significantly in many countries world-wide. Currently, in the EU renewables have become No. 1 in electricity generation. The next challenge is to switch to fully renewable energy systems. The core objective of this post graduate Master's program is to create experts who will be able to cope with this challenge.

Univ.Prof.Dr.techn. Reinhard Haas
Academic Director

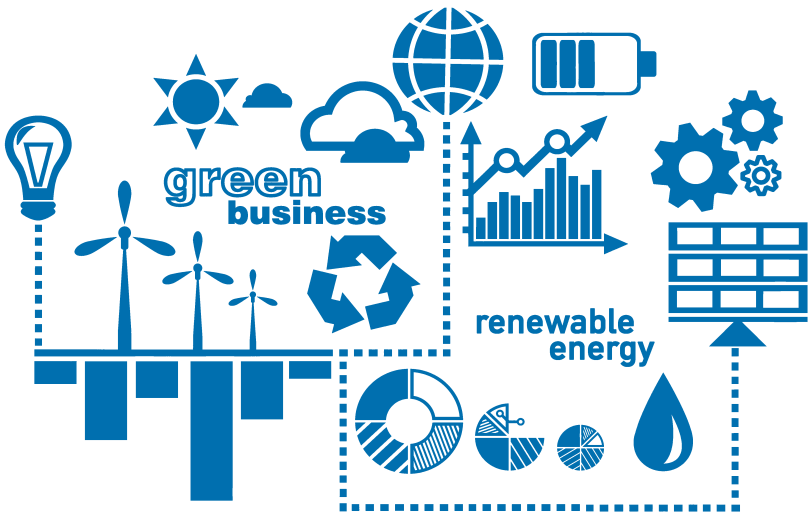
CURRICULUM

MODULE 1 **Introduction on Renewable Energy**	Non-conventional energy production, energy mix, energy trade, international and European programs and conventions in the sector of renewable energy • Economic aspects of renewable energy, basic economics, basic management, introduction on risk evaluation and risk management • Structural planning • Distribution networks (electric, thermal, gas), feeding-in and control of distribution networks • Practical examples of network interaction
MODULE 2 **Biomass, Biofuels & Biogas**	Principles of energetic use of biomass (physical, chemical), available raw material resources, and ecological resource management • Plant engineering for the energetic use of biomass (electric, thermal, gas, liquid) • Planning, construction, implementation, operation, and maintenance • Economic evaluation, risk, and cost aspects • Practical examples, field trips to existing plants
MODULE 3 **Solar Energy – Solar Heating & Photovoltaics**	Physical principles of the use of solar energy • Potentials • Plant engineering for the use of solar energy (electric, thermal) • Planning, construction, implementation, operation, and maintenance • Economic evaluation, risk, and cost aspects • Practical examples, field trips to existing plants
MODULE 4 **Geothermal Energy, Wind Power & Small Hydro Power**	Physical principles of energy usage • Available resources, potentials • Plant engineering for energy generation (electric, thermal) • Planning, construction, implementation, operation, and maintenance • Economic evaluation, risk, and cost aspects • Practical examples, field trips to existing plants
MODULE 5 **Efficient Energy Use & Thermal Building Optimization**	Physical principles, energy demand of buildings, building services engineering • Optimized building concepts, potentials, opportunities • Energy efficiency in the public sector and in companies • Outsourcing of energy supply services • Economic evaluation, risk, and cost aspects • Analysis of practical examples
MODULE 6 **General Legal & Economical Frameworks**	Legal aspects of renewable energy according to the EU regulatory system • Basics of European Community Law • Austrian national legal basis of renewable energy • Valuation and financing of energy projects • Business plans for energy projects • Financial planning for energy projects • Principles of accounting • Tax law • Investment law / licensing procedure
MODULE 7 **Integration of Renewable Energy Sources into the Energy System**	Fundamentals of electricity markets and CO2 emissions trading • Basics of electricity grids • Future role and responsibilities of transmission grids • Grid integration of renewables and the concept of smart grids • Market integration of renewables and storages • Direct marketing of green electricity • Example for integrating RES-E into the grid • Market overviews on renewable energy in Europe, currently in Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovakia, and Slovenia.
MODULE 8 **Management & Soft Skills**	Operative organization, team building • Self management, conflict management • Information work and opinion forming, media relations • Civic participation • Presentation, moderation
MODULE 9 **Perspectives on the Use of Renewable Energy**	Developments in world energy consumption • Future technologies • Technology assessment • Environmental protection and environment-related issues
MODULE 10 **Master's Thesis**	A Master's Thesis is written relating to the student's occupational activity and focussing on the feasibility of practical implementation.

