



T H E M E

RENEWABLE ENERGY: EXPLOITING ENERGY RESOURCES AT THE DISTRICT LEVEL

9 - 11 OCTOBER 2018 | ACCRA INTERNATIONAL CONFERENCE CENTRE

HIGHLIGHTS INFORMATIVE AND EDUCATIVE TECHNICAL SESSIONS + SOLAR MARKETPLACE + IMPROVED COOKSTOVES MARKET + ACADEMIC/RESEARCH HUB + INNOVATIVE POLICY DEBATE

ORGANIZERS



ENERGY COMMISSION
Securing Ghana's Energy Future Today



**MINISTRY OF
ENERGY**
Republic of Ghana



ENERGY COMMISSION

Securing Ghana's Energy Future Today

IT IS ILLEGAL TO ALLOW AN ELECTRICIAN WHO IS NOT CERTIFIED TO WIRE YOUR BUILDING/ FACILITY!!



**ARE YOU BUILDING A FACILITY THAT WILL NEED ELECTRICITY CONNECTION?
DO YOU REQUIRE A SEPARATE METER?**

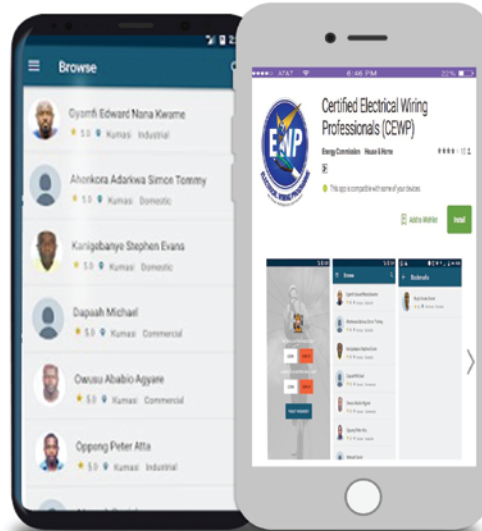
You must use a Certified Electrical Wiring Professional (CEWP) for wiring or separation.

How do you find a **CEWP??**

Search for a CEWP in your area on;

“CERTIFIED ELECTRICIAN” MOBILE APP

available for
download
on both



or visit Energy Commission's website www.energycom.gov.gh

- Engage a CEWP to carry out the wiring.
- After completion of the wiring job, demand Installation Completion Certificates (ICC) stamped and signed by both the CEWP and Certified Electrical Wiring Inspector
- Send the Installation Completion Certificates to ECG/ NEDCo to begin service connection application.

WELCOME TO THE 4TH GHANA RENEWABLE ENERGY FAIR 2018

Dear Participant,

AKWAABA!

It is an honour to welcome you all once again to the Ghana Renewable Energy Fair.

The Ghana Renewable Energy Fair was instituted in 2015 in response to the responsibilities assigned to the Energy Commission in the Renewable Energy Act, 2011 (Act 832). The Act seeks to develop and promote Renewable Energy in the country, and that provided the pivotal motivation for the Commission to institute the Annual Ghana Renewable Energy Fair.

The Fair provides a platform for collaboration between government, the private sector and civil society and for the promotion of the benefits of renewable energy. It also facilitates the identification of opportunities for investment in the utilisation of Ghana's renewable energy resources. Through the sustained effort of the Commission and its partners, The Ghana Renewable Energy Fair, organised by the Energy Commission and the Ministry of Energy, has become the premier Renewable Energy event in Ghana, and may soon be the premier event in the sub-region.

Key features of the Fair have been policy and technology briefing/discussions within the technical sessions and display of renewable energy and energy efficiency technologies that have the power to transform the energy landscape in Ghana and the sub-region. Every year we assemble energy experts and leaders from Ghana and across the continent to showcase renewable energy projects, infrastructure and also deliberate on pertinent issues in the renewable energy industries to shape on-going policy discussions and development. It is our hope that this objective will be achieved again at the end of this Fair.

This year's Fair, under the theme "Renewable Energy: Exploiting Energy Resources at the District Level" seeks to explore the role of the renewable energy sector in powering development at the district level. Key highlights of the technical sessions include a discussion on draft regulations aimed at making the woodfuel industry truly renewable and sustainable, and a debate on the role of the private sector in providing rural communities with electricity through the deployment of renewable energy based mini grids. Both of these issues will have a significant impact on development in rural communities and on the success of any national development initiative. This year's fair will also highlight the job creation potential in the renewable energy sub-sector as well as provide insights into energy efficiency solutions in buildings to the public.

This year, we are honoured to have His Excellency, Dr. Mahamudu Bawumia, Vice President of Ghana, as our Special Guest of Honour and Keynote Speaker. This demonstrates his personal commitment and that of the government, to spearhead initiatives to achieve sustainable energy access and energy security for all in Ghana.

We are grateful to all our guest speakers, presenters and panellists who have taken time out of their busy schedules to join us in this year's fair. We also thank our partners from across the public and private sector, including GIZ, ECREEE, AfDB, ECG, VRA, BPA, NEDCO for their continuing support. This fair would not be possible without your help and support. Ayekoo!!!

On behalf of the Ghana Renewable Energy Fair team, I wish you a continued success and fruitful deliberations at this year's fair.



**JULIUS
NKANSAH-NYARKO**
RE FAIR COORDINATOR

FLOOR PLAN



Design by:



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PARTICIPATION COMPANIES

COMPANY	BOOTH NUMBER
ELECTRICITY COMPANY OF GHANA LTD.	J21
GIZ	J1
MINISTRY OF ENERGY & ENERGY COMMISSION	J2&J3
BUI POWER	J16
NEDCo	J15
GRIDCO	J22
WILKINS ENGINEERING LTD.	J4
PURC	O48
STRATEGIC POWER SOLUTIONS	J20
CROWN SUBSEA & WAGNER RENEWABLES	A1
TINO SOLUTIONS LTD	A5
HALO INTERNATIONAL	A2 & O9
ALPHA POWER VENTURES LTD.	O8 & O7
AFRICANO ELECTRO LTD.	J13
GIZ/ENDEV	O6
DENG/DSTC	A7
EAST GROUP CO. LTD	A3
LUMENTECH ENERGY SOLUTIONS LTD.	O43
SUN IN LTD.	A4
KOREA BATTERY CO. LTD.	O45
NYANKONTON SOLAR ENERGY PRODUCTS LTD.	O37
PEG GHANA	O36
STEPHAND SOLUTIONS	J14
GREEN SOLAR AFRICA	O38
THE WEBBER GROUP	O41
SUN POWER INNOVATIONS	O40
GHANA STANDARDS AUTHORITY	O49
ENERGIE MONDAILE	O66
GUANGDONG SUIMING PHOTOELECTRIC CO. LTD	O58
GLOBAL LIGHTING CENTRE LTD	O 67
SNV	O 47
JEKORA VENTURES	Y 69
COUNCIL FOR SCIENTIFIC & INDUSTRIAL RESEARCH (CSIR)	O39
GHANA ENERGY AWARDS	Y 68
RESEARCH HUB	O32 - A6
THE BREW HAMMOND ENERGY CENTRE- KNUST HO TECHNICAL UNIVERSITY (HTU) GHANA CLIMATE INNOVATION CENTRE (GCIC) UNIVERSITY OF ENERGY AND NATURAL RESOURCES (UENR) ABIBIFAHODIE ADESUABEA	
IMPROVED COOKSTOVES MARKET (GHACCO)	O33 - O35
ABELLON CLEAN ENERGY GHANA LTD ASA INITIATIVES COOKCLEAN GHANA LTD INSTITUTE FOR SUSTAINABLE ENERGY AND ENVIRONMENTAL SOLUTIONS (ISEES) MORRISON STOVES NASAM BRAND ENTERPRISE	



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WHY YOU SHOULD STOP ILLEGAL CONNECTIONS IN GHANA

..... IT IS CRIMINAL AND ANTI-SOCIAL



4TH



PROGRAMME SCHEDULE

TUESDAY 9TH OCTOBER, 2018 - DAY ONE

Registration 0800 - 0900

OPENING SESSION 0930 - 1130

Cultural Troupe Performance

National Anthem

Welcome Address by Prof. George Panyin Hagan, Board Chairman, Energy Commission

Statement by Lead Sponsor, CEO, Wilkins Engineering Limited

Statement by Lead Sponsor, CEO, NEDCO

Statement by Strategic Partner, Dr. Stefan Oswald, Director for Sub-Saharan Africa, German Federal Ministry of Development and Economic Cooperation (BMZ)

Statement by Hon. John Peter Amewu, Minister of Energy

Statement by Guest of Honour, Dr. Akinwumi Adesina, President of AfDB on: "Funding Renewable Energy and Energy Efficiency Investments in Africa, the Role of the Bank"

Key Note Address by Special Guest of Honour, H.E. Dr. Mahamudu Bawumia, Vice President of Ghana

Official Opening of the 4th Ghana Renewable Energy Fair (cutting of ribbon and guided tour of the Fair by H.E. Dr. Mahamudu Bawumia, Vice President of Ghana)

Short Interlude (Video/Cultural Troupe) (10 min)

MC: Jerry Adjorlolo

Break 1130 - 1320

TECHNICAL SESSION I: BIOENERGY: WOOD FUEL REGULATIONS

The Energy Commission has developed draft Regulations for the entire value chain of the woodfuel industry, covering production, transportation, distribution, marketing and export of woodfuel. The draft woodfuel regulations will be submitted to Parliament to be passed as a Legislative Instrument to formalise the sector in Ghana. This session would therefore form part of the on-going stakeholder engagement to solicit for inputs into the draft Regulations with the aim of ensuring stakeholder ownership of the Regulations to achieve sustainable management and utilisation of woodfuel in Ghana. Experts from the woodfuel sector will also share their views and expertise on the way forward for regulating the industry.

