



Lawrence Agbemabiese (PhD)
Newark, Delaware 19702, USA
E-mail: agbe@udel.edu

WORK EXPERIENCE

- 07/2022 – Present **Independent Consultant**, Clean Air Task Force (CATF).
Currently leading a scoping study of utility planning, regulation, and performance in four African countries. Dr. Agbemabiese is working with domestic and international experts to identify and co-create actionable strategies for transitioning to low carbon power systems.
- 06/2020 - Present **Senior Research Fellow**, Foundation for Renewable Energy & Environment (FREE).
Dr. Agbemabiese collaborates with sustainable energy researchers across multiple disciplines to develop policy briefs as tools for presenting holistic research and recommendations, primarily targeting non-specialized audiences on specific topics.
- 08/2015 – Present **Founder & CEO**, Planet Institute of Transition Engineering & Management (PITEAM). Identifies and engages with youth in local communities to promote inclusive, youth-driven approaches to the discovery of sustainability-focused knowledge and technologies.
- 01/2013 – 06/2020 **Research Associate Professor**, Initially, Center for Energy and Environmental Policy, and additionally appointed to the faculty of the Energy and Environmental Policy (ENEP) Program, University of Delaware, Newark DE, U.S.A.
Dr. Agbemabiese taught courses on:
Sustainable energy: economics, policy, planning and administration
International perspectives on energy and environment
- 08/2000 – 12/2012 **Programme Officer**, Energy Branch, United Nations Environment Programme, Division of Technology, Industry and Economics. Dr. Agbemabiese designed, implemented and managed several UNEP-sponsored initiatives including the following:
- September 2011 – March 2012
- *Co-Manager*: Joint UNEP - African Climate Policy Centre (ACPC) project on the sustainability of innovations in energy access. Intermediate output: an article titled “Enabling innovations in energy access: an African perspective,” published in the Journal Energy Policy (Supplement 1, June 2012), co-authored with Youba Sokona and Jabavu Nkomo.

November 2009 – February 2010

- *Task Manager:* Global Technology Needs Assessment Project currently underway in 36 developing countries of Africa, Asia, Eastern Europe and Latin America. Funded by the Global Environment Facility (GEF).

November 2005 – December 2007

- *Manager:* Design, fundraising and implementation of the eCommerce and Renewable Energy Project, Ghana. Funded by United Nations Foundation (UNF) and Telenor.
- *Manager:* China Rural Energy Enterprise Development (CREED) project. Funded by UNF and The Nature Conservancy.

June 2002 – November 2004

Manager: Collaborative research on sustainable energy technology and policy with (a) the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden; and (b) Saïd Business School at Oxford University. Funded by UNEP Energy Branch.

August 2000 – October 2008

Co-manager: Africa Rural Energy Enterprise Development (AREED) project. Assumed sole management responsibility in 2005. Funded by UNF, Swedish International Development Cooperation Agency (Sida), German Government, The Body Shop.

09/1995 – 08/2000

Research & Teaching Assistant

Center for Energy and Environmental Policy, University of Delaware, Newark, DE, USA. Debugged early version of PV Planner, a spreadsheet-based tool for economic and technical analysis of solar photovoltaic (PV) systems; completed research tasks covering techno-economic analyses of building-integrated solar PV systems. Contributed content to several publications and project reports. Taught two sessions of the Technology, Environment and Society course (ENEP 821).

11/1993 – 08/1995

Business Planning Analyst

Volta River Authority (electric power utility), Planning and Programming Department, Accra, Ghana. Coordinated and monitored implementation of multi-year business plans for the following departments of the utility: Environment and Sustainable Development, Management Information Systems, Human Resources and Real Estates; prepared annual business planning report summaries and briefing notes for VRA Board Meetings; supplied data and analyses for annual VRA Corporate Plans.

07/1989 – 09/1993

Lecturer, Community Development

UNDP/World Bank Training Network Center (TNC), Department of Civil Engineering, KNUST, Kumasi, Ghana.

- Prepared and taught new courses for practitioners on: Decentralized water supply and waste management systems for rural and peri-urban areas for non-government organizations in the water and sanitation sector;

participatory grassroots planning and project management methods for district engineers and administrators.

