

BLESSING ONYECHÉ UGWOKE

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Energy Trilemma Researcher | Energy System Analysis, Policy and Planning Expert | Energy Consultant

PROFESSIONAL SUMMARY

An award-winning, self-motivated, and conscientious energy professional of more than three years with a variegated engineering education background. Invested in multidisciplinary learning and continuous development to hone solid business acumen, global growth and productivity mindset geared towards crafting and delivering efficient, clean, customer centric, just, and innovative energy solutions and services to ultimately provide ingenious value for organizations and their clientele.

Core Competencies and Achievements

- **Leadership and Management:** Manages resources, communications and drives collaborations across diverse teams working remotely and from different organizations, strong ability to motivate cross-cultural and multidisciplinary teams despite 40% reductions in manpower availability. Co-founded a non-profit organization invested in cultivating role model leaders with cross-cultural volunteers from all around the globe, championed communications and responsiveness of the board of directors such that facilitated 100% attendance in all board meetings, led and managed a team of Program officers to curate high impact programs that resulted in over 185% increase in Program attendance and over 140% in online viewership within two weeks of video upload.
- **Research and Project planning:** Performs research and project planning in the field of energy on research topics spanning energy system design and analysis, energy transition and energy policy localization. Identified the first 14 “low-hanging fruits” sites and provided the detailed system design for hybrid renewable energy-based mini grids to foster building a budding portfolio of shovel ready energy efficiency and rural electrification projects for investors, Principal researcher for renewable generation planning and project development within the sub-Saharan domain.
- **Project feasibility studies and Energy system modelling:** Performs feasibility studies, scenario analysis and energy system modeling for energy transition and local energy policy design based on system thinking approach, to support development of energy master plans, energy efficiency projects and customized clean energy policies. Established the published Integrated Rural Renewable and Sustainable Energy Planning (IR²SEP) framework for low-income countries to support energy-based economic development.
- **Business model design:** Robust business strategy formulation and design of innovative and sustainable business models for strategic deployment of integrated mini grids in low-income countries. Excerpts from the published business model have been incorporated in Nigeria's first commercial under grid mini grid project.

PROFESSIONAL EXPERIENCE

Junior Research Staff at Energy Center Lab, Turin, IT

11/2017 – Present

- Curate a data repository of local building typologies to address energy demand data paucity issues in low-income countries.

- Benchmark energy consumption of the local built environment and facilitate their energy audit to realize disaggregated energy demand profiles for future research endeavors.
- Supports the development, analysis, and design of renewable energy projects, such as site selection, renewable resource mapping, and feasibility studies.
- Crafts localized energy master plans to facilitate cost reductions in the budget plan for cost competitive energy supply solutions and enhance the development of localized energy policies.
- Manages cross-cultural teams doing research projects on energy transition and alternative food options from agricultural residues to deliver high-impact results, discover research frontiers and churn out scholarly articles for journals with wider readerships.
- Validates business model and review of energy system design for energy access project financiers to facilitate scale up of mini-grid deployment from 5 to 50 sites in the Niger Delta region of Nigeria.
- Published and standardized the integrated energy planning framework for localized energy planning in low income countries.

Projects

1. Study and planning of off-grid mini grids in Niger Delta region of Nigeria: methodology validation and case studies from Renewvia Energy Corporation (Ongoing)
2. Quantifying alternative food potential of agricultural residue in rural communities of sub-Saharan Africa (Ongoing)

Co-founder at Young Guru Academy (YGA) Italy, Turin, IT

05/2019 – 12/2020

- Co-founded YGA Italy, a non-profit organization invested in cultivating role model leaders with cross-cultural volunteers from all around the globe to furnish transformative social impact by leveraging on technology and make learning science fun for young children.
- Designed and streamlined the curriculum for science workshops for primary school students.
- Recruited volunteers to host practical science workshops and train young leaders to craft substantial solutions to the social challenges of today and tomorrow.
- Facilitated the implementation and successful completion of the Science Among Youth (SAY) project which birthed YGA Italy.
- Organized stakeholder engagements and business meetings for fundraising which had several high-profile investors in attendance including the chairman of Juventus Football Club S.p.A, the most successful Italian football club.

