

# **Interdisciplinary Winter and Summer School on Energy Systems in Austria and the Czech Republic 2023**

## **Final Report**

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## **Aim and content of the Winter and Summer School**

The Czech-Austrian Energy Expert Group (CZ-AT EEG) was established in 2002 by the Austrian and Czech governments to jointly study the issues of energy systems in both countries. The members of this group, appointed by their governments, are affiliated with Czech and Austrian universities and institutions. The Czech-Austrian Energy Expert Group is based on bilateral cooperation on sensitive issues in the field of energy contributing to shaping future energy policies in both countries.

The successful cooperation between Czech and Austrian energy experts led to the idea to organize the Winter and Summer School on Energy Systems in Austria and Czech Republic in 2006. Since 2006 we organize the Winter and Summer School regularly on yearly basis, which would not have been possible without the support of the AKTION programme. During the years 2006 - 2012 the Winter and Summer School was organized by University of Economics in Prague and Karl-Franzens University in Graz. Since 2013 the Winter and Summer School has been formally organized by Jan Evangelista Purkyně University in Ústí nad Labem and Vienna University of Technology. The whole concept of the event remained the same as well the network of collaborating experts.

The Winter and Summer School on Energy Systems in Austria and Czech Republic is designed for 20 students who want to acquire and deepen their knowledge about transdisciplinary context of energy production and consumption through interesting lectures, workshops and excursions. Every year the participating Czech and Austrian students should find a partner from the other country during the Winter School in Prague to start working on their bilateral seminar papers. These papers are being written by the teams during the whole semester, results of their collaboration are presented during the Summer School in Vienna.

The past three years have been more or less affected by constraints related to COVID-19. We are glad that this year the event has already been able to take place in its full and undisturbed form. The Winter and Summer School was formally organized by Jan Evangelista Purkyně University in Ústí nad Labem and Vienna University of Technology with significant support of colleagues from Czech Technical University in Prague.

## **Students**

At the beginning we had 10 Czech and 10 Austrian students registered. Unfortunately, one student from Czech Technical University was absent without excuse, so finally we had only 9 Czech and 10 Austrian students. However, the group of students was very heterogenous with very different background. In the group there were students from Masaryk University in Brno, Charles University in Prague, Czech Technical University and Vienna Technical University. All the students sent to the organizers an application form with the personal information and experiences in the energy and economics field (application form can be seen in Annex 1 of this document). The list of participants (all students, and organization team can be seen in Annex 2). Names of all involved lecturers can be found in the Program of Winter and Summer School – Annex 3. At the end, only 8 Czech and 10 Austrian students successfully graduated the Winter and Summer School, since one student from Czechia did not meet all the conditions for successful completion of the course.

## **Organization and program of the Winter (Spring) and Summer School 2023**

The 18th Winter and Summer School on Energy Systems in Austria and the Czech Republic was proposed and carried out by Amela Ajanovic from Vienna University of Technology, Austria and Jiří Louda from Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic. He replaced the long-time coordinator of this activity, Prof. Jílková, who died last year. The Winter and Summer school was organized in cooperation with Reinhard Haas from Vienna University of Technology and Jaroslav Knápek from Czech Technical University in Prague. Two young colleagues/Ph.D. students – Patrik Šimůnek from Czech Technical University in Prague and Karl Frank Radosits from Vienna University of Technology strongly supported the organization the events in Prague (29<sup>th</sup> January – 3<sup>rd</sup> February) and Vienna (11<sup>th</sup> – 16<sup>th</sup> June). The programme of the Winter and Summer School 2023 is attached in Annex 3.

