

Curriculum Vitae –Emmanuel Yeboah Asuamah



Ing. Emmanuel Yeboah Asuamah

(MSc. Sustainable Energy Management, BSc. Renewable Energy Engineering, Certified Energy Audit Practical Professional, and Professional Engineer)

Born on 3rd May 1991 in Kintampo, Ghana

Ghanaian National

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Summary

A dynamic Energy Engineer with over five years' experience in research and training in sustainable energy and renewable energy systems modeling. I also have experience in employing modern tools in the design and assessment of renewable energy systems, energy policy & planning as well as competence in the use of Microsoft tools to solving engineering problems.

Skills & abilities

- ❖ Proficient in the design and installation of solar PV and thermal systems
 - ❖ Excellent in Energy Auditing and in the use of Energy Auditing instruments
 - ❖ Very conversant with electricity market
 - ❖ Good in the use of energy software such as RETScreen, Homer, PVsyst, WAsP, LEAPetc.
 - ❖ Skillful in the use of computer software such as Microsoft Office, Microsoft Visio, SPSS tool, etc.
 - ❖ A strong result-based person with the ability to prepare a substantive report
 - ❖ Human resource management skills
 - ❖ Good team worker
 - ❖ Excellent in communications and writing skills
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Education

MSc. Urban and Environmental Planning

February 2020 – June 2020

Aalborg University, Aalborg Denmark

(2nd Year select programme, Erasmus+ International Credit Mobility)

Sponsorship from: Erasmus Grant for an Erasmus+ International Credit Mobility at Aalborg University

Project: The Impacts of EV Charging on the Danish Energy System_How will the increase of EV charging in 2030 and 2050, influence the energy system of Denmark, and which institutional changes are necessary to overcome the associated challenges.

MSc. Sustainable Energy Management **September 2017 to August 2019**
University of Energy and Natural Resources, Sunyani, Ghana
Dissertation Support: Mobility Grant from African-German Network of Excellence in Science (AGNES), the Grant is generously sponsored by the German Federal Ministry of Education and Research and supported by the Alexander von Humboldt Foundation.
Dissertation title: Potential of Meeting Electricity Needs of Off-Grid Community With Mini-Grid Solar Systems and Assessment of Shading Effects on Electricity Output.

BSc Renewable Energy Engineering **September 2012 to June 2016**
University of Energy and Natural Resources, Sunyani, Ghana

Ghana Senior High School, Tamale, Ghana
WASSCE Certification, in science **2008 to 2012**

Experience **Assistant Research Fellow,** **February 2021 to date**
Regional Centre for Energy and Environmental Sustainability, University of Energy and Natural Resources, Sunyani.

- ❖ Conduct Research and Coordinate Research Activities of the Centre
- ❖ Teach at Undergraduate Level
- ❖ Supervise or Assist with the Supervision of Undergraduate Students.
- ❖ Contribute to the Development, Planning, and Implementation of a High-Quality Curriculum
- ❖ Grants and Proposal Writing for the Center
- ❖ Coordinates Center's Seminars, Workshops, Short Courses, and Training

Field Officer for Gendered Design in STEAM (GDS) in Lower and Middle-income Countries (LMIC), RCEES Work Package under the program is to develop an Energy access strategy for disadvantaged communities in Ghana.

- ❖ Prepared a survey questionnaire to conduct the Study
- ❖ Trained field enumerators on how to use data collection tool (KOBO COLLECT) and Supervised them during field data collection at Inland and Island communities in Ghana
- ❖ Reviewed daily data collected by each enumerator
- ❖ Conducted Focus Group Discussions and Key Informant Interviews

Project Technical Officer **May 2019 to February 2021**

Regional Centre for Energy and Environmental Sustainability, University of Energy and Natural Resources, Sunyani.

- ❖ Teach at Undergraduate Level
- ❖ Supervise or Assist with the Supervision of Undergraduate Students
- ❖ Contribute to the Development, Planning, and Implementation of a High-Quality Curriculum
- ❖ Grants and Proposal Writing for the Center
- ❖ Coordinates Center's Seminars, Workshops, Short Courses, and Training

Sub-Consultant

November to December 2018

Socioeconomic impact study for mini-grid and stand-alone solar PV systems electrification Under scaling-up renewable energy program (SREP) of the Ministry of Energy (MoE).

