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«INNOVATIVE MASTER COURSES SUPPORTING THE IMPROVEMENT OF THE ENERGY AND CARBON FOOTPRINT OF THE UKRAINIAN BUILDING STOCK - **UKRENERGY**»



ERASMUS + Project n. 101082898-2022

COORDINATION MEETING
8 –10 April 2025, Genoa, ITALY
University of Genoa

Work-Packages presentation

WP4. Quality control and monitoring by systematic tools and events



WP leading OSACEA - Odessa State Academy of Civil Engineering and Architecture



Co-leading UNIGE - University of Genoa

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UKR ENERGY

Innovative Master Courses Supporting the Improvement of the Energy and Carbon Footprint of the Ukrainian Building Stock

<https://erasmus-ukrenergy.unige.it/>

Consortium members:

DELIVERABLES

● D4.3 Monitoring reports as results of the internal mechanisms - OSACEA w/UNIGE

D4.3	Deliverable name	M 11	Document / report	Sensitive dissemination
	Monitoring reports as results of internal mechanisms			
	Deliverable description	Reporting at monitoring aims. Document in English language		
Remarks				
- Collected and analyzed UKRENERGY Project Impact Questionnaires from partners (reports about activities carried out during the 1st project year)				



According Quality Plan

● Overview of Main Impact Indicators



Short Term Impacts

Project Result	Target Groups	Quantitative Indicators	Qualitative Indicators
Programme Handbooks and teaching modules developed in compliance with BP	UA Sr. Teachers / UA Jr. Teaching Staff	4 Programme Handbooks (PHs) and 12 new teaching modules (twinning sites) developed according to the deadline of the workplan	Agreement of the PHs and modules description with BP indications
Lecture Notes and Case Studies according to EU standards, directives, and policy guidelines	UA Sr. Teachers / UA Jr. Teaching Staff / EU teaching staff	4 Volumes with lecture notes + 10 case studies according to the deadline of the workplan	Adherence with EU standards assessed by the editorial board and support for CBL (Challenge-Based Learning) approach
Training of Jr. Teachers	Jr. UA Teaching Staff	At least 24 members re-trained	Their capacity to apply concepts learnt during courses (evaluation by EU academic team)



Programme Handbooks and teaching modules developed in compliance with BP



Development and implementation in accordance with the requirements of Ukrainian legislation in the field of higher education

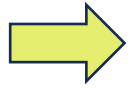
The universities have done the followings:

Activity	Description
Development and approval of curricula	Master's program curricula and working curricula were developed and officially approved by partner universities.
Formation and preparation of academic support teams	Academic support teams were appointed for each educational program. Training and coordination activities are ongoing to prepare them for program implementation.
Design of course syllabi and teaching materials	Course-specific syllabi and teaching plans were developed in alignment with the new curricula
Career guidance for bachelor-level students	Information sessions and outreach activities were conducted to introduce the updated master's programs to prospective students at the bachelor's level
Ongoing organizational and coordination activities	Regular coordination meetings and communication in universities as regards implementation of project objectives



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Programme Handbooks and teaching modules developed in compliance with BP

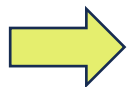


Masters' program / teaching modules development

Institutional Name	Title of <u>Master program</u>	Link
Kyiv National University of Construction and Architecture	"Energy management, energy efficient municipal and industrial heat technology" (updated) "Industrial and civil construction" (partly updated) "Architecture of buildings and structures" (partly updated) "Urban construction and management" (partly updated) "Urban construction and management" (partly updated)	https://www.knuba.edu.ua/about/administrativni-pidrozdili/centr-z-pitan-zabezpechennya-yakosti-osviti/viddil-licenzuvannya-ta-akreditaciyi/kat_op_24_25/
Odessa State Academy of Civil Engineering and Architecture	"Energy efficiency of buildings and energy engineering"	https://odaba.edu.ua/education/educ-programs/eebee-n
Prydniprovsk State Academy of Civil Engineering and Architecture	"Energy audit and energy efficiency in construction"	https://tinyurl.com/56dmy3xs
Lviv Polytechnic National University	"Energy efficient buildings and engineering systems"	https://directory.lpnu.ua/majors/ibis/3.192.00.09/52/2024/ua/full



