

# **Interdisciplinary Winter (Spring) and Summer School on Energy Systems in Austria and the Czech Republic 2021**

## **Final Report**

Amela Ajanovic  
Jiřina Jílková

August 2021

## **Aim and content of the Winter (Spring) 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 research 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 helpful and 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. All of those previous Winter and Summer Schools led to the intention to organize it again for the sixteenth time in 2021, despite the unfavourable epidemiological situation in Europe associated with COVID-19. In the time of project proposal preparation (autumn 2020), the organizers hoped that the COVID situation would calm down and the Winter and Summer School in 2021 would be possible to organize in the classic way – in winter (January/February 2021) would Austrian students come to Prague and together with Czech students would attend lectures, excursion and social events and in summer (June/July 2021) Czech students would come to Vienna to present common Czech-Austrian seminar papers, visit the lectures etc. However, the COVID situation in Winter 2021 was critical, so the organizers decided to wait until spring (hoping that the situation will be better). Also in spring the COVID situation was not better, so the Winter (or better to say Spring) and Summer School was organized as an online event.

The Winter (Spring) 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. Unfortunately, the main value added of this event – bilateral intensive (formal and informal) discussion among Czech and Austrian students and lecturers - was because of the COVID situation significantly reduced, but still high-quality student seminar papers were created. We hope, that next year, the Winter and Summer will be possible organize again in the standard mode.

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 energy issues through interesting presentations and excursions. This year, unfortunately, there were less students because the online form of the event was not so interesting and tempting for the students (since they have all other lectures also in online form). The participating Czech and Austrian students created bilateral groups (CZ-AT pairs) and during the time between the Spring and Summer school, they worked on their bilateral seminar papers. Seminar papers were presented during the summer part of the School (June 2021) and evaluated by the supervisors.

### **Students**

At the beginning started 9 Czech and 9 Austrian students. The students came from different universities (Czech Technical University, Škoda Auto University, Technical University Vienna). 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 (meaning all students, lecturers and organization team) can be seen in Annex 2. However, at the end, only 8 Czech and 8 Austrian students successfully graduated the School.

## **Organization and program of the Winter (Spring) and Summer School 2021**

The whole project was proposed and carried out by:

Amela Ajanovic from Vienna University of Technology, Austria

Jiřina Jílková from Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic

Together in the cooperation with their project partners:

Reinhard Haas from Vienna University of Technology, Roman Grüner from BOKU Vienna Austria and Jaroslav Knápek from Czech Technical University in Prague, Czech Republic.

As mentioned above, both part of the Winter (Spring) and Summer School was because of COVID-19 organized as an online event. The program and all the activities were organized and administrated by the teams of the home universities. Jiří Louda (on behalf of Jiřina Jílková - UJEP) and Jaroslav Knápek, Patrik Šimůnek (CTU) were the coordinators of the Winter School (with significant support of Jiří Bím, who was a student participant of the School at the same). Amela Ajanovic and Nicolaus Hauben in cooperation with Reinhard Haas were the coordinators of the Summer School. The programme of the Winter (Spring) and Summer School 2021 can be found in Annex 3.

Unlike previous years, the programme of this Winter (Spring) and Summer School was because of COVID-19 situation greatly reduced, since the School was organized only as an online event. Nevertheless, the students had the opportunity to attend very interesting lectures given by experts from various Czech and Austrian universities and other professional institutions. For the first time ever, they have the opportunity to take part in the virtual simulation game “Competitive pricing of electricity and long-term incentives: peak-load pricing theory in practice” led by Prof. Silvester van Koten (Jan Evangelista Purkyně University in Ústí nad Labem). However, the previously planned excursions to Small Hydro Power Plant, to Coal Power Plant or to a passive apartment house in Austria was not realized and also the direct interaction among Czech and Austrian students and lecturers was quite demanding because of the online form of the School.