- Invited member of multidisciplinary national team that designed the first comprehensive Human Resources Development Plan covering the water supply and sanitation sectors in Ghana. Funded by UNDP/World Bank.
- Invited member of multi-sector team that designed the Volta Rural Water Supply and Sanitation (VRWSSD) project. Funding by the Danish International Development Assistance (DANIDA).

EDUCATION

- 2002 **Ph.D. Urban Affairs and Public Policy:** Center for Energy and Environmental Policy, University of Delaware, Newark, DE, USA.
Concentration: Technology, Environment and Society.
Dissertation title: “Towards a political economy of sustainable energy in Ghana: A paradigm analysis of energy-development relations from the 11th century to the present.”
Advisor: Professor John Byrne.
Committee members: Professor Paul Durbin (University of Delaware), Professor Abeeke Brew-Hammond (Kwame Nkrumah University of Science and Technology), Dr. Kofi Diaw (Kwame Nkrumah University of Science and Technology).
- 1988 **Post-Graduate Diploma in Regional Development Planning and Management.** Spatial Planning for Regions in Growing Economies, Fachbereich Raumplanung, Universität Dortmund, Dortmund, Germany.
Core Subjects: Regional Economics. Agriculture. Human Settlements. Transport. Organization and Management. Financing and Budgeting.
Thesis title: “A Strategy for Innovation Diffusion in the Small-Scale Sector of Kwahu District in Ghana.”
Advisor: Professor Gerd Hennings
- 1989 **MSc. Development Planning and Management:** Department of Planning, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.
Core Subjects: The Governance of Development. Political Economy of Development and Underdevelopment. The Sociology of Development. Spatial Statistics.
Thesis title: “Towards an Information System for District Development.”
Advisor: Professor Bernard Trevallion (Department of Planning, KNUST).
- 1985 **BSc. Planning:** Department of Planning, KNUST, Kumasi, Ghana.
Core Subjects: Development Planning Theory. Infrastructure Planning. Industrial Development. Transportation Planning. Mathematical Models in Planning. Economics of Spatial Development.
Thesis title: “An Evaluation of the Dwomo Integrated Rural Development Project”
Advisor: Mr. Kofi Diaw, Department of Planning, KNUST, Kumasi Ghana.

CERTIFICATIONS / LICENSES

- July 2013 **Massachusetts Institute of Technology Professional Education:** Decision-Making, Design, and Strategy Under Uncertainty.
- October 2008 **United Nations Environment Programme:** Integrity Awareness Initiative

PUBLICATIONS (Chronologically within each category)