Programme Handbooks and teaching modules developed in compliance with BP



Masters' program / teaching modules development

Institutional Name	Title of <u>teaching modules</u>
National Transport University	<ol style="list-style-type: none"> 1. "Renewable Energy and Energy Efficiency" 2. "Energy Saving Materials and Technologies" 3. "Environmental and Economic Monitoring and Alternative Energy Sources"
Odessa National Economic University	<ol style="list-style-type: none"> 1. "Accounting and analytical support for energy efficiency projects in the context of sustainable development" 2. "Energy Efficiency Project Management" 3. "Energy Efficiency in Business"
Ukrainian State University of Chemical Technology	<ol style="list-style-type: none"> 1. "Energy saving in energy and technologies" 2. "Equipment and basics of designing small power facilities" 3. "Methodology and organisation of scientific activity in heat and power engineering" 4. "Fundamentals of green production. EU practice"
Lviv National Environmental University	<ol style="list-style-type: none"> 1. "Design of energy efficient civil engineering facilities" 2. "Energy management of civil engineering facilities" 3. "Energy supply systems for civil engineering objects using renewable energy equipment"





Lecture Notes and Case Studies according to EU standards, directives, and policy guidelines

Volume 1 – Instrumental Energy Audits

Prydniprovska State Academy of Civil Engineering and Architecture (PSACEA)

Volume 2 - Energy Efficient Engineering Systems and Energy Certification of Buildings

Lviv Polytechnic National University

Volume 3 – Energy Management and Audit

Odessa State Academy of Civil Engineering and Architecture

Volume 4 – Energy Efficient Design of Engineering Systems in Renovations and New Construction

Kyiv National University of Civil Engineering and Architecture

Volume 5 – UKRENERGY Case Study



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Training of Junior Teachers

16-20 September 2024

Stage 1. Intensive Retraining course

“Energy Efficient Buildings”,

Slovak University of Technology in Bratislava



13 January - 10 February 2025

Stage 2. Intensive Retraining course

“Energy Efficient Buildings”,

University of Genoa



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Training of Junior Teachers



STATE AGENCY ON ENERGY EFFICIENCY
AND ENERGY SAVING OF UKRAINE



Erasmus+



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Intensive Retraining Course in
«Energy Efficiency in Buildings»



UKRENERGY project is co-funded by the European Union (EU) under the Erasmus+ Programme (ID 101082898)

"Innovative Master Courses Supporting the Improvement of the Energy and Carbon Footprint of the Ukrainian Building Stock"



11-21 March 2025

Stage 3. Practical part

**Intensive Retraining course “Energy Efficient Buildings”,
State Agency on Energy Efficiency and Energy Saving of Ukraine**



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Transfer of the improved educational elements and of the project results


➔ Project website, social media, and project platforms on the official websites of universities

Project website:

<https://ukrenergy-erasmusplus.eu/>

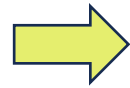
 <https://www.facebook.com/profile.php?id=100094362644385>

 https://www.youtube.com/@Ukrenergy_youtube_page

 https://www.instagram.com/ukr.energy?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==

Institutional Name	Link
Kyiv National University of Construction and Architecture	https://www.knuba.edu.ua/proyekt-innovative-master-courses-supporting-the-improvement-of-the-energy-and-carbon-footprint-of-the-ukrainian-building-stock-ukrenergy/
Odessa State Academy of Civil Engineering and Architecture	https://odaba.edu.ua/international-activities/international-programs-and-projects/erasmus/ka2/ukrenergy
Prydniprovska State Academy of Civil Engineering and Architecture	https://pgasa.dp.ua/ukrenergy-project/opys-proyektu/
Lviv Polytechnic National University	https://lpnu.ua/en/ukrenergy
National Transport University	https://sites.google.com/ntu.edu.ua/ukrenergy/
Odessa National Economic University	http://oneu.edu.ua/en/ukrenergy/
Ukrainian State University of Chemical Technology	https://udhtu.edu.ua/mizhnarodnyj-osvitnij-proyekt-erazmus-ukrenergy
Lviv National Environmental University	https://www.lnup.edu.ua/uk/viddil-mizhnarodnykh-zviazkiv/mignarproekt/303-erasmus-ukrenergy

