

---

## STYRIAN ACADEMY for Sustainable Energies

### Summer School 2010: Regional Sustainable Energy Systems 5-16 July 2010, Graz, Austria

#### ***Deciding the Future***

Providing sustainable energy for a prosperous society will become the paramount challenge for decision makers in the 21<sup>st</sup> century. Navigating between dwindling fossil resources, increasing pressure on global climate, hazardous nuclear technologies, high investment costs for modernizing the energy system and competition for renewable resources decision makers of the future will have to find ways to support sustainable development of society with innovative energy solutions. The STYRIAN ACADEMY Summer School 2010 will provide a selected number of students with the knowledge to become decision makers for the 21<sup>st</sup> century in the key field of regional sustainable energy systems.

#### ***Topics***

The Summer School will provide lectures by internationally renowned experts covering sustainable energy systems in all their technical, economical, political and social aspects. The range of lectures extends from the societal and political challenges of implementing sustainable energy systems to providing state of the art information about technological aspects to the competitive situation of alternative energies versus fossil resources to various aspects of implementing alternative energy systems in regional contexts.

Particular emphasis will be laid on providing state of the art practical experiences from different countries. Participants will thereby not only gain a broad inter-disciplinary spectrum of knowledge but also a unique insight in the intricacies of practical implementation of sustainable energy systems on the regional level.

#### ***Structure***

Besides lectures and ample time to discuss with the international experts students will visit practical examples of regional energy systems based on renewable resources ranging from biodiesel plants to biomass utilisation to solar settlements to integrated regional energy networks. As an integral part of the Summer School students will have the opportunity to solve problems defined by themselves under the supervision of skilled lecturers utilising the knowledge and tool kits presented in the lectures. The solutions presented by the students will be critically appraised by a jury of experts and published on the website of the STYRIAN ACADEMY, <http://styrianacademy.eu>.

#### ***Lecturers***

The Summer School convenes top international lecturers addressing core issues of sustainable regional energy systems. Among them are, in alphabetical order:

Maarten **Arentsen**, University of Twente, The Netherlands; Political Sciences

Luigi **Crema**, Fondazione Bruno Kessler, Italy; Information Sciences

Lothar **Fickert**, TU Graz, Austria; Electrical Engineering

G. Jan **Harmsen**, University of Groningen, The Netherlands; Technical Sciences and Sustainable Development

Martin **Huemer**, European Commission, Belgium

William **Lafferty**, University of Oslo and SINTEF, Norway; Political Sciences

Peter **Kautsch**, TU Graz, Austria; Building Construction and Building Physics

Tim **Krantz**, University of Redlands, United States of America; Environmental Sciences and Land Use

Yoram **Krozer**, Cartesius Institute, The Netherlands; Environment and Innovation Development  
Ina **Körner**, TU Hamburg Harburg, Germany; Bioconversion and Emission Reduction  
Michael **Narodoslawsky**, TU Graz, Austria; Chemical Engineering and Sustainable Development  
Gerard den **Ouden**, EC Training Consultant, Belgium  
Bianca **Rinaldi**, TU Graz, Austria; Institute for Architecture and Landscape  
Karl **Rose**, World Energy Council, United Kingdom of Great Britain and Northern Ireland; Senior fellow  
Audun **Ruud**, SINTEF, Norway; Political Sciences  
Elisabeth **Schermer**, European Commission, Belgium  
Horst **Steinmüller**, Johannes Kepler University Linz, Austria; Energy Institute; Technical Sciences  
Gernot **Stöglehner**, University of Life Sciences, Vienna, Austria; Land Use Planning

### **Admission**

The STYRIAN ACADEMY strives to attract highly motivated students with technical, economical and social science background at the master or PhD level. Each student must apply for participation providing his résumé as well as an outline of a particular problem that she/he wants to solve during the Summer School. Forms for application and formulation of the project are supplied on the website of the STYRIAN ACADEMY. A maximum of 30 slots will be available for participants.

### **Organisational details**

The Summer School will be held from 5-16 July 2010. Submission of applications will be available via the STYRIAN ACADEMY website <http://styrianacademy.eu> (coming soon). Deadline for registrations: **14 May 2010**. A total of 30 slots will be available, admission will be on a competitive basis. Selection of participants will be decided by 28 May 2010. The cost of participation in the Summer School is € 500,--, including lectures, supporting material, accommodation, excursions and subsistence. 5 stipends will be available on a competitive basis. For questions, please contact [office@styrianacademy.eu](mailto:office@styrianacademy.eu).