The programme of both parts of the School was full of lectures, excursions and workshops. The lectures and workshops were given not only by academicians (Jaroslav Knápek, Jan Mikeš and Jiří Bím from Czech Technical University; Silvester van Koten from Jan Evangelista University in Ústí nad Labem; Reinhard Haas, Amela Ajanovic, Michael Harasek, Henriette Fischer from Vienna University of Technology), but also by experts from public administration (Tomáš Smejkal from Czech Ministry of Industry and Trade and Pavel Zámyslický from Czech Ministry of the Environment) and energy experts from practice (Alois Tost and Vojtěch Češík). The lectures were supplemented by educational excursions to interesting places, such as thermal power plant in Mělník, small hydropower plant in Měřejovice, high voltage laboratory at CTU, agrophotovoltaics site in Donaustadt or plus energy buildings in Vienna.

In between the winter and summer part of the School Czech-Austrian student teams worked on common seminar paper. All the papers were focused on actual topics related to energy policy and energy economics in central European context within which the students analysed the current energy situation in both countries. The student teams were supervised by the lecturers from the Czech-Austrian Energy Expert Group. The seminar paper (ca 20-30 pages) were presented during the Summer School in Vienna, and the supervisors gave the student a feedback to finalize the papers. The list of all seminar papers presented during the Summer School can be found in Annex 4.

All seminar papers, students' presentations of the papers, as well as the presentations of the lecturers will be available online on websites of the Czech-Austrian Energy Expert Group (<http://www.energy-europe.org/>).

Students who successfully graduated from summer school became a special certificate and 6 ECTS points.

## Annex 3 Programme of the Winter and Summer School 2023

### Interdisciplinary Winterschool 2023 on "The Future of Energy Systems in Austria and the Czech Republic"

#### Sunday, January 29th, 2023

##### Important addresses:

Hotel Krystal  
 J. Martího 2, tram #20, 26, line A - Nádraží Veleslavin  
 and night tram 51 - station **Nad Džbánem**  
 CVUT - lecture room  
 Jug. Partyzánů 1580/3  
 J5:B5-576, T2: A4-205

19:00 Arrival of Austrian students  
 19:00 Dinner for Austrian participants

#### Monday, January 30th, 2023

**ROOM: J3: B-576; afternoon T2: A4-205**

8:50 Registration  
 9:00 **Welcome address**  
 J. Knápek, A. Ajanovic, J. Louda  
 9:20 **Get together**  
 Alois Tost (Energy Expert)  
 10:50 **Coffee break**  
 11:05 **World Energy System - An Introduction**  
 Reinhard Haas, Amela Ajanovic (TU Vienna)  
 11:45 **Workshop: How to write a seminar paper I**  
**Introduction, presentation of topics**  
 Amela Ajanovic, Reinhard Haas (TU Vienna)  
 12:30 **Lunch break at Menza**  
 13:30 **Workshop Part I: Simulation game**  
 Alois Tost (Energy Expert)  
 14:45 **Coffee break**  
 15:00 **Workshop Part II + III: Simulation game results and discussion**  
 17:15 **End of the day**

#### Tuesday, January 31st, 2023

**ROOM: J3: B-576**

9:00 **Current challenges in implementing climate policy objectives**  
 Pavel Zámyslický (Ministry of the Environment)  
 10:15 **Introduction to Electricity markets and the role of renewables**  
 Reinhard Haas (TU Vienna)  
 11:15 **Coffee break**  
 11:30 **Introduction to Energy Economics in transport**  
 Amela Ajanovic (TU Vienna)  
 13:00 **Lunch break at menza**  
 14:15 **Workshop How to write a seminar paper II incl. bilateral discussions**  
 Reinhard Haas, Amela Ajanovic, Jiří Louda, Jiří Bím  
 16:00 **End of the day**  
 18:00 **Dinner for all participants**

#### Wednesday, February 1st, 2023

**ROOM: J3: B-576**

9:00 **Excursion: High voltage laboratory**  
 Jan Mikeš (CTU)  
 10:30 **Coffee break**  
 10:45 **Biomass as a major RE carrier**  
 Jaroslav Knápek (CTU)  
 12:15 **Lunch break at menza**  
 13:30 **Economic coordination in energy-only Electricity markets**  
 Silvester van Koten (J.E.P. University)  
**please take your laptops with you to this lecture**  
 16:00 **End of the day**