1320 - 1335 Video Documentary on Woodlots/charcoal kilns/Charcoal Trucks/Charcoal Spills/Bagged Charcoal

1335 - 1350 Opening Statement by Hon. Hajia Alima Mahama, Minister for Local Government and Rural Development

1350 - 1405 Sustainable Feedstock Supply for Woodfuel Production - presented by Peter Edem Zomelo, Manager, Timber Industry Development Division, Forestry Commission

1405 - 1425 Highlights of Draft Regulation on woodfuel - presented by John Yeboah, Principal Program Officer, Energy Commission

1425 - 1440 Experience Sharing by Esther Wangombe, Senior Deputy Director, Renewable Energy, Ministry of Energy, Kenya

1440 - 1455 Experience Sharing by Abdoulazize Saidou Abdou, Head of Biomass-Energy Division, Department of Domestic Energy Promotion, Ministry of Energy, Niger

1455 - 1630 Panel and Facilitated Discussions

Dawuda Mohammed, Charcoal Producer, Kintampo

Nana Yaw Konadu, Charcoal Exporter, Accra

Facilitator: Rashid Ali Abdallah, African Union Commission

TECHNICAL SESSION II: WHO IS BEST PLACED TO LEAD THE RENEWABLE ENERGY PUSH FOR DELIVERING UNIVERSAL ACCESS TO ELECTRICITY - THE STATE OR THE PRIVATE SECTOR? (A DEBATE)

In the quest to achieve universal access to electricity in Ghana ($\geq 90\%$ access rate), the Government of Ghana has made renewable-based energy mini-grids an integral part of the National Electrification Scheme (NES). This is in recognition of the ability of RE based mini-grids to serve remote communities that the grid cannot reach economically.

The Government has opted for a public sector led model where capital investment is made by the State and the operation and maintenance of the assets carried out by the State-owned utilities. However, whilst it is accepted that the state has successfully championed electricity access in Ghana, there are strong arguments from the private sector that when it comes to the renewable energy space, it is best led by the private sector. The private sector additionally views the public sector led policy decision as one that does not allow the private sector to effectively participate in the mini-grid sector.

This session will therefore take the form of a debate between proponents of the private sector led and the public sector led approaches, with each proponent providing evidence through inviting expert witnesses to buttress their perspectives. The audience will have an opportunity to throw questions at the proponents, and at the end of the session will deliver their verdict as to which side provided the most convincing arguments in support of their position.

0930 - 0945 Opening Statement by Hon. William Owuraku Aidoo, Deputy Minister, Ministry of Energy

0945 - 1000 Mini-grid Regulations - presented by Frederick Ken. Appiah, Chief Program Officer, Energy Commission

1000 - 1100 Proponents present their case

Public Sector Led Approach

» **Lead Advocate:** Ing. A. T. Barfour, Coordinator, Ghana Energy Development and Access Project, Ministry of Energy

» **Expert Witness:** Ing Frank Dadzie, Planning Engineer, Ghana Energy Development and Access Project, Ministry of Energy

Private Sector Led Approach

» **Lead Advocate:** Agyenim Boateng, Secretary, Association of Ghana Solar Industries

» **Expert Witness:** Nicole Poindexter, Managing Director, Blackstar Energy

1100 - 1120 Questions from Experts

Government

Wisdom Ahiataku-Togobo, Director Renewable and Nuclear Energy, Ministry of Energy

Non-Governmental Organisation - Ishmael Edjekumhene, Executive Director KITE

Development Partners

Mark Newton, Energy and Natural Resources Management Team Leader, USAID

1120 - 1210 Questions/Inputs from Audience

Debate Moderator: Dr Elsie Effah Kaufmann, Biomedical Engineering Dept. University of Ghana

Break

1210 - 1330

TECHNICAL SESSION III: JOB CREATION UNDER RENEWABLE ENERGY (ISSUES ON COOKSTOVES/SOLAR DRYING/BIOGAS/ROOFTOP) 1330 - 1600

This session will bring together, government, private sector and NGO's in the renewable energy space to discuss the various job opportunities and capacity building gaps in the renewable energy sector. Issues relating to the development of Ghana's educational system in the areas of renewable energy and sustainable exploitation of energy will also be discussed.

1330 - 1345 Demonstration - Creating a Solar Oven using a Recycled Pizza Box by pupils of Abibifahodie Adesuabea

1345 – 1530 Presentations by various sector players on Job Creation Opportunities in the Renewable Energy Space:

- » Daniel Osei Bonsu, Vice President, Biogas Association of Ghana
- » Mohammed Lukumanu Aminu, Chief Executive Officer, Ghana Alliance for Clean Cookstoves
- » Eric Owusu, President, Association of Ghana Solar Installers
- » Daniel Azu, Managing Director, Utility Scale Energy Provider (Meinergy)
- » Finn Tvede Jacobsen, Chief Executive Officer, African Plantations for Sustainable Development

Panel Members:

- » Agya Yaw Nsiah, Director Research and Planning, Youth Employment Agency
- » Anyars Ibrahim, National Coordinator, The Nation Builders Corps

Reactions From

- » Michael Akurang Opoku, Senior Industrial Promotion Officer, Ministry of Trade and Industry
- » John Kumah, Chief Executive Officer, National Entrepreneurship Innovation Plan

1530 – 1615 Questions and Answers

Facilitator: Philomena Dsane Ag. Director Planning Policy Monitoring and Evaluation, NBSSI

Registration

0800 - 0930

TECHNICAL SESSION IV: THE EMERGENCE OF GREEN BUILDINGS AND THE CONTRIBUTION OF RENEWABLE ENERGY AND ENERGY EFFICIENCY 0930 - 1200

As Ghana's population and economy continues to grow, there will be sustained demand for residential and commercial buildings. While green buildings constitute a small portion of new and existing buildings, it is expected that their numbers will increase in the coming years as we promote healthy and sustainable built environments. Through proper design, energy efficient features and integration of renewable energy technologies a lot more buildings could be made green.

This session will therefore focus on green building and discuss the roles that energy efficiency and renewable energy play in making buildings green. This session will also give insights into an existing green building in Ghana and EDGE software for determining cost-effective efficiency measures for green buildings.

0930 – 0940 Connecting the Dots in Utility Scale Pricing for Solar PV in developing countries – presented by Maxmillian Kwarteng, Energy Manager

0940 – 0950 Towards Energy Efficiency in Ghana's Higher Educational Institutions for Sustainable Development – presented by Edward Kweku Nunoo, Institute for Oil and Gas Studies, University of Cape Coast,

0950 – 1000 Off-Grid Renewable Energy Regulation in Ghana – presented by Dr. Francisca Kusi-Appiah, Law Faculty, University of Professional Studies

1000 – 1010 Renewable Energy Adoption For Net Zero Energy Concept For Senior High Schools In Ghana: Case Study Of Accra Academy – presented by Sampson Amanyo-Zickson, Senior Energy Engineer and Charles Nii-Baah Amoo, Energy Auditor, Zanet Energy Solutions

1010 – 1030 Renewable Energy and Energy Efficiency in the building code – presented by Foster Osa-Akonnor, Chief Executive Officer, Ghana Green Building Council

1030 – 1050 Edge Software for assessing green buildings – presented by Dennis Papa Odenyi Quansah, Ghana Green Building Program Lead, International Finance Corporation

1050 – 1110 Developing a green building, the case of Mother and Baby Unit at Komfo Anokye Teaching Hospital – presented by Eric Gene, Chief Executive Officer, Africa Building Partners

1115 – 1215 Facilitated Discussions

Facilitator: Kofi Essel Appiah, Chief Executive Officer, PREDIOS Ghana

1215 – 1245 Closing Ceremony



GIZ RENEWABLE ENERGY

Contributing to the Promotion of Private Investment and Sustainable Economic Development within the framework of the G20-Africa Partnership

C-SIREA

Capacity for Successful Implementation of the Renewable Energy Act

- Utility-scale RE through competitive bidding & purchase obligation
- Decentralized RE generation through Net Metering
- Energy efficiency for end-users/households
- Market entry of RE and energy efficiency for Ghana's large electricity consumers



Implemented by:
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Endev

Energizing Development

- promoting access to and productive use of energy in underserved communities



PDP

Renewable Energy Project Development Programme

- Facilitating business partnerships and the exchange of experience and expertise between German and Ghanaian companies





HON. ALIMA MAHAMA

MINISTER FOR
LOCAL GOVERNMENT
& RURAL
DEVELOPMENT,
GHANA.