## STYRIAN ACADEMY for Sustainable Energies

### Summer School 2010: Regional Sustainable Energy Systems

Time: Monday, 5-16 July 2010  
Venue: Fachschule für Land- und Ernährungswissenschaft Haidegg  
Ragnitzstraße 193, 8047 Graz, Austria, <http://www.fs-haidegg.at/>

#### Draft Programme

#### WEEK 1

##### DAY 1: Monday, 5 July 2010

08:00 – 09:00 *Registration*

##### **Morning session**

09:00 – 10:00 “Introduction, Challenges, Code of Conduct” by Michael Narodoslawsky,

TU Graz, Austria; Chemical Engineering and Sustainable Development

10:00 – 10:30 Workshop led by Michael Narodoslawsky

10:30 – 11:00 *Coffee break*

11:00 – 12:00 “Energy Policy and Sustainable Development on the European, National and Regional Level” by William Lafferty, University of Oslo and SINTEF, Norway; Political Sciences

12:00 – 12:30 Workshop led by William Lafferty

12:30 – 13:30 *Lunch*

##### **Afternoon session**

13:30 – 14:30 “Perspectives on the Competition between Renewable Energy Technologies and Conventional Energy Systems” by G. Jan Harmsen, University of Groningen, The Netherlands; Technical Sciences and Sustainable Development

14:30 – 15:00 Workshop led by G. Jan Harmsen

15:00 – 15:30 *Coffee break*

15:30 – 18:00 Individual contacts with lecturers about own projects

##### DAY 2: Tuesday, 6 July 2010

##### **Morning session**

09:00 – 10:00 “Renewable Energy for Industrial Processes” by Hans Schnitzer, TU Graz, Austria; Chemical Engineering and Sustainable Development

10:00 – 10:30 Workshop led by Hans Schnitzer

- 10:30 – 11:00 *Coffee break*
- 11:00 – 12:00 “Regional Implementation of Innovative Sustainable Energy Systems” by Yoram Krozer, Cartesius Institute, The Netherlands; Environment and Innovation Development
- 12:00 – 12:30 Workshop led by Yoram Krozer
- 12:30 – 13:30 *Lunch*

### **Afternoon session**

- 13:30 – 14:30 “Sustainable Energy Technologies” by Ina Körner, TU Hamburg Harburg, Germany; Bioconversion and Emission Reduction
- 14:30 – 15:00 Workshop led by Ina Körner
- 15:00 – 15:30 *Coffee break*
- 15.30 – 16.30 Individual contacts with lecturers about own projects
- 17:00 – 19:00 *Graz City Guided Tour*

## **DAY 3: Wednesday, 7 July 2010**

### **Morning session**

- 09:00 – 10:00 “Linking Energy and Regions by Information Technology” by Luigi Crema, Fondazione Bruno Kessler, Italy; Information Sciences
- 10:00 – 10:30 Workshop led by Luigi Crema
- 10:30 – 11:00 *Coffee break*
- 11:00 – 12:00 “TOPIC to be defined” by Audun Ruud, SINTEF, Norway; Political Sciences
- 12:00 – 12:30 Workshop led by Audun Ruud
- 12:30 – 13:30 *Lunch*

### **Afternoon session**

- 13:30 – 14:30 “Sustainable Energy Solutions in the USA” by Tim Krantz, University of Redlands, United States of America; Environmental Sciences and Land Use
- 14:30 – 15:00 Workshop led by Tim Krantz
- 15:00 – 15:30 *Coffee break*
- 15.30 – 16.15 “Strategic Planning for Europe's Energy Future” by Karl Rose, World Energy Council, United Kingdom of Great Britain and Northern Ireland; Senior fellow
- 16.15 – 17.00 Workshop led by Karl Rose
- 17:00 – 18:00 Individual contacts with lecturers about own projects

### **Evening reception**

Venue: Medienzentrum Steiermark, Hofgasse 16, 8010 Graz

19:00 - 22:00 Garden Talk on “Smart e-Mobility” by Klaus Woltron, Owner and President of ADVENGYS GmbH and AG, Austria, followed by informal discussions during dinner on the invitation of the Styrian Government

### **DAY 4: Thursday, 8 July 2010**

#### ***Morning session***

09:00 – 10:00 “Sustainable Energy Systems and their Influence on Landscape” by Bianca-Maria Rinaldi, TU Graz, Austria; Institute for Architecture and Landscape

10:00 – 10:30 Workshop led by Bianca-Maria Rinaldi

10:30 – 11:00 *Coffee break*

11:00 – 12:00 “Energy Efficient Buildings” by Peter Kautsch, TU Graz, Austria; Building Construction and Building Physics

12:00 – 12:30 Workshop led by Peter Kautsch

12:30 – 13:30 *Lunch*

#### ***Afternoon session***

13:30 – 14:30 “Energy and Spatial Planning” by Gernot Stöglehner, University of Life Sciences, Vienna, Austria; Land Use Planning