Journal Articles and Book Chapters

- Blanco, G., H. de Coninck, **L. Agbemabiese**, E. H. Mbaye Diagne, L. Diaz Anadon, Y. S. Lim, W.A. Pengue, A.D. Sagar, T. Sugiyama, K. Tanaka, E. Verdolini, J. Witajewski-Baltvilks, 2022: Innovation, technology development and transfer. In IPCC, 2022: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA.
- Mulugetta, Y., & **Agbemabiese, L.** (2019). "Sustainable Energy Systems in Africa." In D. Mebratu, & M. Swilling (Eds.), *Transformational Infrastructure for Development of a Wellbeing Economy in Africa* (pp. 73-114). African Sun Media and STIAS.
- Schumacher, K.A., & **Agbemabiese, L.** (2019). Towards comprehensive e-waste legislation in the United States: Design considerations based on quantitative and qualitative assessments. *Resources, Conservation and Recycling*, 149, 605-621.
- **Agbemabiese, L.**, Nyangon, J., Lee, J.S., Byrne, J. (2018). Enhancing Climate Finance Readiness: A Review of Selected Investment Frameworks as Tools of Multilevel Governance. University of Delaware, Center for energy & Environmental Policy, Working Paper Series. Available at SSRN: <https://ssrn.com/abstract=3082542> or <http://dx.doi.org/10.2139/ssrn.3082542>.
- Nyangon, J., Alabbas, N., & **Agbemabiese, L.** (2018). "Entangled Systems at the Energy-Water-Food Nexus: Challenges and Opportunities." In P. Rao, & Y. Patil (Eds.), *Reconsidering the Impact of Climate Change on Global Water Supply, Use, and Management* (pp. 144-165). Hershey, PA: IGI Global.
- Yu, S., **Agbemabiese, L.**, & Zhang, J. (2016). Estimating the carbon abatement potential of economic sectors in China. *Applied Energy*, 165, 107-118.
- Wang, Y.-D., Lee, J. S., **Agbemabiese, L.**, Zame, K., & Kang, S.-G. (2015). Virtual water management and the water-energy nexus: A case study of three Mid-Atlantic States. *Resources, Conservation and Recycling*, 76-84.
- Schumacher, A. K., Schumacher, T., **Agbemabiese, L.** (2014). Quantification and probabilistic modelling of CRT obsolescence for the State of Delaware. *Waste Management*, 34(11), 2321-2326.
- **Agbemabiese, L.**, Nkomo, J., & Sokona, Y. (2012). Enabling innovations in energy access: an African perspective. *Energy Policy*, 38-47.
- Jaccard, M., **Agbemabiese, L.**, Azar, C., et al. (2012). Chapter 22 - Policies for Energy System Transformations: Objectives and Instruments. In *Global Energy Assessment - Toward a Sustainable Future* (pp. 1549-1602). Cambridge, UK and New York, NY, USA and Laxenburg, Austria: Cambridge and the International Institute for Applied Systems Analysis.
- Ölz, S., & **Agbemabiese, L.** (2012). Innovative energy policy in a developing country context: experiences from PROSOL initiative. *Wiley Interdisciplinary Reviews: Energy and Environment*, 1(1), 69-80.
- **Agbemabiese, L.**, & Byrne, J. (2005). Commodification of Ghana's Volta River: An Example of Ellul's Autonomy of Technique. *Bulletin of Science Technology & Society*.

Conference Proceedings

- Mackenzie, G. A., & **Agbemabiese, L.** (2010). Capacity Enhancement and Mobilization Action (CEMA) for the Africa EU Energy Partnership (AEEP). *Abstract from Capacity Enhancement to Improve Energy Access and Security in the context of the Africa-EU Energy Partnership, Nairobi (KE)*.
- **Agbemabiese, L.** (2008). Expanding Energy Access through Sustainable Energy Enterprises in Africa: Financing, Capacity-building and Policy Aspects. *Energy Poverty in Africa: Proceedings of a Workshop held by OFID in Abuja, Nigeria*. Pp. 121-137.
- Byrne, J., **Agbemabiese, L.**, Boo, K-J., Wang, Y-D., Alleng, G. (2000). An International Comparison of the Economics of Building Integrated PV in Different Resource, Pricing and Policy Environments: The Cases of the U.S., Japan and South Korea. *Proceedings of the American Solar Energy Society: Solar 2000 Conference*, (pp. 81-85). Madison, Wisconsin.
- **Agbemabiese, L.** (2000). Financing Rural Energy Services in Africa: An Environmental Perspective. *Proceedings of the International Solar Energy Society Seminar, Nairobi, Kenya, (October 9- 11, 2000)*.
- Byrne, J., Eiffert, P., Hadjilambrinos, C., **Agbemabiese, L.**, Kliesch, J. Environmental Impacts of Building Integrated PV Applications in the State Public Buildings Sector. (1999). *Proceedings of the American Solar Energy Society Conference, Portland, ME (June 12-17)*.
- Letendre, S., Byrne, J., Aitken, D., **Agbemabiese, L.**, Bouton, D., Kliesch, J. (1998). Photovoltaics as an Energy Services Technology: A Case Study of PV Sited at the Union of Concerned Scientists Headquarters. *Proceedings of the American Solar Energy Society Conference, Albuquerque, NM (June 15-17): 131-136*.
- Byrne, J., Letendre, S., Nigro, R., **Agbemabiese, L.**, Redlin, D. (1997). Commercial Building Integrated Photovoltaics: Market and Policy Implications. *Proceedings of the Twenty-Sixth IEEE Photovoltaic Specialists Conference, Anaheim, California (September 29 - October 3): 1301-1304*.
- **Agbemabiese, L.**, Berko, K. duPont, P. (1996). Air Conditioning in the Tropics: Cool comfort or cultural conditioning? *Proceedings, ACEEE Summer Study on Energy Efficiency in Buildings 8.1 - 8.9. Washington, D. C.: ACEEE Press*.