#### Thursday, February 2nd, 2023

**ROOM: J3: B-576**

8:00 **Excursion: Thermal Power Plant Mělník**  
**Departure by bus.** Meeting point: in front of the University  
 Jiří Bím (CTU)  
 12:30 **Lunch break**  
 13:30 **Excursion: Small hydropower plant in Miřejovice**  
 Jaroslav Knápek (CTU)  
 17:00 **End of the day**

#### Friday, February 3rd, 2023

**ROOM: J3: B-576**

9:00 **National and international Energy Policy**  
 Tomas Smejkal (Ministry of Industry and Trade)  
 10:30 **Coffee break**  
 10:45 **Current situation in photovoltaics and new trends for future**  
 Vojtěch Češík (Energy Expert); Jiří Bím (CTU),  
 Patrik Šimůnek (J.E.P. University)  
 12:30 **Lunch break at menza**  
 13:45 **Time for individual discussion of seminar papers in bilateral teams**  
 moderated by Patrik Šimůnek (J.E.P. University)  
 and Jiří Bím (CTU)  
 15:30 **End of the day**



## Interdisciplinary Summerschool 2023 on "The Future of Energy Systems in Austria and the Czech Republic"

### Sunday, June 11th, 2023

#### Important addresses:

#### Accommodation for Czech students

Czech Embassy in Vienna  
Penzinger Str. 114, 1140 Wien

17:21 Arrival of Czech students in WienMeidling  
19:30 Dinner for Czech students

### Tuesday, June 13th, 2023

#### Besprechungszimmer CFSO29

9:30 **Presentations of seminar papers by students**  
with R. Haas, J.Knappek, A.Ajanovic  
11:00 *Coffee break*  
11:15 **Presentations of seminar papers by students**  
with R. Haas, J.Knappek, A.Ajanovic  
12:30 *Lunch break at Mensa*  
13:45 **Excursion to the agrivoltaics site at Donaustadt**  
with Jiri Bim  
17:00 *End of day*  
19:00 *Social event for all students*

### Thursday, June 15th, 2023

#### Übungsraum CF 0426

9:30 **New challenges in Electricity markets**  
Prof. R. Haas  
10:30 *Coffee break*  
11:00 **Energy and mobility (Part II)**  
Prof. A. Ajanovic  
12:00 *Lunch break at Mensa*  
14:00 **Technical Tour**  
with Prof. R. Haas  
17:00 *End of day*

### Monday, June 12th, 2023

#### Besprechungszimmer CFSO29

9:00 *Registration*  
9:15 **Introduction and welcome speech**  
Prof. A. Ajanovic /Prof. Haas (TU Vienna)  
9:30 **Biomass in Europe**  
Prof. J. Knappek (Technical University of Prague)  
11:00 *Coffee break*  
11:15 **Agrivoltaic systems as part of the modern energy sector?**  
Jiri Bim (Technical University of Prague)  
12:30 *Lunch break at Mensa*  
14:00 **Work on seminar papers/presentations by students**  
17:00 *End of day*

### Wednesday, June 14th, 2023

#### Besprechungszimmer CFSO29

9:30 **Recent developments of biomass technologies**  
Prof. Michael Harasek  
11:00 **The Tragedy of the Commons in Energy Policy-  
an interactive game**  
Alois Tost  
13:00 *Lunch break at Mensa*  
13:30 **Basics of carbon taxation and ETS**  
Silvester van Koten (J.E.P. University)  
15:00 *Coffee break*  
15:30 *Work on seminar papers*  
16:30 *End of the day*

### Friday, June 16th, 2023

#### Übungsraum CF 0426

9:30 **Ecological building constructions for a sust. future**  
Henriette Fischer  
11:00 **Excursion to plus energy buildings**  
with Henriette Fischer  
13:00 *Lunch break at Mensa*  
14:10 *End of day*