14:30 – 15:00 Workshop led by Gernot Stöglehner

15:00 – 15:30 *Coffee break*

15:30 – 18:00 Individual contacts with lecturers about own projects

### **DAY 5: Friday, 9 July 2010**

#### ***Morning session***

09:00 – 10:00 “Sustainable Energy Systems Distribution Networks and Optimal Energy Mixes” by Horst Steinmüller, Johannes Kepler University Linz, Austria; Energy Institute; Technical Sciences

10:00 – 10:30 Workshop led by Horst Steinmüller

10:30 – 11:00 *Coffee break*

11:00 – 12:00 “Regional Resource and Energy Management Policy” by Maarten Arentsen, University of Twente, The Netherlands; Political Sciences

12:00 – 12:30 Workshop led by Maarten Arentsen

12:30 – 13:30 *Lunch*

### **Afternoon session**

- 13:30 – 14:30 “Smart Energy Grids” by Lothar Fickert, TU Graz, Austria; Electrical Engineering
- 14:30 – 15:00 Workshop led by Lothar Fickert
- 15:00 – 15:30 *Coffee break*
- 15:30 – 18:00 Individual contacts with lecturers about own projects

**Weekend 10/11 July 2010:** Programme to be specified

## **WEEK 2**

### **DAY 1: Monday, 12 July 2010**

#### ***Morning session***

- 09:00 – 10:30 “Round Table: Project Solution” by Michael Narodoslowsky, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 10:30 – 11:00 *Coffee break*
- 11:00 – 12:30 “Regional Energy System Optimisation with Process Network Synthesis (PNS)” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 12:30 – 13:30 *Lunch*

#### ***Afternoon session***

- 13:30 – 15:00 “PNS Practical Session” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 15:00 – 15:30 *Coffee break*
- 15:30 – 18:00 Project work

### **DAY 2: Tuesday, 13 July 2010**

- Meeting Point Fachschule für Land- und Ernährungswissenschaft Haidegg, Ragnitzstraße 193, 8047 Graz, Austria
- 09:00 – 17:00 Excursions  
Güssing - Energy Self Sufficient Community, <http://www.gussing.at/>  
<http://www.eee-info.net/cms/>  
Mureck - SEEG Biogas Plant, <http://www.seeg.at>
- 17.00 – 18:00 Project work

---

### **DAY 3: Wednesday, 14 July 2010**

#### ***Morning session***

- 09:00 – 10:30 Project work
- 10:30 – 11:00 *Coffee break*
- 11:00 – 12:30 “Round Table: Project Solution” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 12:30 – 13:30 *Lunch*

#### ***Afternoon session***

- 13:30 – 15:00 Workshop on "International Networks, EU Project Management and Funding" chaired by Brigitte Hasewend, Director International and Strategic Partnerships, TU Graz, Austria, eseia Secretary General  
Panel Speakers:  
Elisabeth Schermer, European Commission, Belgium; "Marie Curie Programme"  
Gerard den Ouden, EC Training Consultant, Belgium; "ACP- EU Science and technology Programme"  
Martin Huemer, European Commission, Belgium; "EU Policy Instruments for Sustainable Energies: From SET Plan to EERA to KIC"
- 15:00 – 15:30 *Coffee break*
- 15:30 – 17:00 “Round Table: Project solution” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 17:00 – 18:00 Project work

### **DAY 4: Thursday, 15 July 2010**

#### ***Morning session***

- 09:00 – 10:30 Project work
- 10:30 – 11:00 *Coffee break*
- 11:00 – 12:30 “Round Table: Project Solution” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development
- 12:30 – 13:30 *Lunch*

---

### ***Afternoon session***

- 13:30 – 14:30 “Intellectual Property Rights Exploitation” lecture, N.N.  
14:30 – 15:00 “Intellectual Property Rights“ Workshop  
  
15:00 – 15:30 *Coffee break*  
  
15:30 – 17:00 “Round Table: Project Solution” by Michael Narodoslowsky and Nora Katalin Sandor, TU Graz, Austria; Chemical Engineering and Sustainable Development  
17.00 – 18:00 Workshop led by Michael Narodoslowsky and Nora Katalin Sandor

### **DAY 5: Friday, 16 July 2010**

#### ***Morning session***

- 09:00 – 10:30 “Project Presentations”  
  
10:30 – 11:00 *Coffee break*  
  
11:00 – 12:00 “Project Presentations”  
12:00 – 12:30 Round up  
  
12:30 – 13:30 *Lunch*  
  
13:30 – 14:00 *Farewell*