Honourable Hajia Alima Mahama is a product of the University of Ghana, Legon, graduating with a Bachelor's degree in Law and Sociology, and was subsequently called to Ghana Bar in 1982. She had her postgraduate studies in Public Policy and Development Planning and Administration from the Rutgers University and the University of Ottawa.

She was also at the Institute of Social Studies, in the Netherlands, where she obtained a Masters in Development Studies, specializing in Regional Development Planning.

Between 2001 and 2008, Hon. Hajia Alima Mahama served in the Government of Ghana as Deputy Minister for Trade and Industry;

Deputy Minister for Local Government and Rural Development and; Minister for Women and Children's Affairs.

Hon. Hajia Alima Mahama is a gender expert with over 25 years of active legal education, development planning, legislative and policy planning and management experience in Ghana and Liberia. She combined her background in Law with her development and policy perspectives during her tenure as Deputy Minister and Minister to advocate for social and gender rights at the highest levels of international conventions.

As the current Minister for Local Government and Rural Development, Ghana, she has embarked on a strategy to;

- increase participation of the citizenry in democratic governance at the local level;
- improve administrative and human resource capacity of Metropolitan, Municipal and District Assemblies;
- and also support local economic growth and improve service delivery at the local government level.

Hon. Hajia Alima Mahama is the Member of Parliament for the Nalerigu/Gambaga constituency in the Northern Region of Ghana.



ESTHER WAGOMBE

Esther holds a BSc. in Forestry from Moi University, Kenya and a Masters degree in Environmental Studies from Kenyatta University, Kenya.

She also pursued a Post Graduate diploma in Forestry for Rural Development from ITC, Netherlands; has also undertaken strategic leadership courses from Kenya school of Government as well as several courses on project management. She is currently serving as a Senior Deputy Director, Renewable Energy, Ministry of Energy Kenya.



PETER EDEM ZORMELO

Peter holds an MBA degree in Marketing and a bachelor's degree in Wood Science and Technology; and with a strong background in forest product marketing and forest enterprise development, he has brought technical expertise, practice and experience in management and marketing communication to bear on sound decision making to turn challenging opportunities into remarkable successes in a complex global business environment. Peter Edem Zormelo is a management professional with a proven track record of success in strategic business management and marketing. He is recognized for his in-depth knowledge and capacity to blend technical acumen and market insight to leverage strategies to promote growth and development of the timber and forestry industry.

Currently, Peter is the head of the Trade & Industry Development Department, Timber Industry Development Division (TIDD) of the Forestry Commission of Ghana, who in the last eight years has led a team of enterprising and result oriented professionals to embark on structural transformation of the timber industry through policy formulation, market development initiatives as well as industry regulation to promote trade and investment in the forestry sub-sector of the Ghanaian economy.



JOHN YEBOAH

John holds an MA in Environment and Development with specialization in Human Livelihood Development from University of London, United Kingdom, Galileo Masters Certificate in Renewable Energy Solutions and a BSc in Agriculture from Kwame Nkrumah University of Science and Technology, Ghana.

John has over 15 years combined working experience on Environment and Energy issues with high expertise in research and analysis of climate resilient strategies, GHG emissions monitoring, sustainable clean cooking initiatives, sustainable energy policy and regulations formulation, and programme strategies and recommendations aimed at poverty alleviation.

John Kwasi Yeboah is a Principal Programme Officer with the Renewable Energy Directorate of the Energy Commission of Ghana. Until joining the Energy Commission, John worked as Renewable Energy Programme Officer at the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) in Praia, Cabo Verde. At ECREEE, John participated in the formulation of major initiatives and programmes such as ECOWAS REDD+ project, ECOWAS Gender Mainstreaming in Energy Access, West Africa Clean Cooking Alliance Initiative and the ECREEE Climate Change Programme. John is currently a steering committee member of the Africa Low Emission Development Strategy (LEDS) Partnership and Co-chairs the Energy Working Group for the Africa LEDS Partnership (AfLP).



ELSIE EFFAH KAUFMANN

Dr. Elsie Effah Kaufmann is a Senior Lecturer and founding Head of the Department of Biomedical Engineering, University of Ghana. She holds a Bachelor of Science in Engineering (BSE), a Master of Science in Engineering (MSE) and a PhD in Bioengineering, all from the University of Pennsylvania, USA. After her graduate studies she received her postdoctoral training at Rutgers University before joining the University of Ghana in 2001.

Dr. Effah Kaufmann was a member of the Planning Committee set up by the Academic Board of the University of Ghana to make proposals for establishing the Faculty of Engineering Sciences and was also a member of the three-person Implementation Committee set up by the Vice Chancellor following the submission and adoption of the Planning Committee's report. She was appointed as the first Head of the Department of Biomedical Engineering in 2006 and served as Head for a number of years (2006-2012, 2014-2016). In 2010 she was elected to represent non-professorial academic staff on the highest decision-making body of the University of Ghana, the University Council, a position she held for four years. In 2011 Dr. Effah Kaufmann was a winner of the prestigious International Women's Forum Leadership Foundation Fellowship.

Dr. Effah Kaufmann's teaching and research focus on Tissue Engineering, Biomaterials and Application of Biomedical Engineering concepts to the solution of problems in the Ghanaian context. She was the recipient of the University of Ghana's Best Teacher Award for the Sciences in 2009. She is also keenly interested in Science education at all levels and has been the Host/ Quiz Mistress of the Ghana National Science & Mathematics Quiz TV Programme since 2006. Dr. Effah Kaufmann is the 2017 Impact Africa Summit Laureate for

Education in Ghana. The award recognises her "exceptional and continuous contribution to science education in Ghana and for being a role model and inspiration to many young girls, activities which are vital to achieving Sustainable Development Goals 4 and 5". She is also the recipient of the National Society of Black Engineers' 2018 Golden Torch Award for International Academic Leadership in recognition of her excellence in support of academics on an international level and exhibition of commitment to the Science, Technology, Engineering, and Math (STEM) fields.

Dr. Effah Kaufmann is a Board member of the African Gifted Foundation Ghana (African Science Academy) and the British International School-Ghana. She is the current President of the Ghana Society of Biomedical Engineers.



MR JOHN AMPONTUAH KUMAH

CEO OF NATIONAL ENTREPRENEURSHIP AND INNOVATION PLAN (NEIP) OFFICE OF THE PRESIDENT

MR. John Ampontuah Kumah is a Lawyer by profession and currently the CEO of National Entrepreneurship and Innovation Plan (NEIP).

Mr. Kumah holds a Bachelor Degree of Arts in Economics with Philosophy from the University of Ghana (Legon), and MBA (Finance) from GIMPA. He also holds a Degree in Law (LLB) from the University of Ghana, He holds a Professional Law Degree (BL) from Ghana School of Law.

Mr. Kumah is an astute Politician with unflinching support for youth. He has a great passion for entrepreneurship and youth empowerment activities.

He was a founding member of Aduaprokye Chambers and Managing Partner until his appointment by his Excellency the President of the Republic as the CEO of NEIP. He has fifteen (15) years of continuous working and leadership experience.



FINN JACOBSEN

Finn studied Business and Economics at the University of St. Gallen in Switzerland.

Finn Tvede Jacobsen has worked in the pulp and paper industry since 1982 and has been active in Ghana for more than 20 years. Since 2007, he has been the CEO of APSD Ghana Ltd and has, together with a team of employees and consultants, developed the project on the ground in Ghana to its present stage.



APPIAH, FREDERICK KEN.

Master of Science Engineering, Energy Systems and Thermofluids, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi Ghana; Bachelor of Science, Mechanical Engineering, KNUST Kumasi, Ghana.

Mr. Appiah has over twelve years work experience in the renewable energy space working, starting as an Associate Programme Officer at the Energy Commission. Some of his key roles included renewable energy resource assessment and analysis; design and installation of renewable energy systems; development of the renewable energy policy instruments, regulations and technical standards; licensing of renewable energy service providers, among others.

He is currently the Chief Programme Officer in charge of renewable energy at the Energy Commission, and the focal point for the National Rooftop Solar and Net-Metering Programmes.



AGYA YAW NSIAH

Agya holds a Master of Science in International Business from the Robert Gordon University in Aberdeen, UK specializing in areas of corporate planning, business consulting, mergers and acquisitions, performance and strategic management and financial management and a Post Graduate Certificate in Project Management from the Ghana Institute of Management and Public Administration. He also holds a Bachelor of Arts in Political Science from the Kwame Nkrumah University of Science and Technology.

Agya Yaw Nsiah is highly adept at developing policy and operationalising strategic plans particularly for public sector job creation and youth empowerment ideas. The insights he brings to his current role as Ag. Director, Research and Planning of Ghana's Youth Employment Agency is a demonstration of his ability to research and lead diverse teams of young public servants and innovators to new levels of success in a variety of highly competitive and fast-paced environments.

