

Title of BIP: Sustainable energy in rural areas

General information

Objectives and Description:

The integration of renewable energy generation presents a range of challenges: economic, legal, social, and technological, among others.

The Summer School "Sustainable Energy in Rural Areas" is designed to empower participants with the knowledge and practical skills to promote and implement sustainable energy solutions in rural communities. Here are the objectives of the program:

- Understanding Rural Energy Needs and Challenges: Participants will learn about the unique energy requirements and barriers faced by rural areas, including limited access to energy infrastructure, economic constraints, and the environmental impacts of traditional energy sources.
- Exploring Sustainable Energy Technologies: The program covers sustainable energy technologies that are viable in rural settings, such as solar, wind, biomass, and mini hydropower. Participants gain insights into the technical, economic, and social aspects of each technology, as well as best practices for rural deployment.
- Building Capacity for Energy Planning and Implementation: A key goal is to equip attendees with the tools for planning, financing, and implementing sustainable energy projects in rural areas. This includes understanding policy frameworks, community engagement strategies, and project management essentials tailored to rural contexts.
- Fostering Community Empowerment and Ownership: The program emphasizes the importance of community involvement in energy projects. Participants learn strategies to foster community ownership and participation, which are critical for long-term success and sustainability of energy initiatives in rural areas.
- Promoting Energy Equity and Economic Development: The Summer School aims to highlight the role of sustainable energy in improving the quality of life in rural areas. Participants explore how energy access can drive economic development, enhance social equity, and reduce poverty in underserved communities.
- Encouraging International Collaboration and Knowledge Exchange: Through lectures and collaborative projects, the program brings together students and researchers from diverse backgrounds. This fosters an exchange of ideas, experiences, and solutions that participants can adapt to their local contexts and contribute to global energy sustainability goals.

By the end of the Summer School, participants are expected to have a comprehensive understanding of sustainable energy solutions for rural areas, practical project implementation skills, and the ability to foster community-driven initiatives that promote energy resilience and sustainability.

Methods and outcomes:

The Summer School "Sustainable Energy in Rural Areas" is structured into two complementary phases: an online component followed by an in-person session.

The virtual component takes place before the in-person segment. It provides participants with a comprehensive overview of renewable energy technologies, applications, and their potential for addressing energy needs in rural areas. This phase establishes foundational knowledge, preparing participants for more in-depth discussions and activities.

The in-person component will be held at the University of Zaragoza, where participants will engage in seminars led by experts, visit renewable energy installations, and participate in team-building activities. These sessions deepen understanding through practical exposure, hands-on experiences, and collaborative exercises, fostering technical expertise and strong professional networks.

These two parts aim to equip participants with theoretical insights and practical skills to drive sustainable energy initiatives in rural settings.

Field of Education:

Energy

Target audience / Participants profile: Master students. Multidisciplinary approach. Technical profile (physics, chemistry, engineering, biology, geology, agronomy) and social-economic profile (sociology, psychology, politics, law, economics).

No of ECTS issued: 3 ECTS

Language of instruction and requirements: English B2

Dates for physical activity: from 21st of July to 25th of July

Location of physical activity: Zaragoza (Spain)

Dates for virtual component: from 1st of July to 18th of July

Virtual Component Description:

The virtual component takes place before the in-person segment. It provides participants with a comprehensive overview of renewable energy technologies, applications, and their potential for addressing energy needs in rural areas. This phase establishes foundational knowledge, preparing participants for more in-depth discussions and activities.

To achieve these objectives, a series of online seminars will be conducted, complemented by curated video content selected by the teaching team. Together, these resources will provide a solid foundation for the activities planned for the face-to-face phase. Additionally, during the online phase, preliminary activities for the project to be developed in the afternoon sessions of the face-to-face phase will take place. These initial tasks include team formation and defining the key challenges related to the development of renewable and sustainable energy solutions in rural areas that will be the starting point for the team project.

Organizing Board

Receiving/Host university:

Universidad de Zaragoza, Spain (María Paz Comech Moreno, mcomech@unizar.es)

Sending/Partner universities:

P1. Université Savoie Mont Blanc, France (Benoît Stutz, benoit.stutz@univ-smb.fr)

P2. Université de Pau et des Pays de l'Adour (UPPA), France (Stephanie Dechezelles, stephanie.dechezelles@univ-pau.fr)

P3. Università di Torino, Italy (Sergio Vinciguerra, sergiocarmelo.vinciguerra@unito.it)

P4. Universitatea de Vest din Timișoara, Romania (Daniel Vizman, daniel.vizman@e-uvv.ro)

P5. Universidad Pública de Navarra, Spain (Iñigo de la Parra, inigo.delaparra@unavarra.es)

P6. Universitatea Transilvania Brașov, Romania (Macedon Moldovan, macedon.moldovan@unitbv.ro)

Detailed programme

1. Planned activities during virtual component:

Synchronous activities:

- Meeting: Presentation of the BIP, including the planification of the online activities
- Online Seminars: Introduction to Renewable Energies

Non-synchronous activities:

- Team project previous activities:
 - Team building.
 - Video watching and questionnaire related to the videos. These videos will include presentations developed within the UNITA project and virtual visits to facilities.

2. Planned activities during physical component:

Day 1	Day 2	Day 3	Day 4	Day 5
Welcome & introduction	Technologies (II)	Visits: Energy communities and rural associations	Social and economic aspects of RE	Social and economic aspects of RE
Tecnologies (I)				
Activity: Energy fakes - collaborative activities	Team project	Visits: Energy communities and rural associations	Team project	Team project (Presentation of results) Conclusions and farewell

Application procedure

Each UNITA office is in charge of selecting the students. The minimum number of students of this BIP is 15 and the maximum is 32, 4 students per university.

Each University sends the list of selected participants at relint@unizar.es.

The University of Zaragoza offers free lunches to all participants for 5 days (breakfast and dinner not included)

Preparing the Attendance to the University of Zaragoza

How to arrive to Zaragoza: <https://www.zaragozago.com/como-llegar/>

Some hotels offer special rates to attend events organized by the University: more information here:

<https://vgeconomica.unizar.es/sites/vgeconomica/files/archivos/PCC/hoteles/Listado%20Hoteles%20Concertados%20ZGZ%202024%20DietaAct..pdf>

Other addresses for accommodation in residences and hostels here:

Residencia Nodis: <https://nodiszaragoza.greenlts.es/>

Residencia Xior: <https://xior.es/xior-residencia-estudiantes-zaragoza/>

Residencia Pigantelli: <https://www.residenciapignatelli.es/>

Hostal Ávila: <https://www.elhostalavila.com/>