

Sustainable Development



The United Nations World Commission on the Environment and Development originally defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland Report, 1987). In 1992, the Earth Summit held under UN auspices in Rio de Janeiro imparted formal status to the notion of sustainable development and its three pillars: economic, social and environmental.

The fields of application in sustainable development are therefore numerous. Clustered around the issue of environment protection are a set of disciplines concerned with sustainable agriculture, the economics of primary resources, air quality and climate, the ecology of natural environments, ecosystems, water and biodiversity, land use, management of natural resources and waste, alternative energy, efficient buildings, and clean transportation.

Environmentally friendly renewable energy includes energy derived from solar irradiation, wind, hydropower, and geothermics. Other renewables are fuel wood, harvest byproducts, biogas, biofuels, and household and industrial waste products.

Sustainable development is taught in technical programs covering a variety of fields, such as agronomy, biology, chemistry, and physics, as well as in engineering, law, economics, social sciences, and management. Research in sustainable development is therefore characterized by its interdisciplinarity.

• **+84%** growth in use of renewable energy in France between 1990 and 2019

• **+16.1%** drop in greenhouse gas emissions since 1990

• **17.2%** share of renewable energy in France's final gross energy consumption (2019)

• **32.5%** increase in energy efficiency - that is, a 32.5% reduction in energy consumption over 2007 reference scenario

• **40%** reduction in emissions of greenhouse gases (2030). France's 2030 goal: renewable energy makes up 33% of total final energy consumption

*Source: French Ministry in charge of Ecology
www.ecologique-solaire.gouv.fr*

International

France, as a signatory of the Kyoto Protocol, chaired the 2015 Conference of the Parties to the 1992 United Nations Framework Convention on Climate Change (COP21/CMP11), which resulted in an international agreement to strive to limit global warming to less than 2° Celsius. Of the 197 Parties to the Conference, 174 ratified the Paris Agreement. France, in helping to implement the United Nations' 2030 Agenda for Sustainable Development Goals, has emphasized three priorities: (i) ensuring food security and sustainable agriculture; (ii) promoting resilient infrastructure, sustainable industrialization, and innovation; and (iii) preserving the world's oceans, seas, and marine resources through sustainable exploitation. Since 2012, the country's agro-ecological plan of action has aimed to reduce the consumption of inputs, to preserve natural resources, and to enhance the sustainability of resource use.

In 2017, France launched a plan to prevent climate change from growing in scale and becoming irreversible. The plan includes a series of innovative and ambitious measures to enshrine the goals of the Paris Agreement in public policy and to rally all actors to the fight for planetary survival. France is accelerating its commitment to achieve the energy and climate transition domestically, within the European Union, and on the international stage.



RELATED FIELDS

- Agriculture • Agronomy
- Biology • Chemistry
- Earth and Space Sciences
- Economics and Management
- Education • Energy • Engineering
- Fisheries Science • Geography • Geosciences • Law
- Life and health sciences
- Sea and Ocean Studies • Physics
- Public Health • Tourism
- Transportation • Urban Studies

SUBFIELDS

- Agroecology • Alternative energy
 - Biodiversity • Biological and Geographical Science
- Biotechnologies • Climatology
- Ecology • Ecotechnologies
- Environmental engineering
 - Forestry • Green growth
 - Greenhouse gases
 - Land use and planning
 - Meteorology • Pollution
- Toxicology • Water management and hydrology

Useful links

- 2015 United Nations Climate Change Conference in Paris COP21-CMP11: www.gouvernement.fr/action/la-conference-de-paris-sur-le-climat
- AllEnvi, national alliance for environmental research: www.allenvi.fr
- CEREGE, center for research and teaching in environmental geoscience: <https://www.cerege.fr/en>
- CESE, economic, social, and environmental council: www.lecese.fr
- École nationale de la météorologie - ENM Météo-INP Toulouse France : www.enm.meteo.fr
- EGU, European Geosciences Union: www.egu.eu
- FRANCE, Ministry of European and Foreign Affairs: www.diplomatie.gouv.fr >Politique étrangère de la France >Environnement et développement durable
- FRANCE, Ministry in charge of Ecology: www.statistiques.developpement-durable.gouv.fr
- Make Our Planet Great Again (MOPGA): www.campusfrance.org/fr/make-our-planet-great-again-0
- ONF (national forests office): www.onf.fr
- Paris Agreement: <https://unfccc.int/process-and-meetings/the-paris-agreement>
- Reports on greenhouse gases from the resource center for greenhouse gas emissions: www.bilans-ges.ademe.fr
- Scientific interest group on climate, environment, and society: www.gisclimat.fr
- Sustainable Development Goals: <https://www.un.org/sustainabledevelopment>
- Sustainable Development Goals - French Ministry in charge of Ecology: www.ecologie.gouv.fr/ODD
- UN Framework Convention on Climate Change: <https://unfccc.int>
- UVED, virtual university for the environment and sustainable development: www.ued.fr

LEVEL Licence

LICENCE

NATIONAL DIPLOMA - 3 YEARS OF HIGHER EDUCATION - L3
180 ECTS credits

Three tracks offer programs related to sustainable development: **Arts, Letters, and Languages**, major in Applied foreign languages, emphasis on Tourism, sustainable development, and heritage. **Law, Economics, and Management**, major in Team management and sustainable development. **Science, Technology, and Health**, major in Engineering, emphasis on Mechanical engineering and sustainable development.

