



**CALL FOR APPLICATIONS
WITH
(FULL SCHOLARSHIP AVAILABLE)
2021 ADMISSIONS INTO INTERNATIONAL MASTER'S PROGRAMME IN
ENERGY AND GREEN HYDROGEN TECHNOLOGY (IMP-EGH):
SPECIALTY: GREEN HYDROGEN PRODUCTION AND
TECHNOLOGY/GEORESOURCES (WIND/WATER) 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 Interdisciplinary Master's Programme in Energy and Green Hydrogen (IMP-EGH) in all fifteen (15) ECOWAS countries ~~partners~~ namely: Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea Conakry, 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) 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 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;
- Identify and develop methods for the production and valorization of green energy from biofuel;
- Identify and popularize the methods of production and valorization of green energy (hydrogen) from natural resources (water, agro-forestry etc);

4. Employment Opportunity

Graduates of the Master's H₂ with specialty in **Green Hydrogen Technology based on Natural Resources and Biofuel** will be immediately operational in various fields of renewable energy production. In the private sector, all agro-industries will be able to use their knowledge to transform their residues and other agricultural waste into energy.

They will be the first human resources for electrolysis factories of Water Resources in clean and renewable energy (hydrogen).

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, Cabo Verde, Cote 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, lab activities, field visits and interaction with stakeholders and one (1) semester intended to the student field work, thesis research, final write up and defense.

6.1. Training

The training includes modules divided into semesters and specified 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	6
	• Climate Change and sustainable development	4

		3
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
Semester 3	• Energy recovery of biofuel	12
	• Research methodology	6
	• Natural resources, water, agro-forestry and hydrogen production	6
	• Biofuel in hydrogen technology	6
Semester 4	• Master Thesis	30

6.2 Research

Semester 4 is devoted to research in 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 in University Félix Houphouët-Boigny

7. Working Language

English

8. Application procedures

- Form duly filled, scanned, and sent to require 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 all period of master 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. Self-funding

Those who want to self-finance are encouraged to apply..

11. Duration

24 months

12. 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 should be submitted to:

greenH2.wascal-ci.org; and copy **cbd.hydrogen@wascal.org**

Deadline for applications: April 30th, 2021