He has strong technical skills in negotiations, business consulting, global investments and diplomacy; having served on the Inter-Sectoral Technical Committee on Social Protection, World Bank Committee developing the Youth Employment Framework for Ghana and ILO's committee for fundamental principles and rights at work. Agya has a track record of handling projects and delivering results in various fields.

He has served in various roles at William Hill Organization UK, Apple UK, Ghana's Ministry of Tourism and Nestle' Ghana. He was also part of Government's delegation to both the 106th and 107th International Labour Conference in Geneva. At the Youth Employment Agency, he is responsible for the development and implementation of strategic plans, budgeting and sustainable programs for the Agency.



WISDOM AHIATAKU-TOGOBO.

Master of Science in Renewable Energy, University of Oldenburg, Germany; Post-graduate Diploma in Economics (Investment Appraisal and Risk Management), Queens University, Kingston, Canada; Bachelor of Science in Physics and Mathematics, University of Ghana.

Wisdom started his career in the renewable energy sector in 1989 and has over the years developed his skills and capacity in the development and implementation of various renewable energy programmes for rural energy access. He was very instrumental in the development and passage of Ghana's Renewable Energy Act, 2011 (Act 832).

Before his appointment as the Director for Renewable and Nuclear Energy at the Ministry of Energy, Wisdom worked on the Ghana Energy Development and Access Project (GEDAP, supported by the World Bank) as a Renewable Energy Expert and on the Household Energy Programme (supported by UNDP/Energy Commission) as Project Coordinator.

Wisdom is a visiting lecturer at University of Oldenburg, Germany and a Board Member of the Ghana Nuclear Energy Institute. He has a number of publications, articles and reports on renewable energy and sustainable development to his credit.



KWASI AGYENIM BOATENG

Kwasi Agyenim Boateng is the secretary for the Association of Ghana Solar Industries (AGSI). AGSI is an industry association, founded by Ghana solar industry stakeholders to help provide a joint forum for discussion of current industry issues.

Kwasi has over 11 years experience in the RE sector having managed off grid, stand alone and utility scale projects in Ghana. He has worked as Business Development manager for the global PV manufacturer, Jinko Solar in East and West Africa.

Kwasi is a graduate of the University College of Management studies and Associate of the Chartered Institute of Marketing, UK: Currently studying for my MSc at the Anglia Ruskin University, UK.



MICHAEL AKURANG OPOKU

Mr. Opoku has a Bachelor of Science Degree in Chemistry and a Master of Arts in International Trade and policy.

Mr. Opoku is a senior industrial promotions officer and is currently a member of the Strategic Anchor Industries and Special Projects Team of the Ministry. He doubles as Special Assistant to the Deputy Minister in charge of Trade.

As part of his work at the Ministry, he has worked extensively on energy for industry as an integral part of both industrial and trade policies. His background in Chemistry and International Trade affords him the opportunity to develop policy from a broader perspective of both science and economics.



DANIEL OSEI BONSU

Daniel holds an Executive MBA from Legon Business School, University of Ghana, Accra and a BSc. (HONS) CIVIL ENGINEERING from the Kwame Nkrumah University of Science Technology, Kumasi, Ghana.

Daniel is an accomplished business executive with domestic and international experience in land development operations. His energies are displayed in strong emphasis on systems applications that are geared towards organisational growth and improvement initiatives. Over the last 20 years of refined exposure, he has been instrumental in business development involving vast investments and project management assignments. Working closely with local and international Consultants and contractors with various professional disciplines has equipped him with an experience bank of work ethics. As an environmental scientist, his ability to identify sustainable environmental initiatives for best practice and strategic policy developments is sharp. His results-oriented concept

has developed him into a decisive leader with proven success in sustainable environmental and social management. He has excelled in dynamic and demanding environments and yet, remained pragmatic and focused on achieving desired team goals.

He is currently the Vice President of the Biogas Association of Ghana



ERIC T. OWUSU

T. Eric Owusu, is President of the Association of Ghana Solar industries (AGSI) and CEO/founder of Franerix Solar Ltd.

He holds a Bachelor's degree in Chemistry and a Masters of Business Administration from University of California, Irvine. He has spent over 35 years in the Semiconductor and the PV industry in both Technology development, sales/Marketing and Engineering management roles. Most recently, Mr. Owusu spent 16 years with computer chip giant, Taiwan Semiconductor Manufacturing Corporation (TSMC) in Sales/Marketing leadership roles building strong relationships and improving sales with the world's premier semiconductor companies in the silicon valley, California. Prior to that, Mr. Owusu spent 15 years in engineering management roles developing semiconductor process technology for the fabrication of microelectronic devices with Advanced Micro Devices (AMD) and Unisys Microelectronics Corp in the computer and electronics industry.



ING. A. T. BARFOUR OV, FGHIE, FID PROJECT COORDINATOR- GEDAP/SREP

Ing. Andrew Tonto Barfour is a consummate electrical engineer who was trained at the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi and University College of Dublin (UCD), Ireland. He is a Fellow and a Past President of the Ghana Institution of Engineers. He is also a fellow of the Institute of Directors.

In 2016, he was given a National Award (Member of the Order of the Volta) for his meritorious service to the nation. Ing. Barfour has participated in several training and development programmes held in Ghana and Overseas and has delivered several papers in both local and international conferences. He also contributed to the review of the World Energy Outlook 2011 and 2014 by the International Energy Agency (IEA).

Ing. Barfour spent thirty two (32) years of his fruitful working life at the Electricity Company of Ghana and was the Director of Operations of the Company, a position he held for seven years before he was appointed as the Project

Coordinator of the Ghana Energy Development & Access Project (GEDAP) of the Ministry of Energy.



FRANK DADZIE

Frank Yeboah Dadzie is an expert in off-grid, mini grid and grid connected renewable energy installation, project development and management. He began his career in renewable energy as a technical trainer at the Deng Solar Training Centre, Accra (an ISP certified centre).

For six years, he served as Project Manager for Ghana's biggest off-grid Solar Project which was aimed at financing solar systems for remote deprived rural dwellers through an innovative microfinance system supported by the Rural banks. The project successfully supported over 16800 solar systems to the poorest households of Ghana. This project also stimulated the market for Solar PV sales in the remotest districts of Ghana.

Frank Yeboah Dadzie is presently the Planning Engineer for the Ghana Energy Development and Access Project. Under this role, he acted as Project Engineer for the development of Ghana's first island based Mini-grid electrification project on four Islands funded by the World Bank which were completed last year. He is presently undertaking preparatory engineering work for the development of

three more island mini-grids in Ghana. Frank Yeboah Dadzie is passionate about his work and is eager to see the day where everybody in Africa will have access to sustainable energy for all their energy needs.



MOHAMMED AMINU LUKUMANU CHIEF EXECUTIVE OFFICER, GHANA ALLIANCE FOR CLEAN COOKSTOVES AND FUELS

Mr. Lukumanu holds Master of Arts degree in Democracy Governance, Law and Development from UCC (2013), Master of Business Administration (specialized in Human Resource Management) from the Methodist University Ghana (2011) and the Bachelor of Arts degree (in Integrated Development Studies from the University for Development Studies (1998).

Mr. Lukumanu is a professional development and management practitioner with expertise in programme development, management, decentralized governance, policy advocacy, monitoring and evaluation. Mr. Lukumanu has extensive experience of Ghana's renewable energy sector, water and sanitation sector, health, education, agriculture, and the decentralized and local government management.

Mr. Lukumanu has contributed significantly to the socio-economic development of Ghana over the last 18 years, haven served in different capacities in a number of development organizations, including the Institute for Policy Alternatives, WaterAid International, Care International, ActionAid Ghana, Management Systems International, SNV- USA, East Ghana District Assembly and Dongobe Development Management Associates, over the last 18 years.



MARK NEWTON

Mark has a Master's Degree in International Economics / Energy & Environment studies from the Johns Hopkins School of Advanced International Studies.

Mark Newton has been the Energy and Natural Resources Management Team Leader in USAID/Ghana's Economic Growth Office since August 2017. Prior to this, he served as the Deputy Director in the USAID/India's Clean Energy and Environment Office for four years, where he was also the Mission Disaster Response Officer.

He joined USAID in 2012, before which he spent over 10 years working for the Canadian International Development Agency, Canada's Department of Foreign Affairs and International Trade, and the U.S. non-profits in the energy sector. His background is in renewable energy, governance, and natural resources management (watershed and sustainable land management).



NICOLE POINDEXTER

Nicole has BA from Yale University in Political Science and a Masters in Business Administration with Distinction from Harvard University.

Prior to founding Energicity and Black Star Energy, Nicole Poindexter was Senior Director Global Business Development leading Opower's partner relationships with the electricity generation and smart grid industries. In her role, Ms. Poindexter negotiated global partnerships and developed joint product offerings with leading systems integrators, utility operations software providers, thermostat manufacturers, and residential and commercial energy efficiency companies.

