

5.00 credits

30.0 h

Q2

Teacher(s)	Willems Bert ;
Language :	English
Place of the course	Louvain-la-Neuve
Prerequisites	Undergraduate courses in finance, microeconomics, econometrics, optimization. Advanced courses in energy system analysis and energy economics.
Main themes	Some of the topics treated in the course include: <ul style="list-style-type: none"> o Vertical and horizontal market structure in electricity and gas markets o Retail markets in gas and electricity o Wholesale markets in gas o Realtime market in electricity o Energy network regulation o Demand modelling and behavioral assumptions o Energy communities o Energy access and energy poverty o Investment analyses in markets o Power generation analysis under price variability o Stochastic modelling of renewable power generation
Learning outcomes	<p>At the end of this learning unit, the student is able to : The course is devoted to the energy markets, wholesale and retail in electricity and gas, at an international and European level. The analysis links to earlier courses to analyze the specifics of energy commodity markets, real-time, day-ahead and futures. The course also includes an introduction to the economics of energy network regulation, the instruments used and their interpretation in the two markets.</p> <p>After the course, the students should be able : to understand the market structure and functioning in energy markets, both deregulated and regulated</p> <p>In terms of methodology, the students should be able : to perform economic analyses and to interpret data, models and methods used in energy market analyses in the sector. The student should also be sensitive to the consumption and user perspectives in energy markets, including the energy poverty and energy access dimensions and how they are addressed in regulation.</p> <p>The course provides the basis for management of energy markets, such as in trading and retail, and local energy regulation, such as load control.</p>
Evaluation methods	Written exam after the end of the course (70%). Group works, and student presentations are part of the final grade (30%). A resit is only organized for the written exam, the grade for the group work and student presentations is final.
Teaching methods	Ex-cathedra lectures, lectures with active student participation (such as group work, computer simulations, and student presentations), and guest lectures if possible.
Content	<p>Some of the topics treated in the course include:</p> <ul style="list-style-type: none"> o Vertical and horizontal market structure in electricity and gas markets o Retail markets in gas and electricity o Wholesale markets in gas o Realtime market in electricity o Energy network regulation o Demand modelling and behavioral assumptions o Energy communities o Energy access and energy poverty o Investment analyses in markets o Power generation analysis under price variability o Stochastic modelling of renewable power generation <p>Note: The content of the course might be adjusted based on the availability of guest speakers.</p>

Other infos	The communication between the professor and the students takes place through the electronic platform Moodle. You should enroll in the course on Moodle to have access to the online documents such as course notes, slides and additional material that will be posted.
Faculty or entity in charge	CLSM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] : Business Engineering	INGE2M	5		