

# GHANA SEforALL NEWS

GHANA SEforALL  
SECRETARIAT

GHANA'S SEforALL ACTION  
AGENDA SEEKS TO BY  
2030:

- > Ensure Universal Access to Modern Energy Services
- > Increase the Share of Renewable Energy in the National Energy Mix to 10%
- > Increase the National Rate of Improvement in Energy Efficiency

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## PROGRESS ON HIGH IMPACT PRIORITY AREAS

### ENSURE UNIVERSAL ACCESS TO MODERN ENERGY SERVICES

#### \* Electricity Access

#### National Rooftop Solar Programme

The Energy Commission, under its National Rooftop Solar Programme has created a district level sub-component which focuses on facilitating access to electricity in off-grid communities using solar rooftop systems. Under this programme sub-component, the Commission is providing 60%-80% subsidy for a 200Wp-500Wp solar PV system for up to 1,200 rural households in 2018.

A pilot was done in the last quarter of 2017 and this saw the deployment of 500W solar PV systems in 200 rural households in sixteen (16) communities in Abetifi and Mpraeso constituencies of the Eastern Region. An initial assessment conducted for the solar electricity intervention showed the

following benefits:

- i) Increased economic activities such as petty trading due to longer working hours as a result of availability of lighting;
- ii) Beneficiaries save an average of GH16.00 per month because they no longer buy batteries for radios and torchlights;
- iii) The school children are able to study in the evening due to brighter lighting from the solar PV system, compared with the light from the torchlight;
- iv) Improved security in communities due to well-lit spaces; and
- v) Improved access to information from the use of television sets.

Other sub-components under phase two of the programme are targeted at: a) public facilities like government Ministries, Departments and Agencies (MDAs); and Metropolitan, Municipal and District Assemblies; and b) Commercial ventures.

The first phase of the National Rooftop Solar Programme was implemented from February 2016 to September 2017, targeting residential users in urban and peri-urban areas nationwide. About 620 households were supported under the first phase resulting in a total installed capacity of 537.45kW.

### **Strengthening Mini-Grid Electrification Policy through Evidence based Advocacy**

The Netherlands Development Organisation (SNV) is partnering with the International Food and Policy Research Institute (IFPRI) to implement an evidence based advocacy programme called Voice for Change Partnership (V4CP). The five-year programme begun in January 2016 and is supported by the Dutch Ministry of Foreign Affairs. To drive evidence based advocacy in the area of mini-grid electrification in Ghana, a study was conducted to:

- i) Examine the policy and regulatory gaps inherent in the existing framework guiding the deployment of mini-grids electrification

systems;

- ii) Analyse the constraints posed by the current energy sector institutional set up on the deployment of mini-grids electrification systems;
- iii) Establish the concerns of the private sector and analyse the suitability of the existing framework of policies, legislations and institutional structures to attract private sector participation in the sector;
- iv) Examine the role of the private sector in off-grid based mini-grid electrification; and
- v) Review successful business models and case studies in other jurisdictions.

Some of the findings reported from the studies are summarized below:

- i) The Energy Policy (2010) and the Renewable Energy Act, 2011 (Act 832) do not explicitly highlight mini-grids as one of the key interventions to be deployed to achieve universal electricity access by 2020. Likewise, the National Electrification Scheme review in 2010 did not mention mini-grids as an option to attain universal access;

- ii) A mini-grid policy decision made in 2016 gives very little information on: the future prospects of the intervention, protocols for grid-integration in the event of being caught up with the national grid, the role of the private sector, etc. The policy is clear on the application of uniform tariff to mini-grid users but does not state how private sector operators will be compensated;

- iii) According to the private sector, the mini-grid policy is restrictive. They are of the view that if mini-grids are to be integrated into the rural electrification scheme, as spelt out in the mini-grid policy decisions, then there must be an investment plan on how it is to be funded and what role private sector could play.

Recommendations made include:

- i) The need for a comprehensive mini-grid policy document that clearly defines the technical requirements for mini-grid installations, grid integration protocols, the

role of different stakeholders, etc.;

- ii) The need for an integrated and comprehensive 'last mile' electrification plan for Ghana that harmonizes and clearly outlines areas to be connected to the national grid and those to be served by mini-grid electrification;
- iii) The application of the uniform tariff policy to mini-grid users makes moral sense. To facilitate private sector participation, a cross subsidy scheme and/or capital subsidy scheme should be introduced by government;
- iv) The role of the private sector should not be limited to construction and management of contract activities. The private sector should be allowed to build, own, operate and maintain mini-grid installations;
- v) The licensing process should be simplify to reduce transaction costs for private operators.

### **\* Improve Access to Clean Cooking Solutions**

#### **Implementation of the National LPG Promotion Policy**

The Government of Ghana has set an aggressive and ambitious target to transit the nation from the current model of liquefied petroleum gas (LPG) cylinder ownership by households to the best practice model of cylinder recirculation which is practiced in developed countries and some developing countries like Morocco, India, Ivory Coast, Senegal, etc. The National Petroleum Authority and the Ministry of Energy is working closely with representatives of oil marketing companies, LPG retailers, and bulk oil distributors on the transition strategy to ensure the participation of these players in the new model. The recirculation model is expected to take off by the last quarter of 2018.

Technical assistance is being given by the Government of India, the Global Alliance for Clean Cookstoves and the Global LPG Partnership.

### Clean Schools Kitchen Project

A Clean Schools Kitchen Project has been initiated by the Minister for Local Government and Rural Development, Hon. Hajia Alima Mahama to support Metropolitan, Municipal and District Assemblies (MMDAs) to construct clean kitchens fitted with efficient cookstoves and clean fuels for the school feeding programme. The objective is to construct new school kitchens and upgrade existing ones with efficient biomass cookstoves or LPG stoves for cooking, based on the cooking fuel that is dominant, affordable and easily accessible in an area.