As one of the early employees of Opower, she started the business development function at Opower and led the Business Development team through Opower's IPO in 2014. Additionally, Nicole Poindexter was appointed to be an inaugural member of the US Department of Commerce Renewable Energy and Energy Efficiency Advisory Committee under Commerce Secretary Locke. In 2009, she was Vice President of Alliances and Content at GreenBeat 2009, the conference on the Smart Grid, where she created and managed the GreenBeat 2009's Innovation Competition identifying the cutting edge companies and technologies that would define our energy future.

Earlier in her career, Ms. Poindexter was a Portfolio Manager and Director of Investments for the New York City Investment Fund, a venture capital fund founded by Henry Kravis to invest in technology companies in New York City; Senior Policy Advisor for the Mayor's office in the City of New York under the Bloomberg Administration leading economic development in Harlem and the Bronx; and has started several for profit and not for profit organizations.



PHILOMENA DSANE

Mrs. Dsane holds an MBA from the Oxford Brookes University, UK, a Post Graduate Certificate in Management Science from the National Institute for Small Industry and Extension Training, India and a B.A. (Hons) Economics from the University Of Cape Coast, Ghana.

Philomena Dsane is an expert in Business Development and has experience in the different areas of this field. Having worked over 17 years in micro, small and medium businesses development, she is excellent in strategy development, project management, business development, business association development, stakeholder engagement among others. She also has a lot of experience in counseling, coaching and mentoring of entrepreneurs, business advisors and service providers.

Evaluation (PPME) Department of National Board for Small Scale Industries (NBSSI). Prior to her current position, she held various positions in NBSSI. These include Greater Accra Regional Manager, Head of Accra Business Advisory Center, NBSSI; Senior Business Advisor, Women Enterprises Development Department, NBSSI and Head of Ejura Business Advisory Centre, NBSSI, Ashanti Region.

She has also been a consultant for Oxford Wood Recycling Company in UK, Youth and Social Enterprises Fund/Global Communities/USAID. Philomena Dsane is currently the Acting Director for Policy Planning and Monitoring



HON. WILLIAM OWURAKU AIDOO (DEPUTY MINISTER, POWER)

Hon. William Owuraku Aidoo is the Deputy Minister in Charge of Power At the Ministry of Energy from April, 2017 to date.

He is also a Member of Parliament for Afigya Kwabre South Constituency, in the Ashanti Region of Ghana. He was Member of Mines and Energy Committee in which he played a key role in the formulation of the Exploration and Production Act, 2016 which is poised to provide an enabling environment for increased private participation and investment in Ghana's petroleum sector. Also oversaw the successful ratification of seven (7) Petroleum agreements amongst the government of Ghana and various International Oil Companies (IOC).

Member of Privileges Committee which was responsible for ensuring that the rules of parliament were adhered to by both parliamentarians and the general public with regards to parliament.

Hon. William Owuraku Aidoo was the Managing Director of Kucons Company Limited, Ghana. He acted as Consultant to Sinohydro Corporation and was an active member of the team which coordinated and developed the plan to Dam the Pra, Ankobra and Offin Rivers. Was further a key member of the team that prepared the successful bid documents and execution of contract for the rehabilitation of penstocks, spillway gates and cranes at Akosombo Dam (A World Bank-financed project).

DELIVERING POWER

to all Ghanaians

The Ghana Grid Company Limited (GRIDCo) became operational in August 2008 in order to provide open access to reliable, secure, efficient and high quality bulk power transmission and wholesale electricity market operations to meet customer demands and stakeholder expectations within Ghana and the West African sub-region, all in a sustainable and commercially viable manner. We have positioned ourselves as the backbone to power delivery, and by extension, to delivering socio-economic development.



DENNIS PAPA ODENYI QUANSAH

Dennis Papa Odenyi Quansah holds an MSc in Urban Policy and Development from the London School of Economics and Political Science, (LSE) in the UK and an Undergraduate degree in Land Economy from Kwame Nkrumah University of Science Technology in Ghana. He is also a member of the Ghana Institution of Surveyors.

Dennis is an Urban Development professional with a multi-disciplinary background. He has experience working in the built environment in Ghana and has participated in several urban redevelopment projects. He has over the past 8 years provided specific technical inputs for various real estate projects in Ghana. His expertise includes Sustainable Real Estate Development, Real Estate Marketing and Agency, Real Estate Management, Real Estate Valuation and Business Development. He has also undertaken socio-economic surveys aimed at profiling project affected persons (PAPs) for Property Impact Assessment for Compensation and Supplemental Assistance for voluntary relocation and other resettlement packages.

Papa Odenyi currently works at the International Finance Corporation where he leads the IFC EDGE Green Building Market Transformation Program in Ghana and Nigeria and also serves as a support for the sub region.



ERIC GENE

Eric is a Master in Business Administration (MBA) Candidate of the University Of Chicago, Booth School of Business Chicago, Illinois. Global MBA with rotations in Chicago, London and Hong Kong and has a Bachelor of Science in Business Administration, with a dual concentration in Finance and International Management from the Boston University.

Erci has a demonstrated history of working in the construction industry in West Africa, particularly in Design and Construction of Healthcare Facilities, Housing and Sustainable Buildings. Founded a group of companies vertically integrating Manufacturing Factories (Concrete SIPS, EPS and LGS Trusses), Real Estate Development, and Construction in Ghana, Ivory Coast and West Africa sub region, providing diversification and cost savings. Designed and executed Maternity, Neonatal and Pediatric ICU hospital within 5 months to save over 2,000 lives/year. Certified the first sustainable hospital in Africa by the IFC / World Bank Group. Built over 2,400 structures across 3 countries including houses, hospitals, warehouses and apartments. Partnered NGOs to build hospitals and autistic school at cost and supported fund-raising activities, increasing the reach, scope and impact of projects.

He currently works as the Chief Executive Officer of Africa Building Partners



FOSTER OSAE-AKONNOR

A graduate of the Department of Architecture, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, Osa-Akonnor also holds an Executive MBA (EMBA) from the Drucker School of Management at the Claremont Graduate University, California, U.S.A with specialty in Strategy and minors in Finance and Leadership.

Foster Osa-Akonnor is a registered architect with over twenty (20) years of professional experience in Architecture, Urban Design, Project Management and related discipline both in Ghana and the United States of America with half a decade of the professional experience in Retail Architecture in the United States of America.

He is the Principal of the Ghana based architectural firm Arthro Synergeio whose portfolio of buildings includes but not limited to Master Plans, Commercial Office, Hotels, Educational, Industrial, Civic, Retail and Healthcare, Residential.

Again, Osa-Akonnor is the lead founder and CEO of the Ghana Green Building Council, an organization whose mission is “To transform the built environment in Ghana towards sustainability through the way our communities and buildings are planned, designed, constructed, operated and maintained”. Arc. Osa-Akonnor has led the council in the preparation of an Eco-communities National Framework (already embodied in the National Housing Policy). Again as the leader and a member of the team of Ghanaian assessors in training and in collaboration with the Green Building Council of South Africa, the joint team successfully certified the One Airport Square which achieved a 4 Star Rating for Commercial Office (Design) using the Green Star Rating tool.

He was a member of the Technical Committee that developed the Ghana Building Code. He is the Immediate Past Honorary Secretary of the Ghana Institute of Architects and a member of the erstwhile governing board of the Architects Registration Council of Ghana.



KOFI ESSEL-APPIAH

studied architecture at the Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil receiving competition awards for his outstanding design inputs along the way. He graduated with Honors in 1990. Having lived in Brazil for close to a decade, Kofi Essel-Appiah brings to bear in his professional solutions a mix of experiences from his diverse background, travels and international exposure. He has, since his return to Ghana, been dedicated to the propagation of sound architectural design in a wide-ranging portfolio of projects via PREDIOS, his professional practice.

His creative strengths and ability in leading and coordinating technical and professional teams in the building and creative industries have been the bedrock of the success of PREDIO. Since 1995, Kofi Essel-Appiah has anchored PREDIOS in executing a mix of projects ranging from residential high-rise buildings for property developers through to the design of Master Plans.

Among some his key assignments have been; being the Lead local Consultant for the Construction of the Japanese Embassy in Ghana, being Project Coordinator/Consultant for the Golden Tulip Hotel, Kumasi and Project Consultant for the World Bank project for Ministry of Food and Agriculture. Others projects include: the Design of the Central University Master Plan, the 3000 seater Central University Multi-Purpose Hall and the Law Faculty of Ghana. Kofi Essel-Appiah's knowledge and passion for “Green” development positions him to provide valuable support and technical contribution to the GHANA GREEN BUILDING COUNCIL, where he is an Assessor. Consequently he has worked closely with the GGBC to grow the early “Green” seeds. Over the years, Kofi Essel-Appiah has developed international collaborations and partnerships with European award winning Architectural practices like OBR of Italy and PITAGORAS of Portugal.