Projects

1. Science Among Youth Project Italy

Visiting Researcher at Michigan Tech's Open Sustainability Technology (MOST) Lab, Michigan, US 02/2020 – 08/2020

- Coordinated techno-economic feasibility studies on integrable renewable hybrid mini grids and facilitated greenhouse gas (GHG) emissions inventory of these systems to deliver opportunities for deploying 100% renewable energy and furthering the realization of the United Nations' goal of sustainable energy (SDG7) and sustainable cities and communities (SDG11).
- Championed research collaboration opportunities and international cooperation to foster collaboration between international universities and renowned research institutions.
- Facilitated the discovery of novel research frontiers for sub-Saharan African which are being translated to nascent research projects to secure new research grants for research partnerships.

- Designed and published sustainable business models for strategic deployment of community scale mini grids in low-income countries.
- Defined, modelled, and published opportunities for fusing demand side management into dispatchable renewable energy systems for rural applications to create local energy markets and unlock dividends for their local economies to the tune of more than 6000 new green jobs amounting to US\$ 10 million monetary value of job creation.

Projects

1. Development of the third and final segment of the Integrated Rural Renewable and Sustainable Energy Planning (IR²SEP) framework: detailed energy system planning, design, and configuration.

EDUCATION

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| mini-Master of Business Administration (mini-MBA) with Certificate in Business Innovation, Growth & Sustainability (CBIS), Boston, US | 2021-2021 |
| Tekedia Institute. | |
| Doctor of Philosophy, Energy Engineering Turin, IT | 2017-2021 |
| Politecnico di Torino | |
| Master of Science, Petroleum Engineering Abuja, NG | 2015-2016 |
| African University of Science and Technology, Overall GPA: 3.6/4.0 | |
| Bachelor of Engineering, Electrical and Computer Engineering, Niger, NG | 2007-2012 |
| Federal University of Technology Minna, Overall GPA: 4.52/5.0 | |

LEADERSHIP AND VOLUNTEER EXPERIENCE

Member at Editorial board of International Journal of Technical and Natural Sciences (IJTNS) Skopje, MK 07/2020 – Present

- Advise and support the editor on accepting and publishing novel and original research and reviews in the field of technical and natural sciences.
- Peer review of submitted manuscripts in this journal and in other high-impact journals including Environment, Development and Sustainability (ENVI) journal, Sustainable Cities and Society journal, Fudan Journal of the Humanities and Social Sciences (FDHS), and Asian Development Perspectives (ADP) journal.

Team lead and Programs Officer at African Women in Energy Development Initiative (AWEDI Network), NG 05/2020 – Present

- Leads and motivates a team of cross-cultural and multidisciplinary Program officers to churn out high-impact programs including the acclaimed and far reaching Awedi Conversations sessions and tailored Master Classes.
- Manages the recruitment and on-boarding process of ad-hoc Program officers.
- Curates high quality content and identify highly experienced speakers for the different programs and oversees the successful implementation of these programs.
- Facilitates program development related to all aspects of the energy industry and touching on the issues of diversity and gender inclusion and provides support project delivery across the other teams.

- Organizes and disseminates program activities calendar with plans that maximize participation/contributions across the team.

OTHER RELEVANT TRAINING

Power Africa Nigeria Power Sector Program (PA-NPSP) Aspire: Women's Leadership Development Course 1/03-12/03 2021

U.S. Agency for International Development (USAID)

Global Diplomacy for Energy Transition in Africa (GlobDETAA) program 10/09-30/09 2020

Fondazione Eni Enrico Mattei, Università per Stranieri di Perugia and The Sustainable Development Goals Center for Africa (SDGC/A)

Emerging African Innovation Leaders G7 Exchange & Empowerment Program 09/2018-09/2019

Politecnico di Milano and Politecnico di Torino

Advanced Training Course Deployment of renewable energy solutions: challenges and opportunities 12/09-23/09 2018

Renewable Energy Solutions for the Mediterranean and Africa (RES4Med, RES4Africa), and Enel Foundation

TOP STARS 2018 EIT Raw Materials Summer School, Trento 15/07-25/07 2018

European Institute of Innovation and Technology (EIT)

IEA Energy Efficiency in Emerging Economies Training 14/05-18/05 2018

The International Energy Agency (IEA)

4th ARE Energy Access Investment Forum: Integrating Remote Communities into Economies 13/03-15/03 2018

Renewable Energy Solutions for the Mediterranean and Africa (RES4Africa) and Renewable Energy Cooperation Programme (RECP)