Research Reports and Monographs

- Byrne, J., **Agbemabiese, L.**, Smith, A., & Mccarthy, M. (2015). *Groundwater Quality Control through Good Governance*. Newark, DE: Center for Energy and Environmental Policy.
- Wang, Y.-D., **Agbemabiese, L.**, Byrne, J., Davis, C., & Lewis, S. (2014). *Water-energy Nexus: Water Debt Management through a Sustainable Water-Energy Policy*. Newark, DE: Center for Energy and Environmental Policy.
- **Agbemabiese, L.**, Byrne, J., Nyangon, J., Hasan, A., Somasundaram, D., & Rosenstein, R. (2014). *Institutional Challenges in the Development of Climate-Sensitive Technology: Realizing the Potential of Green Energy*. Newark: Center for Energy and Environmental Policy.

Multilateral Agency Reports

- Sokona, Y., **Agbemabiese, L.**, Mulugetta, Y., Hästrom, N., Stillwell, M., Radka, M., & Urama, K. (2017). *Progress Report: Africa Renewable Energy Initiative*. Uppsala: What Next Forum.
- Sokona, Y., **Agbemabiese, L.**, Mulugetta, Y., Halstrom, N., Stillwell, M., Radka, M., & Urama, K. (2016). A framework for transforming Africa towards a renewable energy powered future with access for all. Uppsala: What Next Forum.
- Sokona, Y., **Agbemabiese, L.**, Mulugetta, Y., Hästrom, N., Stillwell, M. (2016). *Criteria: Africa Renewable Energy Initiative*. Uppsala: What Next Forum.

SELECT PAPERS/REPORTS PRESENTED AT CONFERENCES, SEMINARS AND OTHER MEETINGS

- University of Delaware, Center for Energy and Environmental Policy & College of Engineering. Smart Cities and Sustainable Energy Symposium, Newark, Delaware. November 28 – 29. **Topic:** What is a smart city? A guide for the perplexed.
- Intergovernmental Panel on Climate Change (IPCC) - 22nd Conference of Parties (COP22). Africa Renewable Energy Initiative Side-Event, November 11, 2016. **Topic:** Criteria to be considered for attribution and eligibility for funding.
- Kumasi Institute of Technology and Environment (KITE). KITE Founders Day Lecture. Accra, Ghana. November 20, 2013. **Topic:** Coal and Nuclear Power Plants in a Decade of Sustainable Energy for All: A Strategic Paradox or Necessary Evil?
- University of Delaware, College of Engineering. Resilience Symposium, Newark, Delaware. March 23, 2013. **Topic:** Resilience and Sustainability: The Energy Case.
- United Nations Framework Convention on Climate Change. First Meeting of the Durban Forum on Capacity-building. Bonn, Germany, 22 May 2012. **Topic:** Global technology needs assessment project: an update on capacity-building components.
- IRENA/NREL Workshop on Best Practices in Renewable Energy Technology Cooperation Golden/Colorado, 22 – 25 November, 2011. **Topic:** Knowledge development & peer learning: Resources, data and tools.
- United Nations Economic Commission for Africa. Second Annual Conference on Climate Change and Development in Africa. Addis Ababa, Ethiopia, 19-20 October 2012. **Topic:** Technology Innovation for Energy Access in Africa.
- United Nations Economic Commission for Africa. The first Climate Change and Development in Africa (CCDA 1) Conference. Addis Ababa, Ethiopia, 17-19 October 2011. **Topic:** Enterprise, entrepreneurs and energy in Africa.
- Development Bank of Southern Africa Annual Knowledge Week: 'Greening infrastructure programmes in South Africa.' Johannesburg, South Africa, 12 – 14 October, 2011. **Topic:** Greening Infrastructure in South Africa: Towards an Integrated Approach.
- International Green Energy Economy Conference. Washington D.C., 28-29 July, 2011. **Topic:** Green Energy and Development in Africa.
- United Nations Foundation. Board Meeting, Kumasi, Ghana, November 22, 2010. The African Rural Energy Enterprise Development Project: Contributions to the Millennium Development Goals.
- Africa-EU Energy Partnership Meeting. **Topic:** Capacity Enhancement to Improve Energy Access and Security in the context of the Africa-EU Energy Partnership. Nairobi, Kenya, August 31 – September 2, 2010.
- Regional Workshop on Access to Modern Energy in Urban and Peri-Urban Areas: Policies and Knowledge Sharing. Dakar, Senegal, 3-5 November, 2009. **Topic:** Financing Mechanism for Clean Energy Access: The AREED Programme.
- Energy for development. Annual Conference of the North-South Centre and the Energy Science Center. ETH Zurich, ETF E.1. Sternwartstrasse 7, Zurich, Switzerland, 10 – 11 September, 2009. **Topic:** Energy systems in developing countries – An environmental perspective.
- Technical Consultations on Sustainable Small-scale Livelihood-oriented Bioenergy Initiatives. FAO, Rome, Italy. 29 October 2009. **Topic:** Mobilizing investments in clean energy enterprises 'beyond the grid': What is working and how to do more of it.
- UNEP Risoe Workshop on Enhancing Energy Access in Rural and Peri-urban Settlements: Knowledge-Based Policy Engagement. Cape Town, South Africa. 25 – 27 May, 2009. **Topic:** The role of private sector and financial institutions in energy access – An emergent model.