We deliver smart energy for your smart living



UPS power supply



IDC solution



Solar inverter & PV energy solution



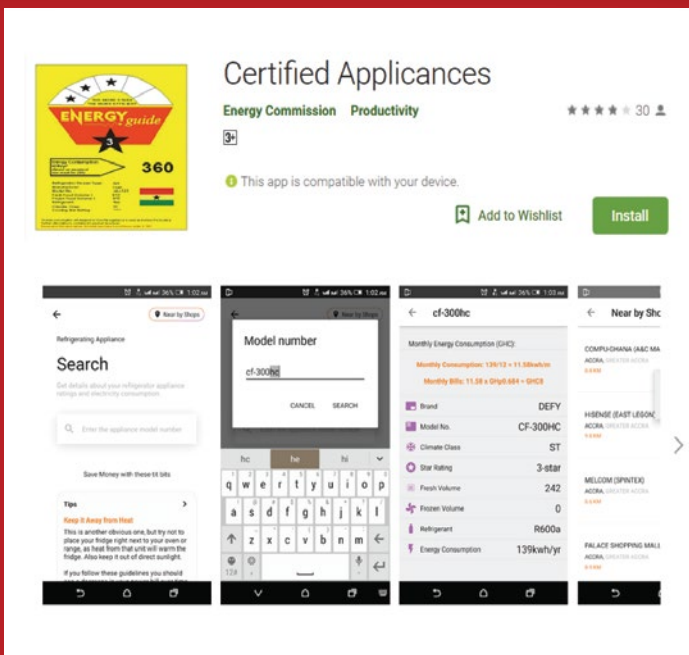
Electric vehicle charging station

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ENERGY COMMISSION'S CERTIFIED APPLIANCES APPLICATION (APP)



- Buying a new fridge or air conditioner?
- Do you know that the Energy Commission has a mobile App that helps you verify the authenticity of the electrical appliances you buy?
- The App is the "Certified Appliances App," and you can download it now at the google play store.
- Go to the google play store, search for "certified appliance App," download and install the App.
- Once you've installed the App, enter the model number of the refrigerator or air conditioner and click search.
- The App will display all the information on specific models of refrigerators or air conditioners.
- You can then compare the information on the yellow label with what is displayed by the APP.
- The App also calculates the monthly consumption of appliances in Ghana cedis
- The App also helps you find nearby shops that sell energy efficient refrigerators or air conditioners, and their energy efficiency compliance levels.
- The more compliant the shop, the more energy efficient appliances they sell.
- the APP comes with tips to help you save energy and money when using these appliances



Energy Commission : Telephone: 0302-813756 / 7,
 Email: info@energycom.gov.gh, Website: www.energycom.gov.gh

EXHIBITOR PROFILES



Responsible for Energy Policy formulation and monitoring.

BOOTH J2&J3



The Energy Commission is a statutory body corporate with perpetual succession and a common seal. The commission's functions relate to the regulation, management, development and utilisation of energy resources in Ghana. The Energy Commission Act also provides for the granting of licenses for the generation, transmission, wholesale supply, distribution and sales of electricity and natural gas.

BOOTH J2&J3



The Electricity Company of Ghana is a limited liability Company wholly owned by the Government of Ghana. The Company was incorporated under the Companies Code, 1963 in February 1997. It began as the Electricity Department on 1st April 1947 and later became the Electricity Division in 1962. It was subsequently converted into Electricity Corporation of Ghana by NLC Decree 125 in 1967.

In July 1987, the Volta River Authority set-up the Northern Electricity Department (NED), which took over from ECG the responsibility for the management of electric power distribution in Brong-Ahafo, Northern, Upper East and Upper West Regions.

The Company is therefore responsible for the distribution of electricity in nine (9) Operational Regions in the southern part of Ghana namely, ACCRA EAST, ACCRA WEST, TEMA, EASTERN, CENTRAL, VOLTA, WESTERN, ASHANTI and SUB-TRANSMISSION. These nine (9) Operational Regions have been decentralised into Districts, thus the Company has eighty (80) Operational Districts.

BOOTH J21



Implemented by
giz
GIZ - German-Zusammenarbeit
International Cooperation

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH together with its partner Government agencies and in collaboration with the private sector in Ghana implements renewable energy (RE) programmes with clearly defined objectives of strengthening Ghana's key energy sector institutions for renewable energy and energy efficiency promotion and development; promoting access to and productive use of energy in underserved communities; and facilitating business partnerships and the exchange of experience and expertise between German and Ghanaian companies. The constant presence in-country of its German partners; and a joint, demand-driven definition of specific tasks within a constantly evolving work plan ensure that GIZ is able to deliver valuable support to GoG's RE policy objectives.

BOOTH J1



The Bui Power Authority was established by an Act of Parliament, BPA Act 740, 2007 with a mandate to plan, execute and manage the Bui Hydroelectric Project, now the Bui Generating Station (BGS). The BGS is a peaking plant with a capacity to generate 400MW of hydro-generated power, which is evacuated from our Switchyard. The Switchyard has been expanded to evacuate our proposed additional 250MW of solar-generated power.

The Authority is poised to lead the industry in Renewable Energy resources. The initial 50MW BPA Solar Project is expected to be completed in 2019.

BOOTH J16



Powering two thirds (2/3) of Ghana with customer delight as our goal!!!

BOOTH J15



GRIDCo was established pursuant to the Energy Commission Act, 1997 (Act 541) and the Volta River Development (Amendment) Act, 2005 (Act 692). The Energy Commission Act provided for the exclusive operation of the National Interconnected Transmission System (NITS) by a Licensed Independent Utility for the transmission of electricity throughout the country whilst the Volta River Development Amendment Act separated the Volta River Authority's (VRA) transmission functions from its other activities within the framework of the Power Sector Reforms.

GRIDCo is thus exclusively licensed to operate the NITS and was incorporated on December 15, 2006 as a private limited liability company under the Companies Code, 1963, Act 179 and granted a certificate to commence business on December 18, 2006. The company became operational on August 1, 2008, following the transfer of the core staff and power transmission assets from VRA to GRIDCo.

BOOTH J22



Wilkins continues to offer you best services and products based on your needs, with Wilkins photovoltaic systems you will discover the offer of real value for money. At Wilkins, we make going solar simple!

BOOTH J4



The Public Utilities Regulatory Commission (PURC) was set up in October, 1997 as an independent multi-sectorial regulator under the Public Utilities Regulatory Act, 1997 (Act 538). The Commission was established to regulate the provision of utility services in the electricity and water sectors as part of the utility sector reform process.

By virtue of the Energy Commission Act, 1997 (Act 541) PURC also has regulatory responsibility over charges for supply, transportation and distribution of natural gas services

BOOTH O48



SPS leverages over 8 Years of Solar Power Solution experience within the Sub-Region and is the forerunner in the manufacturing of quality Solar PV Mono and Polycrystalline Panels in West Africa with an annual production capacity of 30MW but will be expanded to produce a total capacity of 100MW as sales scale up. We design and install customized Solar Power Systems for Commercial, Industrial and Domestic purposes.

BOOTH J20



Crown Subsea Services Ltd is a Ghana based company registered with the Energy Commission now offering Solar and Battery installations working closely with Wagner Renewables Ltd, a UK based international distributor and installer specialising in renewable technologies, such as Solar PV, Battery Storage and Electric Vehicle Charging

BOOTH A1



With More than 10 years in the renewable energy industry, Tino Solutions Limited have served more than 910+ customers and counting in Ghana and some parts of West Africa (particularly, Togo, Benin, Nigeria, Burkina Faso, Ivory Coast and Liberia) with varied solar system capacities for homes, warehouses, hotels, hospitals, offsite projects, farms, gov't projects, etc. We have installed and distributed more than 15MW solar systems as at the end of 2017.

BOOTH A5



Halo International Ghana Limited is specialised in all kinds of renewable energy products, such as rooftop solar system, led, batteries, inverter etc. Halo is also able to design, construct and commission diverse scale of solar power plant.

BOOTH A2 & O9



ALPHA POWER VENTURES LTD.

Over 2 decades of experience in Lighting and Solar; Own 23 MW Solar Farms and over 100 MW installation base. Manufacturing facilities in Accra, Mumbai, Delhi and Shanghai". An organization of engineers striving to conserving and making green energy viable.

BOOTH O8 & O7



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Accra, Ghana

Tel: +233 5005 12345

Fax: +233 302506190

Email: info@sunin.com.gh

Website: <http://www.sunin.com.gh>



Africano Electro is a limited liability power generation and electrical equipment distribution Company, headquartered in Accra, Ghana. We specialize in the provision of detailed and tailored services for public, industrial, commercial and private developments in the area of renewable power generation, supply of electrical hardware and power generation, transmission and distribution equipment.

BOOTH J13



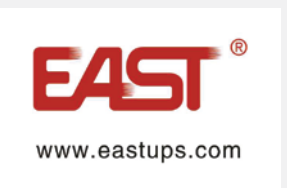
Energising Development (EnDev) is a multi-donor, multi-implementer energy access programme currently financed by six donor countries - the Netherlands, Germany, Norway, the United Kingdom, Switzerland and Sweden. EnDev promotes sustainable access to modern energy services that meet the needs of the poor - long lasting, affordable, and appreciated by users, and EnDev in Ghana facilitates access to energy for productive use, as an indispensable pillar for increased productivity and economic growth in agriculture and agro-processing.