SKILLS

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| ● Languages (English: native proficiency; Italian: limited working proficiency) | ● Building Beneficial Relationships | ● Microsoft Office 365 (Word, Excel, PowerPoint) |
| ● Continuous Improvement | ● Leadership | ● Meteororm |
| ● Strategic Business Planning | ● Team building and Training | ● Energy Plus |
| ● Program Conceptualization and Development | ● People, Resources and Time Management | ● QGIS |
| ● Data analytics and Presentation | ● Critical Thinking | ● LEAP model |
| | ● Research and Development | ● Homer Pro |
| | | ● PVGIS |

HONORS AND AWARDS

Award for a competition of ideas promoted by the Department of Energy, Politecnico di Torino 2020

Research grant for carrying out research activities on the topic "Study and planning of off-grid mini grids in Nigeria" 2020

PROFESSIONAL AFFILIATIONS

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| The Nigerian Society of Engineers (NSE), Corporate Member (Registration Number: 54053) | 2020-Present |
| The Pan-African Scientific Research Council (PASRC), Junior Fellow | 2021-Present |

PUBLICATIONS**Peer-Reviewed Journal Publications (Journal articles)**

1. Ugwoke, B., Gershon, O., Becchio, C., Corgnati, S. P., & Leone, P. (2020). A review of Nigerian energy access studies: The story told so far. *Renewable and Sustainable Energy Reviews*, 120, 109646. <https://doi.org/10.1016/j.rser.2019.109646>
2. Ugwoke, Blessing, Adeleke, A., Corgnati, S. P., Pearce, J. M., & Leone, P. (2020). Decentralized Renewable Hybrid Mini-Grids for Rural Communities: Culmination of the IREP Framework and Scale up to Urban Communities. *Sustainability*, 12(18), 7411. <https://doi.org/10.3390/su12187411>
3. Ugwoke, Blessing, Sulemanu, S., Corgnati, S., Leone, P., & Pearce, J. M. (2021). Demonstration of the Integrated Rural Energy Planning Framework for Sustainable Energy Development in Low-Income Countries: Case studies of rural communities in Nigeria. *Renewable & Sustainable Energy Reviews*, 144, 110983. <https://doi.org/10.1016/j.rser.2021.110983>
4. Ugwoke, B.; Corgnati, S.P.; Leone, P.; Borchiellini, R.; Pearce, J.M (2021). Low Emissions Analysis Platform Model for Renewable Energy: Community-scale Case Studies in Nigeria. *Sustainable Cities and Society*, 67 (November 2020), 102750. <https://doi.org/10.1016/j.scs.2021.102750>
5. M. Abdulkadir, B. Ugwoke, L.A. Abdulkareem, D. Zhao, V. Hernandez Perez (2021). Experimental investigation of the characteristics of the transition from spherical cap bubble to slug flow in a vertical pipe. *Experimental Thermal and Fluid Science*, 124. <https://doi.org/10.1016/j.expthermflusci.2021.110349>
6. Ugwoke, Blessing, Becchio, C., Corgnati, S., Leone, P., & Pearce, J. M. (2021). Adapting the European Typology Approach for Building Stock Energy Assessment (TABULA) for the Developing World. *Energy Efficiency Journal* (In review).

Peer-Reviewed Conference Proceedings

1. Pierluigi Leone, Romano Borchiellini, Stefano P. Corgnati, Andrea Lanzini, Chiara Delmastro, Leonardo Rosciarelli, Blessing Ugwoke, Enrico Vaccariello. The Energy Center Initiative at Politecnico di Torino: focus on Energy and Development in the sub-Saharan African Region. 3rd AIGE/IIETA International Conference and 12th AIGE Conference 2018 on "Energy Conversion, Management, Recovery, Saving, Storage and Renewable Systems", Reggio Calabria-Messina (Italy), 14-16 June 2018130
2. Blessing Ugwoke, Christina Becchio, Stefano P. Corgnati, Pierluigi Leone. A Nigerian perspective of Rural Electrification: a review of rural energy access studies, Blessing Ugwoke et al., Energy for Sustainability International Conference 2019, "Designing a Sustainable Future" Turin (Italy), 24-26 July 2019.
3. Ugwoke Blessing, Corgnati Stefano, Becchio Cristina, Leone Pierluigi. Reference Building Identification for Rural Nigerian Buildings, BlessingzUgwoke et al., the 14th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES) Dubrovnik (Croatia), 1-6 October 2019.

REFERENCES

Available on request