Empirical case studies in energy efficiencies

ECTS
2 crédits

Composante
Polytech Annecy-Chambéry

En bref

- **Langues d'enseignement:** Anglais
- **Méthodes d'enseignement:** En présence
- **Forme d'enseignement :** Cours magistral
- **Ouvert aux étudiants en échange:** Oui

Présentation

Description

* Semester 9
* Duration : Within one semester
* Type: Mandatory
* Student workload: Lecture (CM): 18 hours + hours of self-study
* Applicability: SOLEM course only
* Teaching and learning method : seminar, practice, project
* Module examination: 1 written exam (50%), 1 individual oral presentation (50%)

Responsible person for the module: Dorothée Charlier

Senior lecturer and researcher, Université Savoie Mont Blanc, IAE, Laboratory IREGE

Objectifs

Major intended learning outcomes

This course examines the economic dimensions of energy efficiency in buildings in an empirical point of view.

This course focuses on the application of data analysis techniques to evaluate energy efficiency in buildings through detailed case studies. Students will learn to use statistical tools and software to assess energy data, identify trends, and make informed decisions aimed at improving energy efficiency.

The practical application of these skills will involve working with actual databases containing building energy usage information. The goal is to not only understand data trends but also to provide actionable recommendations and decision support for enhancing energy efficiency in buildings.

By the end of this course, students will be able to:

* Apply statistical methods and data analysis techniques to building energy data.
* Interpret and evaluate energy performance metrics from case studies.
* Develop recommendations based on data-driven insights to enhance building energy efficiency.
* Communicate findings effectively through reports and presentations.

Correspondence between major intended learning outcomes and assessment:

Students should have the ability to connect seminar and learnings in empirical studies in energy efficiency and in energy efficiency of building.

Heures d'enseignement

TD	Travaux Dirigés	12h

Pré-requis obligatoires

Basic knowledge in econometrics – related to ECON953

Plan du cours

Content of the module:

General introduction on energy efficiency:

1. Energy and climate: from the energy transition to sustainable development (energy efficiency from a macroeconomic point of view)

2.Households and energy consumption in High Income Country (analysis with a microeconomic point of view)

3.Drivers and limits to conduct energy efficiency investment (analysis with a microeconomic point of view)

4. Households and fuel poverty: health issues

Different software can be used (R, Stata, Gretl, JASP)

Evaluation

Individual Case Study Report: Students will select a building energy efficiency case study, perform a detailed analysis using the learned data analysis techniques, and prepare a comprehensive report.

Group Presentation: Teams will present their findings on selected case studies, focusing on data-driven insights and recommendations for enhancing energy efficiency.

Bibliographie

* Institutional websites
* Technical books on data software
* Lahsen Abdelmalki, Patrick Mundler, 2010, Économie de l'environnement et du développement durable, De boeck.
* Jean Carassus et Bruno Duplessis, 2010, Economie et développement durable, Modèles économiques appliqués à la ville - Financement et coût de l'investissement durable - MINES ParisTech
* Jean-Pierre Hansen et Jacques Percebois, Energie : Economie et Politiques, De boeck.
* Charles D. Koldstad, Environmental Economics, Oxford University Press.
* Sophie Méritet, Jean-Baptiste Vaujour, 2015, Economie de l'Energie, Collection : Les topos, Dunod.
* Tom Tietenberg, Lynne Lewis, 2013, Economie de l'environnement et du développement durable, Pearson, 6ème édition.

Infos pratiques

Lieux

Le Bourget-du-Lac (73)

Campus

Le Bourget-du-Lac / campus Savoie Technolac