Similar as in previous years during the Winter (Spring) School students created bilateral teams (one CZ + one AT student) to work on common seminar paper. During the first part of the School the student pairs chose the topic for their seminar paper. The general aim of all the seminar paper topics was to analyse the current situation in both countries, find up-to-date data and compare it (also on the EU level). Under the supervision of Amela Ajanovic, Reinhard Haas, Jaroslav Knápek and Nicolaus Hauben students wrote together ca 20 pages of scientific texts on respective topic. The seminar papers were (online) presented during the Summer School, and the supervisors gave the student a final 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 are available online on websites of the Czech-Austrian Energy Expert Group (<http://www.energy-europe.org/index.php?year=2021>).

All students who graduated from summer school became a special certificate and 6 ECTS points.

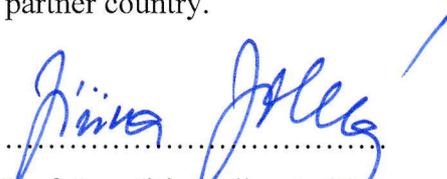
## Financial report

The table below shows the total costs spent this year.

<b>Kostenart / typ nákladů</b>	<b>2021 (EUR)</b>
Aufenthaltskosten tschech. Projektteilnehmer in Österr. (gemäß den Sätzen des BMBWK, s. Merkblatt) / úhrady za pobyt českých účastníků projektu v Rakousku (dle sazeb rak. min. vědy, viz Pokyny)	0
Reisespesen: Reisen österr. Projektteilnehmer in die ČR, sowie Reisen von Projektteilnehmern auf österr. Gebiet (s. Merkblatt) / jízdné rak. účastníků do ČR, jízdné účastníků projektu po Rakousku (viz Pokyny)	0
Honorar f. Lehrtätigkeit f. österr. Projektteilnehmer (gemäß d. Sätzen d. BMBWK, s. Merkblatt), honorář za výuku rak. účastníkům projektu (dle sazeb, viz Pokyny)	1144
Publikations- und Editions-kosten (Rezensentenhonorar, Druckkosten) / publikační a ediční náklady (lektorský posudek, tisk)	0
<b>Students contribution</b>	0
<b>Gesamtkosten in EUR / celkové náklady v EUR</b>	<b>1144</b>

<b>typ nákladů / Kostenart</b>	<b>2021 (CZK)</b>
Úhrada ubytování účastníků projektu v ČR (viz Pokyny) / Unterkunftskosten für Projektteilnehmer in d. ČR (s. Merkblatt)	0
Stravné a kapesné účastníků projektu v ČR (s. Merkblatt) / Verpflegung für Projektteilnehmer in der ČR (viz Pokyny)	0
Jízdné česk. účastníků do Rak. a účastníků projektu po ČR (viz Pokyny) / Reisespesen: Reisen tsch. Projektteilnehmer nach Ö., Reisen von Projektteilnehmern auf tschech. Gebiet (s. Merkblatt)	0
Odměna za výuku českým účastníkům projektu (viz Pokyny) / Honorar für Lehrtätigkeit tsch. Projektteilnehmer (s. Merkblatt)	5200
Publikační a ediční náklady (lektorský posudek, tisk) / Publikations- und Editions-kosten (Rezensentenhonorar, Druckkosten)	0
Ostatní náklady (pronájem speciální místnosti s výpočetní technikou) / sonstige Kosten (Vermietung von speziellen Computerräume)	0
Gebühren der Studenten (poplatky studentů)	0
<b>Celkové náklady v Kč / Gesamtkosten in CZK</b>	<b>5200</b>

The planned students' contributions (Austrian students 150 EUR, Czech students 1000 CZK) have not been charged, because the Winter (or better to say Spring) and Summer School was only in an on-line form. Also other planned costs (except of personal costs) were not spent, since the students and lecturers did not travel to the partner country.

  
.....  
Prof. Ing. Jiřina Jílková, CSc.