LICENCE PROFESSIONNELLE

NATIONAL DIPLOMA - 3 YEARS OF HIGHER EDUCATION - L3
180 ECTS credits

Programs related to sustainable development are available in four tracks: **Law, Economics, and Management**: major in Trade and distribution, emphasis on Sustainable development.

Organizational Management: specialization in Sustainable development in rural settings, emphasis on Sustainable tourism.

Humanities and Social Sciences: several majors and specializations in Land-use planning and urban studies; International aid and development, emphasis on International cooperation and sustainable development; Regional development, emphases on Environmental education, the Ecological transition and sustainable development; E-commerce and digital marketing, emphasis on Sustainable regional development; geography and regional planning, emphasis on Sustainable regional development.

Science, Technology, and Health: multiple majors, specializations, and emphases on Agronomy, specialization in Sustainable agriculture in tropical island settings; Land-use planning and land management, emphasis on Sustainable development/management and biodiversity; building and construction, specialization in Construction management; Analytical chemistry and environmental quality, emphasis on Chemistry and processes for sustainable development and the environment; Energy and climate engineering, specialization in Sustainable development and renewable energy; Natural spaces, specialization in Sustainable development of forests and local areas; Energy planning and sustainable development; Management of agricultural and rural businesses and sustainable development of rural areas; Careers in environmental protection and management, emphasis on Ecological restaurants and sustainable development; Crop production, emphasis on Crop protection and sustainable development; Life and Earth Sciences, emphasis on Environment and sustainable development.

www.campusfrance.org Students > Studying in France > Finding the program for you > Undergraduate level

LEVEL Master

MASTER

NATIONAL DIPLOMA - 5 YEARS OF HIGHER EDUCATION - M2
120 ECTS credits

In several academic tracks, a Master's degree can be earned with a concentration or specialization in sustainable development:

Law, Economics, and Management: Energy management, energy law, and sustainable development; Sustainable regional development, concentration in Management of sustainable tourism and outdoor recreation; Legal management of risk and sustainable development; Environmental and urban law, concentration in Sustainable development; Business law, double diploma in Sustainable Development Law and Management; Sustainable development law; Sustainable development corporate legal planning; Economics of sustainable development, the environment, and energy; Management of sustainable development projects; Environmental management and sustainable development; Energy economics and sustainable development; Euro-Mediterranean management and sustainable development; Managing legal risks and sustainable development; Sustainable development in the French-speaking world; Corporate social responsibility and sustainable development; Advising local governments on sustainable development policy, etc.

Science, Technology, and Health: Agroecology, biodiversity, sustainable environmental management and regional planning; Biology and ecology applied to forests, agronomy, the environment, and ecosystem management; Biodiversity and sustainable development; Sustainable development strategy and peri-urban planning; Biotechnology for sustainable development; Chemistry, Concentration in catalysis, environment, and sustainable development; Construction and sustainable regional planning and eco-development; Ecology and sustainable development; Electrical power and sustainable development; Environment, sanitation, and sustainable development; Innovative process engineering and sustainable development; Sustainable environmental engineering; Environmental engineering and management for sustainable development; Agro-resource production and sustainable development; Materials science for energy and sustainable development, etc.

Environmental Science, Regional Planning, and Economics:

land use, energy, & regional ecology; sustainable building & eco-construction; eco-innovation; ecosystems; ecological modeling; environmental toxicology, etc.

www.campusfrance.org > Students > Studying in France > Programs

Arts, Letters, and Languages: Anthropology, specialization in Sustainable development; Intercultural studies and sustainable development; Communication for ecological stewardship and sustainable development; Environmental and geomatic management; Applied foreign languages, emphasis on sustainable development; education, emphasis on the teaching of sustainable development, etc.

Sustainable Development

Humanities and Social Sciences: Societies and sustainable development; Sustainable local development in emerging areas; Spatial dynamics and sustainable development in the countries of the global South; Tourism and sustainable regional development, etc.

Programmes Taught in English: 25 Master's-level programs related to sustainable development are offered in Agroecology, Environment Studies, Biology, Chemistry, Physics, Engineering, Energy, Urban Studies, the Humanities and Social Sciences, etc.

European Joint Degree program - MSc in Sustainable Food Systems: www.susfoods.eu

European Master's degree in Plant Health in Sustainable Cropping Systems (PlantHealth): <http://planthealth.upv.es>

TITRE D'INGÉNIEUR DIPLÔMÉ (ENGINEERING DEGREE)

MASTER LEVEL - 5 YEARS OF HIGHER EDUCATION - M2
120 ECTS credits

Schools of Engineering in France deliver professional qualifications and Master's-level degrees accredited by the CTI (*Commission des Titres d'Ingénieur*), with specializations in Agroecology, Environment, and Energy, among others.

Institut Polytechnique de Bordeaux: <https://ensegid.bordeaux-inp.fr/>
www.cti-commission.fr/accreditation

LEVEL

Beyond the Master level

MASTÈRE SPÉCIALISÉ® (MS)

INSTITUTION DIPLOMA - 1 YEAR OF HIGHER EDUCATION

"*Mastère Spécialisé*" is a label conferred by the *Conférence des Grandes Écoles* to qualifying post-master programs. Several programs offer students a double competency in sustainable development and one of many specializations in agriculture, marine engineering, transportation, management, etc.

> **Mastère Spécialisé programs list:**
www.cge.asso.fr/nos-labels/ms