- ❖ Successfully prepared a survey questionnaire to conduct a Socioeconomic Impact Study
- ❖ Successfully trained 20 field enumerators on how to use data collection tool (KOBO COLLECT),
- ❖ Supervised 15 enumerators during field data collection at Inland and Island communities in Ghana.
- ❖ Successfully reviewed daily data collected by each enumerator and prepared a detailed technical report on 30 communities'
- ❖ Conducted Focus Group Discussions and Key Informant Interviews
- ❖ Determined the existing energy markets and economic Activities of the communities;
- ❖ Defined the general socio-economic character of the communities, including local community resource management structures and practices;
- ❖ Determined the Willingness-to-Pay (WTP) for mini-grid electricity services;
- ❖ Assessed the potential impact of mini-grid electrification on general socio-economic activities of the communities;
- ❖ Determined the current energy demand and forecast growth in energy demand of the communities disaggregated as number of households, public services, and commercial (productive use) customers;
- ❖ Identified opportunities and barriers to the implementation of mini-grid renewable energy electrification;
- ❖ Assessed the capacity needs in the communities and recommended participatory solutions for the successful implementation of a sustainable RE-based mini grid rural

Senior Research Assistant

3rd December 2018 to May 2019

University of Energy and Natural Resources, Sunyani.

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- ❖ Teaching of undergraduates in the areas of Solar Thermal Technology, Solar PV systems, Energy Management, Smart Grid Technology, etc
 - ❖ Research works and Proposal writing
 - ❖ Collaborated with other staff members to plan and schedule lessons promoting learning and student engagement
 - ❖ Assessed students' performance through marking of homework assignments, tests, and special project
 - ❖ Conducted practical training section of solar training sponsored by COTVET, SDF and organized by the Department of Energy and petroleum Engineering -UENR

Solar Training & Installation Experience and China South-South Project

The University of Energy and Natural Resources (UENR) has been organizing hands-on solar PV training to provide trainees with an advanced practical knowledge required for safe, codecompliant design and installation of photovoltaic (PV) systems, with a focus on both grid and off-grid solar electric systems. UENR also provide competent installation works for homes, institutions, and companies both at local and international level.

- ❖ Successfully trained 75 Students in the design and installation of Solar Home Systems
- ❖ Successfully led a team of 6 in developing a field manual for the solar home system for beneficiaries (Off-Grid Communities).
- ❖ Successfully installed 250 solar streetlights on the campuses of UENR
- ❖ Successfully installed 500 solar home systems in off-grid communities (Both Inland and Island communities).

Teaching, Technical and Research Assistant **1st September 2016 to December 2018**

University of Energy and Natural Resources, Sunyani.

- ❖ Instructor for short courses in solar thermal and Solar PV design and Installation.
- ❖ Teaching of undergraduates in the areas of Solar Thermal Technology, Solar PV systems, Energy Management, Smart Grid Technology, etc
- ❖ Implementation of Ghana China South-South Cooperation project

- ❖ Writing of proposals for the department

- ❖ Conducted experiments in the renewable energy laboratory to support students research

Project Facilitator

20th June to 11th August 2016

University of Energy and Natural Resources, Sunyani-ENERGY GROUP

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- ❖ Worked as a facilitator to train students how to perform load estimation, analyze a renewable energy project and install solar home systems and solar streetlights.

Research Assistant(Intern)14th April to 10th July 2015

The Energy Center, Kwame University of Science and Technology, KNUST.

- ❖ Worked on African union project dubbed "Potential of Distributed Grid-Connected Solar Photovoltaic (PV) Systems in Rural Electrification in Africa”
- ❖ Assisted in the organization and training of short courses in Renewable Energy Technologies

Technical Assistant (Intern)

Northlite Solar Limited, Bolgatanga 5th July 2014 to 16th August 2014

- ❖ Aided in the design of solar PV systems
- ❖ Helped in installation of several systems for customers.
- ❖ Helped in sales of solar products.

Leadership

Project Coordinator: China-Ghana South-South Cooperation Project on Renewable Energy, University of Energy and Natural Resources- 1st September 2016 to date.