## Annex 1

### Application for the Interdisciplinary Bilateral Spring and Summer School of the Czech-Austrian Energy Expert Group

Spring School: April 28-30, 2021 online  
Summer School: June 28 – July 2, 2021 in Vienna (or online)

**Application deadline: April 14, 2021. E-mail address for sending this application is: [simunek@ieep.cz](mailto:simunek@ieep.cz)**

#### Contact details

Name:

Address:

E-mail:

Tel:

#### Education

Field of study:

University:

Number of semesters at the University:

Achieved academic title:

- Bakk /when (year):
- Master/Magister/ when (year):
- Doktor/PhD/ when (year):

Successful attended university classes/courses on: (which)

when (year)

- Energy policy:
- Energy economics:
- Energy technologies:  
(renewables, efficiency)
- Other energy relevant topic:

#### Other experiences in the energy field

- work experience:
- internship/workshop:
- seminar papers:
- other:

#### Experience with/in the Austria

- language courses:
- seminar papers:
- work experience:
- university exchange programme in the Austria:

**Please summarize your motivation to participate in this Winter and Summer School (2-3 sentences)**

## Annex 2 List of participants

<b>List of participants for the Spring/Summer School 2021 in Prague/Vienna (online)</b>		
<b>Surname</b>	<b>Name</b>	<b>University</b>
<b>Austrian Delegation and Organization Team</b>		
Prof. Dr. Haas	Reinhard	TU Vienna
Dr. Ajanovic	Amela	TU Vienna
Houben	Nikolaus	TU Vienna
<b>Austrian Students</b>		
Muminovic	Zejneba	TU Vienna
Sonnleitner	Lydia	TU Vienna
Hegyí	Bence	TU Vienna
Ljubisavljevic	Mihajlo	TU Vienna
Fuchsberger	Johannes	TU Vienna
Rubio-Domingo	Gabriela	TU Vienna
Bruck	Axel	TU Vienna
Bottecchia	Luigi	TU Vienna
Roccasalvo	Gianluca	TU Vienna
<b>Czech Delegation and Organization Team</b>		
Prof. Jílková	Jiřina	UJEP
Prof. Knápek	Jaroslav	CVUT
Dr. Louda	Jiří	UJEP
Šimůnek	Patrik	CVUT
<b>Czech Students</b>		
Ramík	Dominik	ŠKODA AUTO University
Skulina	Jakub	ŠKODA AUTO University
Rožánek	Matouš	ČVUT FEL
Dušková	Petra	ČVUT FEL
Štěpánek	Matěj	ČVUT FEL
Běhal	Daniel	ČVUT FEL
Akman	Ozan	ČVUT FEL
Salonen	Markus	ČVUT FEL
Bím	Jiří	ČVUT FEL

## Annex 3 Programme of the Spring and Summer School 2021

### Interdisciplinary Spring School 2021 on Energy Systems in Austria and the Czech Republic

27th April 2021	29th April 2021	30th April 2021
16:00 Online communication system: Test Microsoft TEAMS	9:15 Introduction to the basics of energy economics R. Haas	10:00 Current challenges of energy sector - transformation, decarbonization, global context
<b>28th April 2021</b>	9:50 Introduction to energy economics in heating Prof. J. Knápek	Václav Bartuška, <i>Special Envoy for Energy Security</i> <i>Czech Ministry of Foreign Affairs</i>
9:45 <b>Registration</b>	10:30 Break	10:45 Time for individual discussion of seminar papers in bilateral teams
10:00 Welcome address and get together J. Knápek, A. Ajanovic, R. Haas	12:45 Group work	
10:05 The World Energy System - An Introduction R. Haas, A. Ajanovic, <i>Technical University Vienna</i>	12:30 Lunch break	
10:45 Break	14:00 Introduction to Energy Economics in transport A. Ajanovic	
11:00 Biomass as a major RE carrier Prof. J. Knápek, <i>Czech Technical University</i>	14:45 Introduction to Energy Economics in Electricity markets and the role of renewables R. Haas	
12:15 Lunch break	15:30 Workshop How to write a seminar paper II A.Ajanovic, R. Haas, J. Knapek	
14:00 Workshop: How to write a seminar paper I Introduction, presentation of topics A. Ajanovic, R. Haas, J. Knapek	17:00 End of the day	
14:30 Current challenges of interconnected transmission systems - decarbonisation and Green Deal Miroslav Vrba, <i>Association of Energy Managers</i>		
15:30 Break		
15:40 Simulation game (Competitive pricing of electricity and long-term incentives: peak-load pricing theory in practice) Silvester van Koten, <i>J.E.Purkyně University</i>		
17:15 End of the day		