Transfer of the improved educational elements and of the project results



Dissemination activities implemented

April 2024 - March 2025

Date	Title	Institutional Name	Type of event	Level of influence	Target groups	Aim of the event	Links
24.05. 2024	New model of the Ukrainian electricity market: impact on energy efficiency and active consumer participation	Odessa National Economic University	Workshop	National	Students, academic staff, stakeholders	Discussion of the impact of the new market model on energy efficiency and active consumer participation	http://oneu.edu.ua/ukrenergy/#1626253577011-4cfd6b80-ebcd
27.08. 2024	Using solar energy as an alternative source of power supply	Odessa National Economic University	Round table	National	Experts, academics, government officials	Promoting the use of solar energy	http://oneu.edu.ua/ukrenergy/#1626253577011-4cfd6b80-ebcd
11-13.09. 2024	IV International Conference "EcoComfort and Current Problems of Civil Engineering"	Lviv Polytechnic National University	International Conference	International	Students, academic staff, experts	Discussion of problems and solutions in the field of civil engineering	https://lpnu.ua/news/kafedra-thv-provela-iv-mizhnarodnu-konferentsiiu-ekokomfort-ta-aktualni-problemy-tsyvilnoho
09.10. 2024	Energy efficiency: current economic challenges	Odessa National Economic University	Master Class	Institutional	Students, academic staff, stakeholders	Raising awareness of the economic aspects of energy efficiency	https://odaba.edu.ua/international-activities/international-programs-and-projects/erasmus/ka2/ukrenergy/news-and-events/21-09-24



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Transfer of the improved educational elements and of the project results



Dissemination activities implemented

April 2024 - March 2025

Date	Title	Institutional Name	Type of event	Level of influence	Target groups	Aim of the event	Links
18.10.2024	Energy Independence of Business	Odessa State Academy of Civil Engineering and Architecture	Conference	National	Representatives of the business sector, experts, academic staff, students	Presentation of the UKRENERGY project, discussing the training of specialists in the field of energy efficiency	https://odaba.edu.ua/international-activities/international-programs-and-projects/erasmus/ka2/ukrenergy/news-and-events/21-09-24
05-07.11.2024	International Conference of Young Scientists "Bud-Master-Class 2024"	Kyiv National University of Construction and Architecture	International Conference	International	Young scientists, students	Sustainable development in construction, presentation of research by young scientists	https://bmc.knuba.edu.ua/
14-15.11.2024	III International Conference Energy Efficient City. XXI century	Odessa State Academy of Civil Engineering and Architecture	International Conference	International	Students, academic staff, stakeholders	Exchange of experience on energy efficiency in cities	https://odaba.edu.ua/international-activities/international-programs-and-projects/erasmus/ka2/ukrenergy/news-and-events/20-11-2024
04.12.2024	Seminar from KAN Group: "New opportunities for future professionals"	Odessa State Academy of Civil Engineering and Architecture	Seminar	Institutional	Students, academic staff	Providing practical knowledge	https://odaba.edu.ua/international-activities/international-programs-and-projects/erasmus/ka2/ukrenergy/news-and-events/06-12-24



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RELEVANCE (is project still relevant in terms of its goals and achievements)

Aspect	Description
Project implementation status	The project is being implemented in accordance with the planned goals and objectives
Relevance to project goals	The goals remain fully relevant (implementation of relevant master's programmes/courses, introduction of innovative teaching, integration of European standards.
Context for Ukraine	In times of war, the need for energy-efficient and sustainable construction specialists is only increasing, and the project responds to these challenges
Project achievements	The students' choice in favor of the implemented master's programs and courses at Ukrainian partner universities, the activities carried out, stakeholder engagement, and other project initiatives confirm its effectiveness and relevance.
Challenges and adaptation	Despite the challenging circumstances, the project team tries to ensure flexible implementation of activities, adapting them to current realities
General conclusion	UKRENERGY remains an extremely relevant and strategically important project in the context of Ukraine's sustainable recovery, both during implementation and in the future. The project is being implemented efficiently and on time, despite the challenging environment.