Subject to modification

Long-term, sustainable development would be unthinkable without renewable energy sources and efficient use thereof. Europe is world leader in terms of environmental technology and use of renewable energy, and should strive to defend this position. In this quest, the MSc Program can render a valuable contribution by integrating our neighbours in partnership towards joint European action.

Dr. Franz Fischler
President of European Forum Alpbach
Honorary President of Ecosocial Forum Europe and Ecosocial Forum Austria / Former EU Commissioner



PROGRAM OBJECTIVES/GOALS

With the MSc Program the participants acquire knowledge and competence for

- the design of plants for the use of renewable energy sources from economic and legal point-of-view,
- the operation of plants for the use of renewable energy sources,
- the future assessment of environmental, technical and economic developments of renewable energy systems.

TARGET GROUP

Individuals within companies, organizations, and authorities who are engaged in planning, operating or evaluation of renewable energy projects or who are involved in financing, promotion, legal licensing of facilities for the use of renewable energy or environmental issues.

ADMISSION REQUIREMENTS

Admission requirements are: a Baccalaureate's degree, Magister's degree, or a diploma or equivalent in a relevant area of specialty and a minimum of 2 years of professional experience. Persons holding an equivalent educational and professional qualification may also be admitted.

FINAL DEGREE

The MSc Program is concluded by writing a Master´s Thesis. Achievement of the final degree **"Master of Science (MSc)"** granted by the TU Wien.

ACCREDITATION

Accredited by **ASIIN** (Accreditation Agency for Study Programs in Engineering, Informatics, Natural Sciences and Mathematics).

LANGUAGE OF INSTRUCTION

English

DURATION

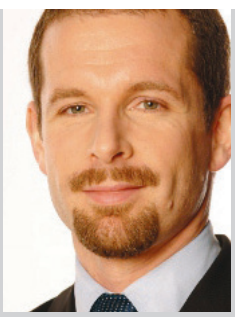
The part-time program is presented in modules and takes four semesters.

COUNTRY MODULES

To provide the participants with in-depth knowledge on energy markets in Europe, tailor-made country modules are an essential part of this MSc Program. Within the scope of these country modules currently these countries are offered alternating: Bulgaria, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovakia, Slovenia, and Turkey. The schedule will include lectures in these countries as well as excursions.

FACULTY

Internationally recognized scientists and professional experts are members of this top-class faculty, based on their sound interdisciplinary specialized knowledge or on their extensive practical experience in the field of renewable energy sources. As a result, the faculty is diverse and extremely dynamic preparing our graduates to face future challenges.



I had the pleasure to participate in this unique program in its first matriculation year 2005. From the very beginning this program was highly valuable while also improving permanently due to maturity, most recently honored by the ASIIN accreditation.

Dr. Günter Maier, MSc
Alumnus

MSc Program

Renewable Energy Systems

TU Wien | Energiepark Bruck/Leitha

Class 2017–2019

PROGRAM START

November 02, 2017

DURATION AND TIME SCHEDULE

The part-time program is presented in modules and takes four semesters.

LOCATIONS

The MSc Program is held on several locations in different countries: Vienna, Bruck/Leitha and at the sites of the country modules of selected European countries: e.g. Bratislava (Slovakia), Bucharest (Romania), Hamburg (Germany), Izmir (Turkey), Krakow (Poland), Ljubljana (Slovenia), Mosonmagyarovar (Hungary), Prague (Czech Republic), Varna (Bulgaria) and Zagreb (Croatia).

