



**CALL FOR APPLICATIONS
WITH
(FULL SCHOLARSHIP AVAILABLE)
2021 ADMISSIONS INTO INTERNATIONAL MASTER'S PROGRAMME IN ENERGY
AND GREEN HYDROGEN TECHNOLOGY (IMP-EGH):
SPECIALTY: ECONOMICS/POLICIES/INFRASTRUCTURES AND GREEN
HYDROGEN TECHNOLOGY**

1. Background

The West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL), under the sponsorship of the German Federal Ministry of Education and Research (BMBF) is pleased to announce application for its International Master's Programme in Energy and Green Hydrogen (IMP-EGH) in all fifteen (15) ECOWAS countries namely: Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.

WASCAL is a wholly West African international organization with focus on academic and transdisciplinary research, building graduate-level scientific capacity and serving policy makers in West Africa with science-based advice on adaptation to Climate Change impacts and land use management. It cooperates with many agencies and universities in the region, providing a knowledge platform of excellence for its partners. WASCAL is funded by BMBF, multilateral and bilateral partners and its West African member countries.

The International Master's Programme in Energy and Green Hydrogen (IMP-EGH) is innovative for the West African region and it is designed to prepare the next generation to address the energy challenges of adaptation and resilience to Climate Change in West Africa. The programme's interdisciplinary approach will allow for a better understanding of present-day energy infrastructures in West Africa, their strengths and weaknesses,

energy policies, practices in a changing climate context and the search for sustainable solutions.

2. Missions

The mission of this programme is to provide training on state-of-the-art tools used in renewable energy, green hydrogen technology and policy (politics and economics) with the view of forming adequate human resources to boost the sector of energy technology and guide policy formulation across the region.

3. Objectives

The main objective of this programme is to prepare and train a new generation of interdisciplinary professionals capable of proposing adapted solutions to ongoing energy crisis. Graduates will, therefore, be well skilled in order to jointly fulfill the following points:

- Demonstrate an understanding of the science related to a changing climate and global warming, knowledge of the impacts of climate change, vulnerability of natural systems and the built environment, and methods for adaptation;
- Develop a comprehension of energy production, delivery, and consumption for both traditional systems and sustainable energy alternatives with special emphasis on energy efficiency, energy management and local available renewable energy.
- Train students on all questions related to the energy transition by mobilizing multidisciplinary analyses but with a prism of the economy.
- Strengthen capacities for an understanding of the issues, constraints and problems faced by the energy sectors in their development and / or evolution.
- Prepare skilled workers for the emerging global hydrogen economy.

4. Job opportunities

This Master's programme will offer students to hold the following jobs:

- Renewable energy project developer
- Strategic advisor within an energy company
- Business engineer in a company offering integrated energy services
- Engineer / economist in a company in the energy sector, a government agency or an international organization
- Expert in energy-related environmental issues with national or international institutions

5. Eligibility criteria

International Master's Programme in Energy and Green Hydrogen (IMP-EGH) is open to students:

- from partner countries in West Africa (Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.)
- with a minimum background of a B.Sc. degree or equivalent in scientific discipline or in engineering. Candidates with technical strengths in physics, chemistry, electrical, statistician economic or mechanical engineering or equivalent are required
- with no more than 35 years old at the end of December 2021.
- having a good English proficiency

Female candidates are highly encouraged to apply

6. Outline of the programme

The International Master's Programme in Energy and Green Hydrogen is a well-structured programme consisting of three (3) semesters of taught courses, laboratory activities, field visits and interaction with stakeholders and semester four (4) intended for student field work, thesis research, final write up and defense.

6.1 Training

The training includes courses divided into semesters as follows:

Semesters	Courses	Credits
Semester 1	Physics of solids and fluids	5
	Semiconductor, electrical and electronic engineering	6
	Thermodynamics	6
	Electrochemistry	6
	Atmospheric Sciences	4
	Climate Change and sustainable development	3
Total credits		30
Semester 2	Conventional energy and Energy security	3
	Renewable Energy	6
	Green Hydrogen	6

	Renewable energy (RE) Technologies and Applications	6
	Energy systems and infrastructure	6
	Energy Policy and Market	3
	Practical activities Modeling	1
Total credits		30
Semester3:	Research Methods	1
Specialization	Econometrics	2
Economics/policies/infrastructures and green hydrogen technology	Data Mining	2
	Time series and Survey Data	2
	Impact Evaluation and Renewable Energy Projects	3
	Microeconomy of Energy	2
	Renewable Energy and Green Growth	2
	Cost Benefit Analysis of Renewable Energy Projects	1
	Sustainable Development theories and Renewable Energy	2
	Public policies of Renewable Energy	3
	Financial Market and Renewable Energy	2
	International Trade and the sector of Renewable Energy	2
	Geopolitics of Renewable Energy	2
	The Law of Renewable Energy	2
	Economic Choice under uncertainty in the Energy Sector	2
Total credits		30

6.2 Research

Semester 4 is devoted to research to energy and green hydrogen technology in Germany.

Phase 1: Writing and validation of the research project

Phase II: Field study

Phase III: Internship in Germany

Phase IV: Final writing of the Master Thesis

Phase V: Master Thesis defense and graduation at UCAD

7. Working Language

English

8. Application procedures

- Form duly filled, scanned, and sent to required address
- Curriculum Vitae signed with information about relevant experience and professional training
- Cover letter
- Two (2) reference letters, one of whom should preferably be from the undergraduate lecturer in the equivalent science discipline or in engineering; preferably one letter from an academic and one from a former employer precise availability of the candidate for the period of master's programme. Reference letters must be written in English or French and must be signed / stamped
- Photocopy of passport or national identification card
- Certified copies of diplomas and transcripts (Baccalaureate to Bachelor)

9. Selection procedures

- Only short-listed candidates will be notified for interviews
- Interviews will be done in English by a committee

A scholarship letter will be sent to the selected candidate by WASCAL Headquarters

10. Duration

24 months

11. Scholarship and research support

- Scholarship: 250 Euros per month
- Research Budget
- Travel ticket for language courses in Cape Coast or Lomé
- Travel Ticket to Germany
- Tuition

Applications must be submitted master.energie.wascal@ucad.edu.sn and copy cbd.hydrogen@wascal.org

Deadline for applications: April 30th, 2021