BOOTH O6



DSTC is an innovative contributor to the wider use of solar energy in West Africa, Ghana in particular. It has helped to expand the solar market in Ghana and other ECOWAS countries by providing technical training on the design, installation and maintenance of stand-alone solar systems, grid-connected solar systems and on solar water pumping systems.

BOOTH A7



Established in 1989, 2.329 billion CNY registered capital. A Global Smart City and Smart Energy System Solutions Supplier. A focused high-tech enterprise in The Nation Class Lighted Torch Plan, National-recognized enterprise technology center, National technology innovation demonstration enterprises.

Global Top 500 new energy enterprises, ranked 18th in Global Competitiveness Top 100 new energy enterprises Committed to providing green, energy-saving, stable, reliable and continuous power supply equipment especially UPS system, solar PV system, energy storage system and EV charging stations.

BOOTH A3



Lumentech Solar Energy provides integrated, tailor-made, energy solutions to homes and businesses. A one-time investment can reap you a lifetime of freedom from electricity bills. We give you a fully-integrated solution that will enhance the delivery of cost savings, maintenance reliability, energy efficiency and high performance for all your equipment in the execution of their required duties at their installed location.

BOOTH O43



Let the sun in! Interested in solar power for your homes, offices, schools, your farms and what have you, just call on SUNIN LIMITED located at 20A American House, East Legon-Accra. Established in December 2016 in Ghana, SUNIN LIMITED comes with the best of Technology built for the EU Market. We design, install and maintain all levels of solar systems from KW to MW series.

BOOTH A4



We are a premium quality VRLA battery manufacturer from South Korea since 1990. We specialize in GEL solar batteries for deep cycle storage applications and inverter uses.

BOOTH O45



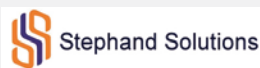
Nyankonton Solar, proper residential and commercial installation with high quality products, best customer service among our competitors in Ghana. Let's help you Go Green and Make Green!!!

BOOTH
O37



Better LIGHT Better LIFE: PEG Africa is a major off-grid Solar Company in West Africa which delivers Pay-As-You-Go (PAYG) Solar Home Systems to people living in remote areas who lack both access to reliable electricity and formal banking services. For over five years, PEG's Solar Home System has allowed consumers living on \$1 - \$3 per day to replace their perpetual spending on poor quality polluting fuels, such as kerosene, with clean solar energy which with very flexible payments, which becomes an asset the customer owns. With presence in Ghana and Cote d'Ivoire, PEG works at the intersection of the most exciting trends in Africa - solar energy, mobile money, machine-to-machine technology- and is backed by venture capital and private equity, including a fortune 500 company. Winner of the Ashden Awards, named by London Stock Exchange among Fast Growing Companies in Africa and BBC Top 5 Technology Trends in Africa (2018).

BOOTH
O36



Stephand solutions is Ghana's No.1 company that deals in the Energy Savings devices for air conditions, sells the most Energy Efficient Fans- 28 watts and the Salt Powered Lights.

BOOTH
J14



GSA- Green Solar Africa is an off grid solar company incorporated in Ghana as an LLC on August 7, 2015. We aim to make off grid solar options affordable to a majority of the population through innovative business models and technologies. Integral in our mission is the education of our customers on how solar is both renewable and sustainable.

BOOTH
O38

Our Products - We offer 1KW, 2KW, 3KW, 5KW and customizable systems. All our systems come with a 5 year warranty and quarterly maintenance policy. Customers also have the option to purchase an insurance policy that survives the warranty protection. Our dedication to customer service is ensured through the availability of a 12 hour customer helpline.



It is a renewable energy solutions company bringing to your doorstep green energy methods to help mother earth, so we bringing you Home biogas, this is an off-grid system that generates clean energy without any electricity and allows you to properly treat your household waste! The system produces up to 2 hours of cooking gas every day solely from your food scraps or animal waste.

BOOTH
O41



SunPower Innovations is a leading Solar Engineering, Procurement and Construction company that provides reliable and affordable off-grid, on-grid and hybrid solar systems for homes, businesses and government agencies.

BOOTH
O40



Ghana Standards Authority develops and promotes Standards and undertakes Testing, Inspection, Certification and Measurements. This is to ensure that goods and services produced are safe, reliable and of good quality.

BOOTH
O49

everpure®

Purified Drinking Water



Ghana Industry Award 2017
National Quality Award Gold (Category A)
Made in Ghana Products & Service Awards 2016
Purified Drinking Water Of the year 2016.



EM is a company that prides itself in delivering quality services in the field of renewable energy, specifically in Solar Split air conditioners. Our intentions are specific we employ a smart and innovation way of addressing paying high electricity bills via the use of traditional ACs; by adopting a modern, cost - effective, efficient, clean and green technology in air conditioning delivery. EM is the first to introduce to Ghana its finest ultramodern solar air-conditioning under the brand name BUILDFREEZE.

BOOTH O66



Guangdong Suiming Photoelectric Co. Ltd is part of SUIMING Group, is a growing company highly focused on LED LIGHTING and Solar products & Solution since 2003. It employs a professional, competent and efficient Technical Research Development team to ensure continuous innovation on products. Product quality is proven by numerous certifications ISO9001. T28001. ENEC. VDE. TUV SAA CE.

BOOTH A6



Incorporated on the 12th of January 1996, GLOBAL LIGHTING CENTRE LTD seeks to supply and install at the request of its valued customers, top quality lighting fittings and accessories from some of the world's leading manufacturing companies.

With the aim of achieving excellence in service, GLOBAL LIGHTING CENTRE LTD does not just retail the fittings and accessories but go a step further to offer expert advice to ensure that all lighting fittings supplied meet the needs of our clients and are used appropriately for efficiency.

BOOTH O 67



SNV is a not-for-profit international development organization aim not only to improve individual lives, but to contribute in addressing global challenges in three key areas that strongly impact the poor - Agriculture; Energy; Water, Sanitation & Hygiene.

BOOTH O 47



Research, training, and commercialization of sustainable renewable energy technologies including Solar PV and Biogas Systems

BOOTH O39



The Ghana Energy Awards aims to recognize the efforts, innovation and excellence stalwarts within the energy sector and to celebrate the tremendous work of the players competing under various categories of the awards.

Attending the Ghana Energy Awards is a perfect opportunity to network with the sector's finest players in an exclusive surrounding with a dynamic party atmosphere in the night.

BOOTH Y 68

Venue: Movenpick Ambassador Hotel **Date:** 30th November, 2018
Theme: "SUSTAINABLE ENERGY FOR A GHANA BEYOND AID"
 For more information/sponsorship please contact us on 0244443786/0541555561 or info@ghanaenergyawards.com

RESEARCH HUB



The Brew-Hammond Energy Centre (TBHEC), Kwame Nkrumah University of Science and Technology (KNUST), is a novel institutional mechanism which allows researchers from different disciplines within and outside KNUST to work on energy issues of national and international relevance and thereby contributing towards the development of the energy sector.

**BOOTH
032 - A6**



**BOOTH
032 - A6**

Funded by a grant from the Governments of Denmark and the Netherlands through the WorldBank, and managed by a consortium comprising Ashesi University College, Ernst and Young, SNV Ghana and the United Nations University, the Ghana Climate Innovation Centre (GCIC) is a pioneering business incubator with a unique focus of developing SME ventures and entrepreneurs in Ghana's 'Green Economy'.

Our mission is to develop and support an exceptional set of transformational ventures and entrepreneurs who are pioneering adaptive and mitigating solutions for climate change issues in Ghana. We do this with a focus on five key economic sectors (energy efficiency & renewable energy; solar power; climate smart agriculture; waste management; waste purification and management), providing business advisory services, business mentoring, capacity building services as well as financial grants to qualifying SMEs within our incubator.



The University of Energy and Natural Resources (UENR) was established by an Act of Parliament, Act 830, 2011 on December 31, 2011. The University is a public funded national institution which seeks to provide leadership and management of energy and natural resources and be a centre of excellence in these critical areas.

**BOOTH
032 - A6**



Ho Technical University (HTU) started as a Technical Institute in 1968 and advanced to become a Technical University in 2016 after the Technical Universities Act, 2016 (Act 922) was passed by Parliament.

HTU is the hub of technological and practical education in Ghana that trains students in Engineering, Applied Sciences, Art, vocational and Business fields.

**BOOTH
032 - A6**



Abibifahodie Adesuabea (The Afrikan Liberation School) is a Pan-Afrikan school that focuses on learning from an Afrikan perspective using practical Afrikan traditional methods. Our teaching methods are integrative, engaging, interactive, and personalized to each child's learning style and needs.