1st SEMESTER	2nd SEMESTER	3rd SEMESTER	4th SEMESTER
Thu Nov 02, 2017	**Country Module**	Mon Sep 03, 2018	**Country Module**
Fri Nov 03, 2017	Thu Mar 15, 2018	Tue Sep 04, 2018	Thu Mar 14, 2019
Sat Nov 04, 2017	Fri Mar 16, 2018	Wed Sep 05, 2018	Fri Mar 15, 2019
Sun Nov 05, 2017	Sat Mar 17, 2018	Thu Sep 06, 2018	Sat Mar 16, 2019
	Sun Mar 18, 2018	Fri Sep 07, 2018	Sun Mar 17, 2019
Thu Dec 07, 2017		Sat Sep 08, 2018	
Fri Dec 08, 2017	Thu Apr 12, 2018		**Master's Thesis**
Sat Dec 09, 2017	Fri Apr 13, 2018	Thu Oct 11, 2018	
Sun Dec 10, 2017	Sat Apr 14, 2018	Fri Oct 12, 2018	**Graduation**
	Sun Apr 15, 2018	Sat Oct 13, 2018	November/December 2019
Mon Jan 15, 2018		Sun Oct 14, 2018	
Tue Jan 16, 2018	Thu May 24, 2018		
Wed Jan 17, 2018	Fri May 25, 2018	Thu Nov 08, 2018	
Thu Jan 18, 2018	Sat May 26, 2018	Fri Nov 09, 2018	
Fri Jan 19, 2018	Sun May 27, 2018	Sat Nov 10 2018	
Sat Jan 20, 2018		Sun Nov 11, 2018	
	Thu Jul 05, 2018		
Thu Feb 08, 2018	Fri Jul 06, 2018	Mon Jan 07, 2019	
Fri Feb 09, 2018	Sat Jul 07, 2018	Tue Jan 08, 2019	
Sat Feb 10, 2018	Sun Jul 08, 2018	Wed Jan 09, 2019	
Sun Feb 11, 2018		Thu Jan 10, 2019	
		Fri Jan 11, 2019	
		Sat Jan 12, 2019	
		Thu Jan 31, 2019	
		Fri Feb 01, 2019	
		Sat Feb 02, 2019	
		Sun Feb 03, 2019	

MSc Renewable Energy since 2005

Subject to modification

Renewables make sense ...
Energize your future!

TUITION FEE

The tuition fee for the MSc Program is **EUR 19,500** (VAT-free), excluding travel expenses and cost of room and board.

INFO SESSIONS

Presentations of the MSc Program will be held in the form of info sessions. During these info sessions the Academic Director, program managers and alumni provide you with in-depth information on the program and look forward to answering your questions.

Tue Mar 28, 2017 6.00 pm
Tue Apr 25, 2017 6.00 pm
Tue Jun 20, 2017 6.00 pm

Please register at newenergy@tuwien.ac.at

ADMISSION/APPLICATION

Application Deadline

Fri Jun 30, 2017

Admission Interviews

Mon Jul 03, 2017
Tue Jul 04, 2017
Wed Jul 05, 2017

Applicants are kindly requested to block these dates on their calendars for their individual interview (approximately 30 minutes). In exceptional cases individual appointments for admission interviews can be arranged.