Awards

- ❖ Erasmus Grant for an Erasmus+ International Credit Mobility,2020
- ❖ African-German Network of Excellence in Science (AGNES) mobility grant Award 2018
- ❖ Mentoring for Research Programme (MRP) -African initiative of the International Support Network for African Development (ISNAD Africa). 2018

Certificates

- ❖ Certificate of Participation, TOT energy audit practical professional organized by MiDA **31st August to 4th September 2020**
- ❖ Certificate of Completion Energy Audit Practical Professional (EAP), the Energy Commission, Ghana **December 16-20, 2019.**
- ❖ Certificate of Attendance, TOT on Solar Thermal held at the Centre for Renewable Energy and Industrial Maintenance (CERMI). Implemented CERMI and LuxDev, **Cape Verde November 2019**
- ❖ seminar organized by Biogas Institute of the Ministry of Agriculture on Biogas Promotion and Management for Developing Countries, Chengdu, **China May to June 2019.**
- ❖ Certificate of Participation, Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa. Erasmus+ Project No. 586416 **3-4 May 2019**
- ❖ Training Certificate, Technology of Solar Home Systems for Addressing Climate Change. **8th March 2017.**

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- ❖ Certificate of completion, principles of Midea Inverter Air-conditioner, Product Training of PA402 Inverter Series and Installation of Wall-mounted Split A/C., **21st to 22nd November 2016.**
 - ❖ Course Completion Certificate, “Training Course on LED Light Installation” organized by Zhejiang Yankon Group Co. Ltd, **June 30th to July 1st, 2016.**
 - ❖ Certificate in Occupational Health and Safety Management-Global Executive Health and Safety Management Consult. **14th May 2016.**
 - ❖ Certificate of Participation, “African Young Leaders and Entrepreneurs’ Summit, **24th October, 2015.**
 - ❖ Certificate of Participation, Workshop; Capacity Building for Optimized Jatropha Cultivation and Utilization, The Energy Center, KNUST, **8th to 12th June, 2015.**
 - ❖ Certificate of Participation, “Renewable Project Analysis Short Course”, the Energy Center, KNUST. **1st to 5th June, 2015.**
 - ❖ Certificate of Participation, “Biogas Design and Construction Short Course”, The Energy Center, KNUST, **25th to 29th May, 2015.**
 - ❖ Certificate of Participation, Short Course in Design and Installation of Stand-alone Solar PV Systems, The energy center, KNUST, **18th to 22nd May 2015.**
 - ❖ Certificate of Participation, for participating in the 2014/2015 SRC leadership seminar, University of Energy and Natural Resources
 - ❖ Record of Completion, RE100: Introduction to Renewable Energy, **22nd September, 2014**
 - ❖ Certificate of Participation, SRC leadership seminar, University of Energy and Natural Resources, **October 2012.**
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Research Interest

- ❖ Demand-side management strategies (Energy Efficiency and Demand Response)
 - ❖ Renewable energy technologies: Solar, Wind, etc.
 - ❖ Energy economics and Policies
 - ❖ Energy & exergy optimization/thermo-economic analysis on power plant
 - ❖ Rural Electrification
 - ❖ Renewable Energy Mini-Grid Systems
 - ❖ Smart and Electric Vehicles
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Publications

- ❖ **Asuamah, Y. E.**, Gyamfi, S., & Dagoumas, A. (2020). Potential of meeting electricity needs of off-grid community with mini-grid solar systems. *Scientific African*, 11, e00675. <https://doi.org/10.1016/j.sciaf.2020.e00675>
 - ❖ Ikejiofor, O.E.; **Asuamah, Y.E.**; Njoku, H.O.; Enibe, S.O. Detection of Hotspots and Performance Deteriorations in PV Modules under Partial Shading Conditions Using Infrared Thermography. *Eng. Proc.* 2020, 2, 71.
 - ❖ Gyamfi S., Derkyi N.S.A, **Asuamah E.Y**, Aduako J.A. (2018) Renewable Energy and Sustainable Development. In Kabo-bah A; Diji, C. J., *Sustainable Hydropower in West Africa: 75 – 93.* Academic Press. An imprint of Elsevier. <https://doi.org/10.1016/B978-0-12-813016-2.00006-X>
 - ❖ Gyamfi S., Derkyi N.S.A, **Asuamah E.Y** (2018) The Potential and the Economics of Hydropower Investment in West Africa. In Kabo-bah A; Diji, C.J., *Sustainable*
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Referees

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