

MASTER'S DEGREE IN ENERGY

UNIVERSITÉ P S L

The PSL master's degree in Energy provides discovery of the world of energy and its environmental and economic issues. It covers all areas of expertise necessary to the transformation of the energy sector: materials, components, energy systems... Hosted by Mines Paris – PSL, Ecole nationale supérieure de Chimie de Paris – PSL and ESPCI Paris – PSL, this master degree procures methodologies to assess an energy system and measure the impact of technological innovations. It also covers proficiency in systems for the conversion and storage of energy and the methods, tools and criteria according to which decisions are taken. This master's degree, totally taught in English, is part of PSL's graduate program in Engineering (ISAI).

MAIN ASSETS

- **Core knowledge** in the energy sector.
- **Specialization** via a choice of 2 modules from 5 modules offered: energy efficiency, reducing carbon footprint, technologies of renewable energy systems, renewable energy integration and recycling processes and the energy transition.
- **Multidisciplinary training:** thermodynamics, electro-chemistry, electricity, materials, digital analysis,...
- **International exposure:** the Master's program is totally taught in English.
- **Training in innovation through research:** internships of at least 8 months are required during the 2 years of the program, to be performed in research and development fields, either in academic or industrial groups.
- **Teaching excellence:** training co-sponsored by 3 of the best French engineering schools.
- **Industry partners** will lead classes and conference cycles, carry out site tours and hold internships.

RESEARCH

The master's degree in Energy is training for and through research. It is based on the research topics existing within Université PSL in the field of energy.

It is based on a balance between experimental, digital and theoretical approaches, perfectly matched with the research activities and R&D of research organizations and large industrial groups.

OPPORTUNITIES

This program is recommended for students who wish to prepare themselves for a career in academic research or in centers of industrial research and innovation.

It also provides preparation to pursue a PhD.

English track

CURRICULUM

Master's Year 1 (60 ECTS) Courses in English

S1 + S2

Basic modules

- Data Science
- Process design 1
- Electro-chemistry and corrosion
- Machine Learning
- Literature Review Project
- Modeling industrial processes
- Nuclear
- Metrology
- Thermodynamics

- Electronic Properties of Solids
- Heat and Mass Transfer
- Mechanics of fluids
- Process design 2
- CV and motivation letter writing

2-4 months internship

- English Course
- French Course

Master's Year 2 (60 ECTS) Courses in English

S3 + S4

Core curriculum

Basic knowledge of energy systems and energy conversion.

Choice of 2 modules amongst 5

- Energy Efficiency
- Reducing Carbon Footprint
- Technologies of Renewable Energy Systems
- Renewable Energy Integration
- Recycling processes and the energy transition

6-month internship in a research, academic or industrial group

- English Course
- French Course
- AI

PARTNER SCHOOLS

The master's degree in Energy is co-sponsored by Ecole nationale supérieure de Chimie de Paris – PSL, Mines Paris – PSL and ESPCI Paris – PSL.

TEACHING LOCATIONS

All of the lessons are given in the very center of Paris on the campuses of the 3 schools involved in the master's program.

ADMISSIONS

Recruitment process (M1 and M2)

based on application assessment and interview.

Prerequisites

- **Master's degree year 1:** students must have a bachelor of science degree
- **Master's degree year 2:** students holding a scientific M1 level; student engineers following a dual curriculum

DIPLOMA DELIVERED

National Master's degree conferred by Université PSL and prepared at Mines Paris – PSL

More information

psl.eu/en/formation/master-s-degree-energy

Contact

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