



**CALL FOR APPLICATIONS**  
**WITH**  
**(FULL SCHOLARSHIP AVAILABLE)**  
2021 ADMISSIONS INTO INTERNATIONAL MASTER'S PROGRAMME IN ENERGY  
AND GREEN HYDROGEN TECHNOLOGY (IMP-EGH):  
SPECIALTY: PHOTOVOLTAIC AND SYSTEM ANALYSIS FOR GREEN  
HYDROGEN TECHNOLOGIES

---

## 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 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.

Through this present call, Abdou Moumouni University of Niamey is launching its Master's Research Programme (MRP) in Green Hydrogen for the 2021-2022 academic year. The programme provides full scholarship to successful candidates from ECOWAS member countries. Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.. Potential candidates are invited to submit an application for selection.

## **2. Missions**

The IMP-EGH Option Photovoltaics and Green Hydrogen is designed to prepare the next generation to address the energy challenges through hydrogen production by using renewable energy technology (Photovoltaics). The program interdisciplinary approach allows a better understanding of green hydrogen technologies with a strong background on the West Africa energy infrastructures, their strength and weaknesses, energy policies, practices in a changing climate context and the search for sustainable solutions from renewable energy.

## **3. Objective**

The main objective of this MRP is to prepare and train a new generation of interdisciplinary researchers capable of proposing adapted solutions to face the above-mentioned climate change and energy crisis. Upon completion of their study, graduates are expected to be able to:

- 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 deep comprehension of hydrogen production through renewable energy (solar Photovoltaics), hydrogen storage and consumption, environment safety with special emphasis on energy efficiency, energy management and local available renewable energy.

## **4. Job opportunities**

For students who are not willing pursuing into a PhD Programme, expected employment opportunities after this formation are national and international government agencies, research institutions, extractive industries and energy

processing companies, such as oil companies, the mining industry, power producers, and equipment builders. Employment will also be found in environmental consulting companies, with local and international NGOs interested in environmental and energy issues.

## **5. Eligibility criteria**

The IMP-EGH Option Renewable Energy (Photovoltaics) and Green Hydrogen Technology is opened to excellent students with a bachelor (Licence in French) in scientific or in engineering disciplines with (Mention “Assez-bien” or Second Class Upper or equivalent). Candidates with technical strengths in Chemistry, Physics, Electrical or Mechanical Engineering are preferred.

Requirements of candidates to the programme:

- i. Completed application form;
- ii. Be citizen of one of the ECOWAS member countries: Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo;
- iii. Submit a letter of motivation (2 pages maximum: Why you want to study CCE; Why you are well-suited to this programme, How this programme will fit into your professional vision, How your home country and west-Africa stand to benefit after your training, any other relevant information and/or experience);
- iv. Provide all transcripts and copies of diplomas,
- v. Provide letters of recommendation from two references,
- vi. Provide a detailed Curriculum Vitae,
- vii. Fee-paying form,
- viii. Evidence of current and previous employments (if applicable)
- ix. Francophone candidates must have an intermediate level of English (see Language section below).

## **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
<b>Total credits</b>		<b>30</b>
Semester 2	Conventional energy and Energy security	3
	Renewable Energy	6
	Green Hydrogen	6
	Renewable energy (RE) Technologies and Applications (Photovoltaics)	6
	Energy systems and infrastructure	6
	Energy Policy and Market	3
<b>Total credits</b>		<b>30</b>
Semester3: Specialization Photovoltaic and system analysis for Green Hydrogen Technologies	Photovoltaics Technology	9
	Hydrogen technology	9
	PV4H2 (Hands-on activity)	6
	Research methodology	6
<b>Total credits</b>		<b>30</b>

## 6.2 Research

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

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 UAM

## **7. Language requirement**

The Master Research Programme in Green Hydrogen will be conducted in English.

Please note that a 4-month English proficiency course will be provided to selected francophone students at the University of Cape Coast, in Ghana, to help meet entry requirements.

## **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 programme (if applicable). 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**

Duration of the Graduate Research Programme in Renewable Energy and Green Hydrogen (RE-H2) is up to 28 months including 4 months' language training. During the course work phase, students will be required to develop a detailed research programme (proposal) (including budget). The proposal plan should be completed validated the student's principal advisor and the MRP Director before.

## 11. Scholarship and research support

- Scholarship: 250 Euros per month
- Research Budget
- Travel ticket for language courses in Cape Coast or Lomé
- Round trip Travel ticket (Niger –home country)
- Travel Ticket to Germany
- Tuition

## APPLICATION PROCEDURE AND CONTACT

Candidates may apply directly to the Master Research Programme by sending all required information to: [drp-cce@wascal-ne.org](mailto:drp-cce@wascal-ne.org)

### ***Please copy to:***

✉ [cbd.hydrogen@wascal.org](mailto:cbd.hydrogen@wascal.org) [rabadamou@wascal-ne.org](mailto:rabadamou@wascal-ne.org) ,  
[Maman maarouhi@yahoo.fr](mailto:Maman_maarouhi@yahoo.fr) ;

The application form can be obtained via  
[www.wascal-ne.org](http://www.wascal-ne.org) or at [www.wascal.org](http://www.wascal.org).

Deadline for application: April 30<sup>th</sup>, 2021.