- North-South-South Forum on Biofuels, Climate and Sustainable Development. March 6, 2008. Washington DC. **Topic:** The emergent biofuel regime: Good servant or bad master?
- College of Engineering, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. REED Seminar Series. 12 October, 2007. **Topic:** Financing Biofuels Development.
- Development and Energy in Africa: Regional Workshop, Arusha, Tanzania. 16 - 19 October, 2007. **Topic:** Next-generation IT for RE data collection: Can Africa log in with mobile phones?
- ENDA¹-GNESD² Workshop on Renewal Energy and Poverty Reduction in Africa, Dakar, March 21 – 23, 2007. **Topic:** Renewable Energy and the Development of Small and Medium Enterprises. Chaired Session 4 on the theme of “Bio-energy: Prospects to contribute to poverty alleviation in Africa.”
- UNCTAD³ Workshop on financing biofuels and Jatropha plantations projects with special emphasis on Clean Development Mechanisms (CDM), Accra, Ghana, and November 13-14, 2006. **Topic:** Bio-Energy for Poverty Eradication: Enhancing the Role of Small/Medium Energy Enterprises.
- Workshop on Ecological Environment Protection and Poverty Alleviation, Li Jiang City, Peoples Republic of China, October 1006. **Topic:** Sustaining the Environment to Fight Poverty.
- Global Village Energy Partnership (GVEP)/European Union (EU) Monitoring and Evaluation Working Group Meeting, London, June 2006. **Topic:** Next-Generation Web Tools for Monitoring and Evaluation.
- GEF/FAO⁴ Workshop on Productive Uses of Renewable Energy: Experience, Strategies and Project Development, Rome, June 2002. **Topic:** International Agency Programme and Project Experience.
- UNDP⁵/GEF Workshop on Methodologies for Technology Needs Assessment, November 2002. **Topic:** Role of International Clearinghouses and Networks in Technology Transfer.
- Africa Energy Forum, June 2004: Bringing Power to Africa. **Topic:** Biomass for sustainable rural development: experiences from the African Rural Energy Enterprises Development Project.
- International Solar Energy Society Seminar on Rural Energy Provision in Africa, Nairobi, October, 2000. **Topic:** UNEP Perspectives on Finance of Rural Energy Provision in Africa.