EFFICIENCY (are the activities in work-packages done on time?)

Aspect	Description
General arrangement of WP implementation	The project is being implemented in accordance with the planned goals and objectives
Meeting deadlines	Most of the planned activities are completed on time. But there are delays in some packages
Monitoring of implementation	A system of monitoring (internal control, reporting between partners, discussions at consortium meetings) is in place to ensure effective implementation
Challenges	Given the external challenges (including martial law in Ukraine), the project demonstrates high flexibility and adaptability in performing tasks without losing quality
General conclusion	Part of the tasks have already been completed. The project is being implemented efficiently and on time, despite the challenging conditions. The timely implementation of the WP demonstrates a high level of organisation and partner involvement.



EFFECTIVENESS (how well are project specific objectives met?)

Aspect	Description
Matching specific objectives	The project implementation is directly aimed at achieving the following goals: implementation/modernisation of master's programmes/courses, teacher training, sustainable development of education
Capacity building of HEIs	Partner universities have improved their capacities through the implementation of innovative master's programmes/courses, trainings, exchange of experience and the use of new teaching tools
Dissemination of results	The project actively disseminates its achievements through scientific events, websites, social media and internal events, which contributes to wider impact
Stakeholder engagement	Representatives of business, government, students and teachers are actively involved in the discussion and implementation of the project, which enhances the effectiveness of the implementation
General conclusion	The specific objectives of the project are being implemented effectively. Already at the implementation stage, the project demonstrates positive results that bring it closer to achieving its main goal - the formation of high-quality master's education in the field of energy efficiency



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IMPACT (at the level of departments, faculty, university, etc.)

Level of impact	Description of the impact
Students	Students gain access to modern knowledge and skills, which increases their competitiveness in the labour market, in particular in the areas of energy efficiency, energy management and sustainable construction
Departments	New/updates master's programmes, courses with a focus on energy efficiency and sustainable development, contributing to the modernisation of the academic environment
Faculty members	Professional development through training, study visits, and exchange of experience with European partners. A new approach to teaching is being developed
Faculty / Institutes	The project has strengthened the integration of energy efficiency into the strategic development of faculties/institutes, promoted international cooperation and updated educational standards
University	The image of the university as an institution is strengthened, and competitiveness is enhanced
External academic environment	The results of the project are disseminated through seminars, conferences, websites and other channels, which stimulates the development of similar initiatives in other Ukrainian universities
General conclusion	The UKRENERGY project creates a powerful multi-level impact: from specific departments to the systemic renewal of university education in Ukraine

SUSTAINABILITY (what would stay after the project is finished?)

Component	What would stay after the project is finished?
Master's programmes	Fully implemented innovative Master's programmes in energy efficiency, adapted to the needs of the labour market and the Bologna Process
Courses and content	The developed courses, training materials, guidelines, presentations, tests and practical cases remain in the use of partner universities for ongoing use
Skilled academic staff	Trained teaching staff with new competences and experience gained in EU HEIs
Handbooks and case studies	Published materials and educational resources
Stakeholder engagement	A model of interaction with business and public sector representatives has been developed that can be used for more effective work and cooperation
Impact on the education system	The project is becoming an example for the implementation of similar initiatives in other Ukrainian universities, contributing to the overall improvement of the quality and innovation of engineering education
General conclusion	UKRENERGY leaves behind a sustainable educational, methodological and human resources foundation for training specialists capable of implementing the “green” transformation of the Ukrainian construction sector



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THANKS FOR YOUR ATTENTION!

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