Start Online Application

https://newenergy.tuwien.ac.at

FACULTY

Dr. **Amela Ajanovic** TU Wien
Dr. **Raphael Bointner** TU Wien
Univ.Prof.Dr. **Anton Burger** Catholic University Eichstätt-Ingolstadt
MR Dr. **Gerhard Burian** formerly Federal Ministry of Science, Research and Economy
Dipl.-Ing. **Hubert Fechner** MAS, MSc FH Technikum Wien
Univ.Prof.Dr. **Anton Friedl** TU Wien
Univ.Prof.Dr.-Ing. **Wolfgang Gawlik** TU Wien
Univ.Prof.Dr. **Reinhard Haas** TU Wien
Dr. **Martina Handler** Austrian Society for Environment & Technology
Ass.Prof.Dr. **Michael Harasek** TU Wien
Mag. **Edith Hofer** LL.M. Energy-Control GmbH
Dipl.-Ing. **Marcus Hummel** TU Wien
Dr. **Gerfried Jungmeier** Joanneum Research Forschungsgesellschaft mbH
Doc.Ing. **Jaroslav Knapek** CSc Czech Technical University Prague
Dr. **Marek Kobialka** Vienna Insurance Group
Dr. **Lukas Kranzl** TU Wien
Dipl.-Ing. **Martin Krill** Profes - Professional Energy Services GmbH
Mag. **Robert Maier** Raiffeisenlandesbank Niederösterreich Wien AG
Dr. **Gábor Milics** MSc University of West Hungary
Univ.Prof.Dr. **Martin Mittelbach** Graz University of Technology
Univ.Prof.Dr. **Nebojsa Nakicenovic** i.R. TU Wien
Franko Nemac BSc, El.Eng. Agencija za prestrukturiranje energetike
Univ.Prof.Dr. **Miklós Neményi** Ph.D, DSc University of West Hungary
Dr. **Mario Ortner** iC-Projekte Projektentwicklung und Management GmbH
Ing. **Werner Panhauser** Hydroconstruct GmbH
Dr. **Christian Panzer** Wien Energie GmbH
Univ.Prof.Dr. **Bernhard Pelikan** Vienna University of Natural Resources and Applied Life Sciences
Dr. **Reinhard Rauch** TU Wien
Dipl.-Ing. **Georg W. Reinberg** Architekturbüro Reinberg ZT GmbH
Dr. **Gustav Resch** TU Wien
Dr. **Rusbeh Rezania** Wien Energie GmbH
Dr. **Friedrich Stastny** Freelancer
Ass.Prof.Dr. **Karin Stieldorf** TU Wien
Mag. **Hannes Taubinger** Anton Kittel Mühle Plaika GmbH
Prof.Dr. **Pall Valdimarsson** Pvald ehf
Dipl.-Päd.Ing. **Werner Weiss** AEE INTEC
Dr. **Lukas Weißensteiner** RP Global Austria
Dr.(ETH) **Arthur Wellinger** Triple E&M
Dr. inz. **Artur Wyrwa** AGH University of Science and Technology Krakow

This represents a selection of the faculty of class 2016–2018.

PERSONAL ADVISORY SERVICE & APPLICATION

Energiepark Bruck/Leitha
Dipl.-Ing. Ralf Roggenbauer, BSc MES

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STUDENT PROFILE

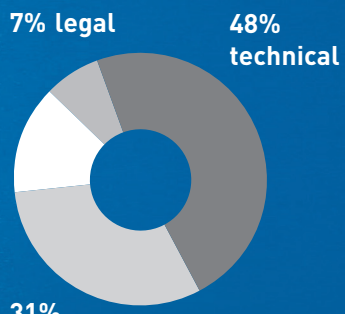
42
Nationalities

253
Students & Alumni

45%
International students

35 years
Average age

Educational & professional background



Renewables make sense ...
Energize your future!

- Best University of Technology in Austria – TU Wien
- Experienced international renewable energy experts
- Austria as center of renewable energy in the EU
- International program with unique worldwide network
- Practical and technology-oriented program

This master program is an outstanding opportunity to become part of an international, enthusiastic and extraordinary group of people, sharing the same interests for such a challenging topic. The experiences of this course enable us to contribute to the common goal of securing the supply of green energy at affordable prices in order to maintain our standards of living and reducing dependence on fossil fuels at the same time.

Mag. Anna Katharina Gollob, MSc
Alumna

Study in the most liveable city of the world: Vienna

(Source: 2016 Quality of Living Ranking, Mercer)

Energiepark Bruck/Leitha

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