Our students learn entrepreneurship, math, science; including agricultural and renewable energy development, Afrikan culture and languages to instill pride in our culture, and to provide them with the inspiration and skills needed to implement practical solutions for the betterment of Ghana and Afrika as a whole.

**BOOTH
032 - A6**

IMPROVED COOKSTOVES MARKET (GHACCO)

Abellon

Abellon is a pioneer and leader in the bioenergy segment, with focus on biomass pellets and pellet based appliances, bio-power generation, Solar power, liquid biofuels, and waste to energy generation. The company has a global footprint across Asia (India), Africa (Ghana), North America and Europe.

Abellon is manufacturing, distributing, promoting and marketing various models of pellet based Cookstoves range for commercial and institutional application with brand name Eco-Stove Smart 3, Smart 6, Smart 9, Smart 15 along with Eco-Pellets as clean fuel in the market to various segments including schools, universities, canteen, Chop bars, restaurants. Our model has the potential to address the issues by offering a clean, safe, sustainable and affordable source of energy for cooking in form of Eco-Stove and Eco-Pellets.

BOOTH
033 - 035



ASA Initiative is an NGO that builds capacities in Biochar Energy Systems in Ghana and Africa to increase access to Elsa Biochar Energy clean cookstoves and energy systems, to improve soil fertility, increase food production, reduce deforestation, mitigate climate change through biochar technology under Biochar Plus and Africa Biochar Partnership

BOOTH
033 - 035



CookClean Ghana Limited, established in 2010, runs a vibrant operation manufacturing and selling efficient charcoal stoves branded CookMate® which significantly reduces woodfuel use (charcoal) and CO2 emission. In addition, CookClean produces green fuel briquettes and charcoal from sawdust to support the sustainable use of biomass.

BOOTH
033 - 035



Institute for Sustainable Energy and Environmental Solutions (ISEES) is a non-profit social enterprise committed to identifying, promoting and deploying innovative solutions in the renewable energy, environment and sanitation to improve the lives of rural and peri-urban households in Ghana.

ISEES operates through training, research, consultancy and technology deployment. Innovative products such as solar lighting and drying products, LED bulbs, clean cookstoves (household and institutional), sustainable fuels (bamboo, briquettes and pellets), water filtering equipment, and biogas digesters.

ISEES is in partnership with Prime cookstoves to promote natural draft gasifier stoves in Ghana. ISEES seeks to partner with local and international organizations, companies and research institutions to promote access to modern energy services through innovative business models in Ghana and West Africa.

BOOTH
033 - 035



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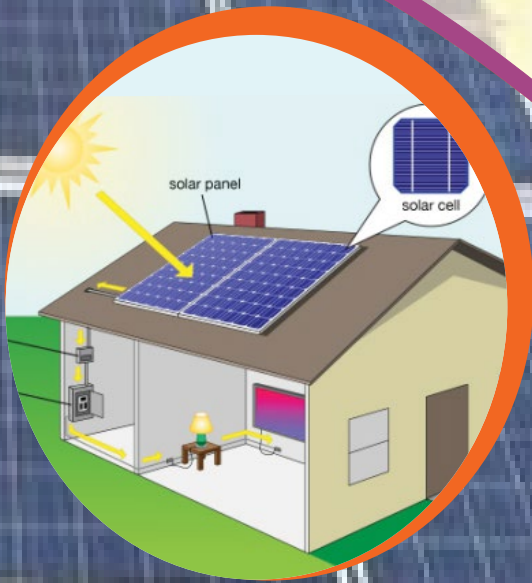
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ECG Engineers at a 20 megawatt Solar
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directly into the ECG distribution
network in the Winneba and Saltpond
areas



An ECG Non-Residential
customer has taken advantage
of Solar Rooftop generation
with an installed ECG Net Meter



A typical ECG Net Meter for a
Residential customer in the
Accra East Region



EMOP SECRETARIAT

The day-to-day administration of EMOP is coordinated by the EMOP Administrator. The Administrator operates from a Secretariat established by the Energy Commission with officers to assist in the day to day administrative and operational activities of the EMOP.

PUBLICATIONS

● Ghana Wholesale Electricity Market Bulletin

The Ghana Wholesale Electricity Market Bulletin is aimed at disseminating information on the GWEM to the general public. It analyses the performance of the key Wholesale Electricity Market indicators against their benchmarks and also examines the likely implications of any discernable trends in the market.

The bulletin attempts to simulate the market by using operational data in producing market indicators such as the System Marginal Cost (SMC) and Average Market Prices (AMP). The bulletin also provides information on power plants operations, efficiency and prices of fuel used for electricity generation.

● Weekly Wholesale Electricity Market Statistics

The weekly Wholesale Electricity Market Statistics is a similar document to the Ghana Wholesale Electricity Market Bulletin. However, as the name implies, it's a weekly publication that provides information on a day by day basis. Information published include fuel cost of generation, supply and demand, efficiencies of the various power plants, Spot Market Price and Average Market Price.

CONTACT INFORMATION

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ELECTRICITY MARKET OVERSIGHT PANEL (EMOP)

EMOP AT A GLANCE



ABOUT THE EMOP

The EMOP is an eleven member panel established by the Electricity Regulations, 2008, (L.I. 1937).

The EMOP supervises the operation and administration of the Ghana Wholesale Electricity Market (GWEM).

The EMOP advises the Energy Commission on the operation and administration of the GWEM.

The Electricity Market Oversight Panel consists of:

- A chairperson,
- The Executive Secretary of Energy Commission,
- The Executive Secretary of the Public Utilities Regulatory Commission,
- The Chief Executive Officer of the Electricity Transmission Utility (GRIDCo),
- The Head of Systems Operations and Control of GRIDCo,
- One representative nominated by each of the following
 - distribution licensees, and
 - bulk customers,
- Two representatives nominated by the wholesale suppliers,
- One person responsible for the administration of the Electricity Market Oversight Panel, and
- One other person with knowledge and experience in matters relevant to the wholesale electricity market.

The EMOP was officially inaugurated and members sworn into office on 22nd December, 2017.

FUNCTIONS OF EMOP

- To monitor the general performance of the market administration functions of the transmission utility.
- To ensure the smooth operation of the wholesale electricity market.
- To review the operation of the wholesale electricity market and studies related to the development of the market.
- To review procedures, manuals and electricity market rules for the operation of the wholesale electricity market.
- To monitor pre-dispatch schedules
- To resolve disputes referred to it by market participants in respect of transactions in the wholesale market.
- To ensure the effective and consistent application by the utility of the rules and standards of the wholesale electricity market.
- To ensure the long term optimization of the hydro-electricity supply sources in the country.
- To make appropriate recommendations to the Energy Commission in respect of the panel's functions.
- To perform any other function conferred on it by Energy Commission.

MISSION

To institutionalize a fully functional, well administered contestable Wholesale Electricity Market in Ghana, where there is fairness and transparency, to boost investor confidence and drive efficient operations of market participants in an effort to provide adequate, safe, efficient and reliable electricity to support the socio-economic development of Ghana.

VISION

To make the Wholesale Electricity Market of Ghana, a model and a benchmark market structure in Africa.

EMOP WORKING COMMITTEES

- Compliance
- Regulatory and Legal
- Technical and Commercial

GHANA WHOLESALE ELECTRICITY MARKET PARTICIPANTS

- Wholesale Electricity Suppliers
- Distribution Companies
- Bulk Customers
- Electricity Brokers

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Republic of Ghana

RE FAIR TEAM

**KOFI ADU
AGYARKO**

DIRECTOR, RENEWABLE
ENERGY, ENERGY
EFFICIENCY & CLIMATE
CHANGE (REEEC),
ENERGY COMMISSION,
GHANA



DR. NII DARKO ASANTE
DIRECTOR, TECHNICAL
REGULATION



JULIUS NKANSAH-NYARKO
CHIEF PROGRAMME
OFFICER, BIOENERGY
RE FAIR COORDINATOR



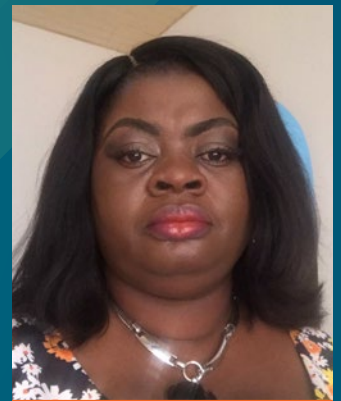
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NATIONAL COORDINATOR,
SE4ALL



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SHIRLEY TSIKATA
PROCUREMENT MANAGER



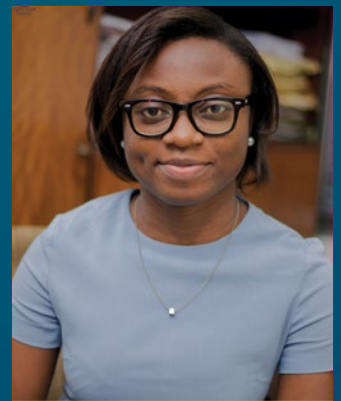
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MICHAEL KOFI ABROKWA
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ADOMA ANTWI**
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