

Decision No. EI-2024-37 on the accreditation of the M.Sc. Future Energies, delivered by the Federal University of Technology, Owerri, Nigeria

The President of the High Council for the Evaluation of Research and Higher Education,

Considering the Research Code, in particular Articles L. 114-3-1 to L. 114-3-6;

Considering the Board's deliberation of 29th September 2022 on the accreditation criteria for courses abroad (excluding doctoral/PhD programmes);

Considering the Decision No. 2023-9 of 16th March 2023 on the international accreditation procedure of the High Council for the Evaluation of Research and Higher Education;

Considering the agreement DEI_2023_CONV17 of 14th June 2023 for the evaluation/accreditation of fourteen training courses, delivered by six Centres of Excellence in Nigeria;

Considering the opinion issued by the Accreditation Commission on 18th June 2024;

Decides:

Article 1

Noting that the M.Sc. Future Energies delivered by the Federal University of Technology, Owerri, in Nigeria meets the four accreditation criteria, voted by the Board of the High Council on 29th September 2022, as follows:

ACCREDITATION CRITERION 1: TRAINING POLICY AND CHARACTERISATION

The M.Sc. Future Energies programme aligns perfectly with one of the four strategic areas defined by the Federal University of Technology Owerri, focusing on Energy and Environment. It also supports national plans for the development of renewable energies in Nigeria. The programme adopts a well-constructed multidisciplinary and interdisciplinary approach, leveraging the University's Departments and their research laboratories. As a key component of the Africa Centre of Excellence in Future Energies and Electrochemical Systems (ACE-FUELS), established in 2019, it operates alongside with its own research laboratory. Building upon various science Bachelor's degrees (chemistry, physics, etc.), the programme serves as a pathway to a Ph.D. within the ACE-FUELS.

Academic partnerships extend from the national level (laboratories within the same university but also other universities in Nigeria), to the international level, including collaborations with universities in the East Africa sub-region (in particular a network bringing together several West Africa Centres of Excellence on Energy Network WACEENET), and other continents. These partnerships have facilitated outgoing exchanges and attracted nine foreign students from the sub-region during the evaluated period. The programme is encouraged to further enhance and sustain these international links, particularly in terms of outgoing mobility opportunities.

Students engage in well-structured and supervised research projects over two years, with the requirement of an accepted article before graduation. Students benefit from various communication tools and have access to extensive documentary resources, both physical and online. While the existing research facilities are varied, additional resources would be beneficial. Extensive partnerships with the socio-economic sector, both nationally and internationally, contribute to programme development and offers opportunities for involvement in courses for professional seminars. The programme also delivers several structured professional courses tailored to various external audiences. The programme has established its own entrepreneurial structure in renewable energies, providing students with exposure to real-world industrial contexts and dedicated entrepreneurship courses.

ACCREDITATION CRITERION 2: THE PEDAGOGICAL ORGANISATION OF THE STUDY PROGRAMME

The programme is meticulously structured, featuring compulsory and elective aligned with one of the five possible pathways: Solar Energy, Bioenergy, Clean Hydrocarbon, Geothermal Energy, and Hydrogen Energy. It encompasses a research project and a one-to-six-month internship, both culminating in written and oral reports. The programme's content, objectives, and desired skills are clearly defined and accessible to all.

A diverse array of teaching methods is employed, ranging from online courses to flipped classroom approaches, facilitated by an online learning platform and industry contributions. Throughout their academic journey, students receive guidance from both a supervisor and a dedicated person at the Centre. Foreign students are provided with an English language refresher course to support their integration. The programme offers numerous and varied opportunities for further training through collaborations with socio-economic partners.

ACCREDITATION CRITERION 3: ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE STUDY PROGRAMME

The programme employs a variety of virtual and physical channels to enhance its attractiveness. Its robust policy to attract regional students, including full scholarships, accommodation, and language support programme, has led to enrolment of nine students from multiple countries (Senegal, Egypt, Tanzania, Sierra Leone, Liberia, and Ghana). However, there is room for improvement in overall student enrolment and access to full scholarships for Nigerian students. The programme diligently monitors student progress through a structured assessment protocol, which informs ongoing improvements to teaching plans and support measures. Additionally, the programme has implemented the graduate tracer mechanism developed by the AAU to track the progress of alumni, with this data publicly available on the Centre's website. Nonetheless, the requirement to publish in peer-reviewed journal has hindered the graduation process, resulting in only three graduates since 2020.

ACCREDITATION CRITERION 4: MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE ACADEMIC PROGRAMME

The programme's organisation and management are transparent and cohesive, with collaborative management at the ACE-FUELS level, a dedicated programme coordinator, and clear allocation of responsibilities for courses and content at the lecturer level. The lecturers, sources from FUTO University, possess diverse expertise required for interdisciplinary approaches, supplemented by professionals from the socio-economic world and from foreign universities. Sufficient teaching and technical/administrative staff ensure the smooth operation of the programme, with opportunities for further training, particularly on an international scale, which could be expanded upon.

Course evaluations by students and lecturers contribute to ongoing improvements, supported by a comprehensive plan at the Centre level. Various bodies oversee different aspects of the programme, including a student representative, although increased student representation in management bodies could be beneficial. Recruitment, assessment, and graduation procedures are well-defined and accessible, meeting the University's standards.

Quality assurance measures, in collaboration with the University of Nigeria, underscore the programme's commitment to maintaining high standards. Continuous improvement is evident through regular surveys, both internal and external evaluations, and alignment with university admission requirements. The programme's accreditation by the NUC for five years further solidifies its commitment to delivering a high-quality education.

Article 2

The M.Sc. Future Energies delivered by the Federal University of Technology, Owerri, in Nigeria, is accredited for a period of five years from the date of this decision.

Article 3

The decision is accompanied by the following recommendations and comments:

- In order to increase the attractiveness and number of students, it is suggested to multiply interventions in forums, congresses, publications on social networks and websites, as well as mobilising the alumni network and the socio-economic partners.
- Define the role of the student's representatives in the different bodies at least within the programme and Centre, and organise an elective process to involve students in these bodies.
- Teaching, administrative and technical staff could be trained inside the FUTO University, but also through training sessions centralised in Abuja for all universities. More staff members could also benefit from the two international networks WACEENET and TEA-LP.



Pursue the policy of renewing and purchasing research equipment in the programme's research themes such as solar panels or wind energy.
Use and develop the international networks in order to give students more opportunities for international outgoing mobility.

Article 4

This decision will be published on the Hcéres website.

Paris, 27th June 2024.

The acting President
signed

Stéphane Le Bouler