## Interdisciplinary Summer School 2021 on Energy Systems in Austria and the Czech Republic

### 27th June 2021

16:00 Online communication system: Test  
GoToMeeting

### 28th June 2021

**LINK** <https://global.gotomeeting.com/join/226026045>

10:00 Welcome address and get together  
PD Dr. Amela Ajanovic and Prof. Dr. Reinhard Haas  
*Technical University Vienna*

10:15 Energy and mobility  
PD Dr. Amela Ajanovic, *Technical University Vienna*

11:30 Break

11:45 Recent developments on EU electricity markets  
Prof. Jaroslav Knápek, *Czech Technical University*

12:30 Lunch break

14:00 Presentations of seminar papers by students  
with A.Ajanovic, R. Haas, J.Knappek

15:30 Break

15:40 Presentations of seminar papers by students  
with A.Ajanovic, R. Haas, J.Knappek

17:00 End of the day

### 29th June 2021

**LINK** <https://global.gotomeeting.com/join/704115821>

9:30 Sustainable Buildings  
Dipl. Ing. Roman Grüner, *BOKU Vienna*

11:30 Lunch break

**LINK** <https://gather.town/i/lvFqOx8r>

14:00 Students session - bilateral groups

17:00 End of the day

### 30th June 2021

**LINK** <https://global.gotomeeting.com/join/463624989>

9:30 Biomethan and Hydrogen  
Prof. Michael Harasek, *Technical University Vienna*

10:30 Break

11:00 New challenges in Electricity markets  
Prof. Dr. Reinhard Haas, *Technical University Vienna*

12:30 Lunch break

14:00 Energy and Environmental Policy: Costs and Benefits  
Prof. Jiřina Jilková, *J. E. Purkyně University in Ústí nad Labem*

14:50 Break

15:00 Biomass within the concept of changing energy markets  
Prof. Jaroslav Knápek, *Czech Technical University*

15:45 Break

**LINK** <https://gather.town/i/lvFqOx8r>

15:50 Students session - bilateral groups

17:00 End of the day

### 1st July 2021

**LINK** <https://gather.town/i/lvFqOx8r>

15:50 Students session - bilateral groups

17:00 End of the day



UNIVERZITA J. E. PURKYNĚ V ÚSTÍ NAD LABEM



## Annex 4 List of the seminar paper groups with topic and advisor

<b>Austrian student</b>	<b>Czech student</b>	<b>TOPIC OF SEMINAR PAPER</b>	<b>Supervisor</b>
Zejneba Muminovic	Petra Dušková	THE RELEVANCE AND COSTS OF SHORT VS LONG-TERM STORAGE	Reinhard Haas
Bence Hegyi	Markus Salonen	ACTIVE DISTRIBUTION NETWORKS: ROLES AND CHALLENGES	Nikolaus Houben
Mihajlo Ljubisavljevic	Ozan Akman	E-MOBILITY IN URBAN AREAS: COMPARISON AND LESSONS LEARNED	Amela Ajanovic
Johannes Fuchsberger	Matěj Štěpánek	ELECTRIC VS GASOLINE VEHICLES: COSTS, FUEL & ELECTRICITY PRICES, TAXES	Amela Ajanovic
Gabriela Rubio-Domingo	Daniel Běhal	TRANSPORT POLICIES: NATIONAL AND EU POLICIES	Amela Ajanovic
Axel Bruck	Jiří Bím	NECP: COMPARING CZ AND AT AND NEW CHALLENGES RESULTING FROM GREEN DEAL	Jaroslav Knápek
Luigi Bottecchia	Matouš Rožánek	THE EFFECTS OF POLICY FRAMEWORKS IN ACHIEVING ENERGY SAVINGS IN THE BUILDING SECTOR IN AUSTRIA AND CZECH REPUBLIC	Jaroslav Knápek
Gianluca Roccasalvo	Jakub Skulina	REVALUATION OF BIOMASS POTENTIAL UNDER THE PERSPECTIVE OF THE NEW SUSTAINABILITY CHALLENGES	Jaroslav Knápek