University of Gdańsk

Subject card

Subject name and code	Energy transition and climate change , PG_00199002						
Field of study	Economics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Marcin Wołek, prof. UG				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	15.0	0.0	45
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	45		0.0		5.0	50
Subject objectives	Introducing the student to the basic principles of the functioning of the energy sector in Poland and worldwide, as well as the links between energy production and climate change.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[EKONL3_U02] is able to use the knowledge of theory and data to analyse concrete economic and social processes and phenomena and to analyse these phenomena using methods developed in economics, finance and management sciences	Through the implementation of the project, the student is able to appropriately assess and select suitable methods for analysing specific problems related to the energy transition and climate change in Poland and worldwide.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[EKONL3_U10] has the ability to prepare oral presentations, in Polish and in a foreign language, on economic and social issues, using specialist terminology, theoretical approaches, principles of collecting various sources of data, their description and interpretation, and making inferences from scientific literature, and is able to take an active part in a debate	Based on their knowledge and critically selected sources, the student is able to prepare an oral presentation and/or take part in a discussion on changes in the energy sector and climate change.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[EKONL3_K02] is aware of the level of knowledge in the field of economics and understands the need to deepen and update this knowledge throughout life	The student understands the complexity of issues related to the energy transition and climate change, as well as the dynamic progress in technology and knowledge. Consequently, they are aware of the necessity to continuously verify and update their knowledge in this field throughout their life.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[EKONL3_K05] correctly identifies, diagnoses and resolves professional dilemmas and different options for solutions	By drawing on interdisciplinary knowledge, the student is able to assess the impact of different energy sources, including renewables, on energy policy and the environment.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[EKONL3_W04] knows the types of economic and social ties and the regularities governing them	The student is able to identify the most important entities of the energy sector at the national and global level, as well as indicate the relationships between them.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[EKONL3_W03] knows the relations between economic agents and social organisations operating in the national, international and intercultural arenas	The student has knowledge of the fundamental issues related to the energy transition and climate change in Poland and worldwide.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[EKONL3_K01] recognises the importance of economic knowledge in identifying and solving economic problems and of consulting experts when difficulties in solving them independently	The student recognizes knowledge in the field of economics as a starting point for analyzing and assessing policy decisions regarding the Green Deal and energy security.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written

Subject contents

Energy basic measures and concepts
The development process of the energy sector in Poland and worldwide
The importance of energy for socio-economic development
Emissive energy sources
Non-emissive energy sources
The functioning of the electricity market in Poland
Energy as an element of geopolitics
The European Unions energy and climate policy
Sustainable development and the premises of energy sector transformation
Climate change - facts and myths
Scenarios of climate change
Carbon footprint
Adaptation to climate change at the level of the country, city, and household.
The project assignment will focus on one of the above topics.

Any questions or concerns regarding the discussed issues may be addressed with the Instructor during the consultation session.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
project	51.0%	40.0%
attendance rate in lectures	75.0%	25.0%
exam	51.0%	35.0%

Recommended reading	Basic literature	The Palgrave Handbook of International Energy Economics. Ed. M. Hafner, G. Luciani. Palgrave 2022. The latest version of the IPCC report
	Supplementary literature	M. Kahn: Adapting to Climate Change : Markets and the Management of an Uncertain Future,. Yale University Press 2021
	eResources addresses	
Example issues/ example questions/ tasks being completed	Definition of LCOE (Levelized Cost of Energy) Major oil producers Major natural gas producers Major coal producers Export directions of oil and natural gas Export directions of hard coal Comparative analysis of emissive energy sources Comparative analysis of non-emissive energy sources Entity structure of the electricity market in Poland The European Unions energy and climate policy Climate change scenarios according to the IPCC	
Work placement	Not applicable	

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