



Université  
de Lomé

H<sub>2</sub>ATLAS  
AFRICA



**CALL FOR APPLICATIONS  
WITH  
(FULL SCHOLARSHIP AVAILABLE)  
2025 ADMISSIONS INTO INTERNATIONAL MASTER'S PROGRAMME IN  
ENERGY AND GREEN HYDROGEN TECHNOLOGY (IMP-EGH):  
SPECIALITY: BIOENERGY / BIOFUELS AND GREEN HYDROGEN  
TECHNOLOGY**

## 1. Background

The West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) is an inter-governmental organization funded by the German Federal Ministry of Education and Research (BMBF), multilateral and bilateral partners and its West African member countries. WASCAL under the sponsorship of the Division 722 of BMBF is pleased to announce application for its Interdisciplinary Master Program 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, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.

WASCAL is a West African international organization with focus on capacity building, academic and transdisciplinary research, climate and environmental service provision. It cooperates with many agencies and universities in the region, providing a knowledge platform of excellence for its partners.

Given the fact that Climate Change management (adaptation and mitigation) strategies require an integrated, interdisciplinary and multi-sectorial approach, the International Master Programme in Energy and Green Hydrogen (IMP-EGH) is designed to prepare the next generation to address the energy challenges of adaptation and resilience to Climate Change in West Africa. The programme will equally allow a better understanding of present-day energy infrastructures in West Africa, their strength and weaknesses, energy policies,

practices in a Changing Climate context and the search for sustainable solutions.

## **2. Mission**

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

## **3. Objectives**

### **a) General objective**

The main objective of this Master's Programme is to prepare and train a new generation of interdisciplinary professionals capable of proposing adapted solutions to ongoing energy crisis.

### **b) Learning outcomes**

Upon completion of their study, graduates are expected to:

- demonstrate an understanding of 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;
- and particularly apply bioenergy and Hydrogen technologies in sustainable renewable energy sector.

## **4. Job opportunities**

- The expected employment opportunities after this training are national and international government agencies, research institutions,

extractive industries and energy producers and distribution companies, power-intensive industries, transportation companies, mining industries, and equipment engineering.

- Employment will also be found in environmental consulting companies, with local and international NGOs interested in environmental and energy issues. Graduates with high research capacities will also be able to integrate a relevant PhD programme.
- Graduates are also skilled to self-employment through bioenergy producing startups

## **5. Eligibility criteria**

This International Master's Programme in Energy and Green Hydrogen (IMP-EGH) is open to candidates,

- i. from West African countries (Benin, Burkina Faso, Cabo-Verde, Côte d'Ivoire, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, The Gambia and Togo);
- ii. with a minimum background of a Bachelor of Science. degree or equivalent in scientific discipline or in engineering, technical strengths in physics, (bio)chemistry, electrical or mechanical engineering or equivalent;
- iii. who are not more than 35 years old at the end of December 2024;
- iv. who have a good English proficiency (this will be an asset for final selection).

## **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 interactive activities with stakeholders and one (1) year practical laboratory/field work, thesis write up and defense

## Training

The training includes modules divided into semesters and specified in the following way:

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
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
<b>Semester 3: school specialty</b>	Bioenergy and hydrogen production technologies (gasification, pyrolysis, steam reformation)	30
	Bioenergy Fuel cells and hydrogen technologies	
	Hydrogen storage systems	
	Bioenergy and hydrogen technologies safety and risk management	
	Research methodology	

### 6.1. Research

Semester 4 and 5 are devoted to research on energy and green hydrogen and Practical Laboratory/field work and thesis writing in Germany.

Semester 4	Phase I: Writing and validation of the research project Phase II: Field study	30
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	Phase III: Practical Laboratory/field work and thesis writing in Germany	
	Phase IV: Master Thesis finalisation, defense and graduation in University of Lome	

## 7. Working Language

The International Master's Programme in Green Hydrogen is a structured programme with English as language of instruction. Successful candidates must have a background in English which could allow them to follow the planned classes. To improve language skills, English language courses will be offered by WASCAL to selected Francophone students at the University of Cape Coast (Ghana), to help them meet entry requirement. Anglophone students will also be given the opportunity to take French language courses at Université de Lomé (Togo). The Language Course is geared towards fostering future professional communication, collaboration, negotiations and friendships between the French and English-speaking students.

## 8. Application procedures

- Application 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 all period of master program. Reference letters must be written in English or French and must be signed / stamped;
- Photocopies of Passport and national identification card; and
- Certified copies of WAEC/WASSCE diplomas and transcripts (Baccalaureate II) and Bachelor (BSc). *Additionally, Diplomas in other languages than French should be translated into French language.*
- Copy of Nationality;
- Copy of birth certificate;

- Telephone number and e-mail address of Secondary School last attended and also the University attended;
- The course syllabus of BSc;
- All the required documents must be scanned in a single sheet and sent through emails provided.

## 9. Selection procedures

- Only short-listed candidates will be notified for interviews.
- Interviews will be done in English by a committee.
- Final selection: one student per country will be selected for Bioenergy and Hydrogen Technology.
- **The selected candidate will be required to provide the name and contact details of a guarantor who will also sign the contract.**
- A scholarship letter will be sent to the selected candidate from WASCAL Headquarters.

## 10. Duration

30 months.

## 11. Scholarship and research support

- Scholarship: 400 Euros per month;
- Accommodation supported by the school
- Research Budget
- Travel ticket for language courses in Cape Coast or Lomé
- Travel ticket to the country of specialisation
- Round trip ticket to Germany
- Tuition
- Return ticket to home country

## 12. Self-funding

The German Ministry of Education and Research (BMBF) will grant support to selected candidates. Self-funded candidates or candidates with other sponsorships can, however, register for the programme.

### 13. Application address

Candidates may apply directly to the GRP CC&GH at Université de Lomé. All requested documents should be sent via e-mail to Professor Komi AGBOKA's secretariat: [wascal@wascal-togo.org](mailto:wascal@wascal-togo.org) and copy to [hydrogen@wascal-togo.org](mailto:hydrogen@wascal-togo.org) and [cbd.hydrogen@wascal.org](mailto:cbd.hydrogen@wascal.org) Deadline for applications: April 30th 2025.

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