Master of Science in Sustainable Energy Engineering

INTRODUCTION

Energy is fundamental to the economic and social prosperity of the world. Renewable energy is a "people serving" field: its clean and sustainable use protects the environment and is a foundation for the sustainable development of a nation. This requires well-qualified and motivated students who seek to be the future leaders within their profession.

The Master of Science (MSc) in Sustainable Energy Engineering is designed for the 21st Century sustainable energy needs, with the skills and understanding in thermal engineering, power generation, materials selection, manufacturing, computational and engineering techniques that are essential to design and develop integrated renewable systems with the focus to facilitate sustainable energy access for all.

PROGRAMME OBJECTIVE

The purpose of the Sustainable Energy Engineering (SEE) Program is to provide state-of-the-art education in the fields of power generation, distribution, and energy utilization in the built environment by means of economically, socially and environmentally friendly energy systems and technologies. The specific objectives of the program are:

- To produce professional scientists with the necessary skills and knowledge of the energy sector to solve world energy related problems through demonstrated principles of engineering practices
- To produce experienced engineers with the ability to design, conduct, and act on assessments and evaluations of energy generation, distribution, consumption, energy efficiency and marketing
- To produce professionals who are able to demonstrate an understanding that energy issues are embedded in politics, socioeconomic development, and multi-sector issues.

ADMISSION REQUIREMENTS

- B.Sc. Degree or equivalent from an accredited or recognized university in one of the following subjects: Mechanical Engineering, Chemical Engineering, Industrial Engineering, electrical engineering, Energy engineering, Bioengineering
- For regular program: A Grade Point Average (GPA) for the Bachelor study of at least 2.75 out of 4 scale maximum or 62.5% of the scale maximum.

Design and layout by Liechtenstein Institute for Strategic Development

MSc in Sustainable Energy Engineering Courses	
Introduction to Energy Technology	MEng6211
Computational Fluid Dynamics and Heat Transfer	MEng6212
Energy Economics and Policy	MEng6214
Research Methods and Seminars	MEng6215
Solar Energy	MEng6221
Bio-energy	MEng6222
Wind Energy	MEng6223
Hydro Energy	MEng6224
Alternative Energies	MEng6225
Energy Conservation and Management	MEng6231
Modeling and Simulation in Energy Technology	MEng6232
Hybrid Energy Systems	MEng6233
Experimental Methods for Engineers	MEng6234
Off-Grid Energy Systems	MEng6236
Master Thesis	MEng6241

RENEWABLE ENERGY TECHNOLOGY RESEARCH

Solar PV System
Solar Water Heating Systems
Solar Water Distillation Systems
Solar Cookers
Solar Injera Baking
Solar Dryer
Wind Mill
Wind Solar Hybrid Power System
Small Scale Wind Turbine Blade

First batch MSc Graduates 2011

Renewable Energy Technology Research by MSc graduates and staff

CONTACT US

Thermal and Energy Systems Chair
School of Mechanical and Industrial Engineering
Ethiopian Institute of Technology – Mekelle (EiT-M)
Mekelle University
Mekelle, Ethiopia
Tel: +251-344 40 40 05
Fax: +251-344-40-5239
P.O.Box: 231
Email: thermal.energy.chair@gmail.com

Design and layout by Liechtenstein Institute for Strategic Development

Liechtenstein REED/TEA-LP Scholarship

QUALIFIED STUDENT SUPPORT FOR THE ENERGY ACCESS – LEARNING PARTNERSHIP INITIATIVE AT MEKELLE UNIVERSITY

CALL FOR 2020 APPLICATIONS

The scholarship supports pre-selected students in the Master of Science in Sustainable Energy Engineering programme at Mekelle University.

The Liechtenstein Institute for Strategic Development with support by the Government of Liechtenstein is pleased to provide its support in the Transforming Energy Access Learning Partnership (TEA-LP) program at selected universities across Africa, in keeping with a number of UN Sustainable Development Goals - including #7: affordable and clean energy for all.