SIGNIFICANT GRANTS and PLEDGES

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| 2016 | UNEP Energy Branch, Africa Group of Negotiators at the IPCC-CoP and African Development Bank (AfDB) supported by multiple donors to implement the <i>Africa Renewable Energy Initiative</i> (Secretariat temporarily hosted at the African Development Bank): Canada, France, Germany, Italy, Japan, United Kingdom, European Union, Sweden and Netherlands pledged at least \$10 billion in financial support for the initiative and its objectives in Paris. |
| 2016 | Independent Delivery Unit of the AREI initiative (temporarily hosted at the AfDB) supported by German Government to start-up and first 18-month action plan (pledged). Euro 2,000,000. |
| 2008 | UNEP Energy Branch supported by Global Environment Facility to design and implement <i>Technology Needs Assessment</i> project (36 countries). US\$ 9,000,000. |

¹ Environmental Development Action in the Third World

² Global Network on Energy for Sustainable Development

³ United Nations Conference on Trade and Development

⁴ Global Environment Facility/Food and Agriculture Organization

⁵ United Nations Development Organization

- 2005 UNEP Energy Branch supported by two major donors to design and implement the eCommerce and Renewable Energy (eCare) project:
- United Nations Foundation: US\$2,000,000
 - Telecom Management Partner, a subsidiary of Norwegian multinational, Telenor: US\$ 800,000
- 2002-2005 UNEP Energy Branch supported by two major donors to design and implement *Africa Rural Energy Enterprise Development Phases 2 (AREED 2)*:
- Euro 950,000 by German Government Ministry for Economic Cooperation and Development.
 - US\$ 355,000 by Swedish International Development Agency

LOCAL and INTERNATIONAL PUBLIC SERVICE and PERSONAL DONATIONS

- **Invited Member:** Social Science Sponsored Research Working Group, University of Delaware, 2017 - 2019.
- **Invited Member:** Bill Anderson Fund Director Search Committee, University of Delaware, 2017 - 2019.
- **Invited Reviewer:** Quality assurance services and support to the African Group of Negotiators (AGN) initiative for renewable energy in Africa and Technical Support Unit of the African Ministerial Conference on the Environment (AMCEN). December 22, 2015 - 10 March, 2016. **Honorarium donated to University of Delaware Gift Account to cover 100% of annual stipend for one PhD student from a developing country.**
- **Invited Member:** Technical Expert Advisory Team supporting the Independent Delivery Unit (IDU) of the Africa Renewable Energy Initiative (AREI). Co-authored the proposal and one-year action plan for accelerating the uptake of renewable energy technology in Africa. Lunched April 20, 2015 – December 20, 2015 at COP 21.
- **Invited Reviewer:** “Power. People. Planet: Seizing Africa’s Energy and Climate Opportunities.” Africa Progress Panel Report 2015.
- **Invited Technical Advisor:** “Ghana Renewables Readiness Assessment.” November 2015.

POPULAR PUBLICATIONS AND MEDIA IMPACT

Interview commentary

- Voices on AREI (May 16, 2017): https://www.youtube.com/watch?time_continue=5&v=0Gc9pacFNpk
- The UN-Business Focal Point, 2007 (interviewed by Peter Fries for the article “AREED: Developing Sustainable Energy Solutions in Africa”).

Blog: “the African Uptimist”

- Created and maintained over two years (2006 – 2008): http://agbe.typepad.com/the_african_uptimist/welcome/
- Mentioned in Time Magazine 50 Best Websites 2008: http://content.time.com/time/specials/2007/article/0,28804,1809858_1809956,00.html

AWARDS

- Alumni Achievement Award for Outstanding Contributions to Energy Justice and Rural Sustainability (2008)

- Marvin B. Sussman Prize for the Outstanding Dissertation (2002).
- CHEP⁶ Panel of Outstanding Doctoral Students (1998).
- Peter A. Larson Prize, Urban Affairs and Public Policy (1997).
- Science in Africa Award, American Association for Advancement of Science (1996).
- Research Assistantship Awards, University of Delaware (1995 – 2000).

MEMBERSHIPS

- Delaware Diamonds Society
- Global Initiative for Distributed and Local Energy
- Global Village Energy Partnership
- Spring International Association of Development Planners (SIADP)

⁶ College of Human Resources, Education and Public Policy, University of Delaware.