This Master of Science in Sustainable Energy Engineering programme at Mekelle develops the next generation of generation of Ethiopian experts to grow the renewable energy access sector across the country's industries, cities, towns and communities. Web site: http://www.mu.edu.et/index.php/academic/programs/postgraduate/

The Liechtenstein Institute for Strategic Development is dedicated to the integration and proliferation of renewable energy in infrastructure, urban and regional development internationally. Its scholarship is supported by the Government of Liechtenstein's international development program. Web site: https://www.eurisd.org

The TEA-LP builds the human capital to increase sustainable access to energy for all across Africa. It is funded by UK Aid, currently supporting eight African universities in the development of post-graduate curricula for sustainable energy access. Web site: https://tea-lp.org

ELIGIBILITY AND HOW TO APPLY

Successful candidates will be supported by an annual stipend to complete the programme within two years. To apply, applicants must first meet the admission requirements of Mekelle University and the MSc in Sustainable Energy Engineering. Scholarships will be awarded on basis of academic excellence, financial need, commitment to community renewable energy access in Ethiopia as well as contribution to cultural and social diversity goals.

Design and layout by Liechtenstein Institute for Strategic Development

REQUIRED DOCUMENTS

- Completed scholarship application form - available at https://tinyurl.com/y8wu2hu9;
- Two letters of recommendation, by university professors, supervisors and/or employers;
- A Letter of Motivation of between one and three pages (400-1200 words) to explain the applicants' academic and professional goals and illustrate how these relate to their future career in renewable energy access. Describe a) background of applicant; b) why the scholarship is important to the applicant; c) goals and academic and/or career plans; d) why the master course was chosen; and e) wider community and societal implication of renewable energy based engineering programs in providing sustainable energy access for all.
- Establishment of financial need – At least one of the following:
  - Certified copy of applicant's most recent tax return,
  - Certified copy of applicant's bank statements for the past six months,
  - Certified copy of parents' most recent tax return if the applicant does not work,
  - Other forms of documentation (corroboration by local administration etc.)

Please send required documents via email to thermal.energy.chair@gmail.com, keeping the file size below 10 MB), or in person at the Thermal and Energy Systems Chair, School of Mechanical and Industrial Engineering, EIT-M, Mekelle University.

APPLICATION DEADLINE

Applications are due by **July 31, 2020.**

AWARD INFORMATION

The scholarship is awarded for a maximum of two years, renewable annually subject to merit and maintenance of an acceptable level of academic performance.

The scholarship is designed to supplement living expenses such as accommodation, food and/or other related educational expenses at the recipients' discretion. The amount is related to the Ethiopian Cost of Living index and other factors and scaled to include an annually inflation adjustment allowance. Scholarship payments are issued once we have approved the required award application and all necessary verification documents, and an award agreement has been signed. Selections are made by a committee including LISD, TEA-LP and Mekelle University representatives.

A recipient of the scholarship for the first year does not automatically receive it in the following. To receive the award for the second year, applicants will need to maintain their grade average, meet any other required criteria and submit required renewal materials for additional payment. Payments are made quarterly.

EXPECTED OUTCOMES

Scholarship recipients are required to:

- complete all mandatory courses in time,
- maintain good grades and high performance standing,
- submit a first year statement of insights and academic progress as application for the second year, and
- present a final report on experience, lessons and final academic results.

MORE INFORMATION

Applying to the
MSc in Sustainable Energy Engineering:
Dr. Mulualem Gebregiorgis Gebreslassie
mulualem.gebregiorgis@mu.edu.et

General background on the
Liechtenstein REED/TEA-LP **Scholarship:**
Professor Peter Droege, Liechtenstein Institute for Strategic Development AG
REED@eurisd.org

Design and layout by Liechtenstein Institute for Strategic Development