The immediate target is to equip 100 schools with clean kitchens by 2020.

The pilot phase of the intervention is being supported by the Global Alliance for Clean Cookstoves with the provision of clean kitchens in 10 schools.

### \* Promote Productive Uses of Energy

#### GIZ Collaborates with Energy Commission to increase Awareness on Productive Uses of Energy in Three Regions

In the first quarter of this year, GIZ collaborated with the Energy Commission to organize PUE promotion workshops for the remaining three regions: Upper East, Central and Eastern Regions of Ghana. The workshops were used to provide a platform for identified resource persons from: University of Development, Tamale; GIZ; SNV; USAID; PENS Foodbank; Burro Brand; Tip Top Farm; Pumptech; Foundaries and Agricultural Machinery; district level vegetable farmers associations; financial institutions and the Energy Commission to share their activities in PUE and experiences.

A total of 114 persons from district agriculture offices, financial institutions, farmer group associations, private energy service providers, and research and academia participated in the three workshops.

Challenges identified to the implementation of PUE interventions include: high cost of solar

PV irrigation system; land rights and access challenges; unwillingness of financial institutions to advance loans to farmers due to their inability to provide the needed collateral, hence the relative low financing opportunities in the sector; improper documentation of land as an asset; non identification of PUE as a priority intervention for district assemblies; etc.

Some solutions suggested include: using solar PV systems without battery storage to reduce cost by 40%; Agricultural officers could facilitate access to bank loans by identifying and referring farmers who are potentially ready for investment to financial institutions; and financial institutions could play a more active role in offering business advisory services to farmers to support them to manage their farms as a business thereby reducing their risk of loan default.



**Participants of the Eastern Region PUE workshop (Photo credit: Michael Kofi Abrokwa, Energy Commission)**

Seven regions were covered in 2016 to 2017. UNDP, as part of their institutional support to the implementation of Ghana's Sustainable Energy for All Action Agenda, supported six of the regional workshops to increase awareness on productive uses of energy (PUE). The workshops were used to link interested beneficiaries with technology and service providers at the districts. The German Development Cooperation (GIZ), the main SEforALL partner for the promotion of PUE in Ghana, supported the Upper West regional workshop held in November 2017.

## **INCREASE THE SHARE OF RENEWABLE ENERGY IN THE NATIONAL ENERGY MIX TO 10%**

### Capacity Building for Solar PV Professionals

The passage of the Renewable Energy Act, 2011 (Act 832) has opened up the market for renewable energy technologies and businesses in Ghana. A major challenge identified during the implementation of the pilot phase of the National Rooftop Solar Programme was inadequate human capacity and limited competencies of solar installers. It was estimated that over 500 solar PV technicians are required to fully implement the rooftop solar programme.

To address the human resource challenge identified, the Energy Commission with support from the Skills Development Fund of the Council for Technical and Vocational Education and Training (COTVET) engaged the services of DENG Solar Training Centre (DSTC), Accra and the University of Energy and Natural Resources (UENR), Sunyani to train 250 persons nationwide in solar PV installation.

DSTC built the capacity of 100 solar technicians from solar companies licensed by the Energy Commission in the design, installation and maintenance of grid-tied solar PV systems. The UENR on the other hand trained 150 new technicians in basic off-grid solar PV design, installation and maintenance.



**Some participants of the training by UENR in Sunyani (Photo credit: Michael Kofi Abrokwa, Energy Commission)**

Skills Development Fund provided 60% of the project cost as grant and the Commission, 40%.

## INCREASE THE NATIONAL RATE OF IMPROVEMENT IN ENERGY EFFICIENCY

### Development of Standards and Regulations for 2D Electrical Appliances

The Ghana Standards Authority and the Energy Commission are developing standards and regulations, respectively, for 2D electrical appliances. The Authority has developed two new standards for televisions and decoders. It has also reviewed existing standards for air conditioning to include new inverter and solar technologies; refrigerators to increase efficiency rating from maximum of five-stars to seven-stars; and lighting to include streetlights. The supporting regulations for these newly developed and reviewed standards would be drafted by the Energy Commission.

The development of the new standards and regulations is supported by the United States Millennium Challenge Compact 2.

Parliament has passed into law LED regulations LI2353. The development of this regulation was supported by the Renewable Energy and Energy Efficiency Partnership (REEEP).

### Awareness Creation on Standards and Labelling Schemes and Energy Tip Bits

Public awareness creation and education is ongoing at the regional level to increase awareness on existing standards and labelling schemes and associated benefits of buying an appliance with an energy label. An app has been developed to assist consumers to identify energy efficient refrigerating appliances. It also gives energy efficiency and conservation tips. The app can be downloaded from google "Play Store" on android devices. It is currently being updated to cover other

electrical appliances like air conditioners, lighting, etc.

The public awareness and education programme is being done through collaboration with selected radio and TV stations who have provided their platform in support of the above mentioned activities.

## PARTNER SPOTLIGHT



The Institute for Sustainable Energy and Environmental Solutions (ISEES) is a non-profit development organisation established in December 2014. The services provided by ISEES include: technical training, research, consultancy, community development, renewable energy and energy efficiency technology deployment, climate change, environmental conservation, natural resources management, water and sanitation aimed at improving the livelihoods and environment of households, communities and small enterprises in Ghana and Africa.

ISEES works in three main areas: energy, environment and water.

In the area of energy, ISEES promotes the use of solar PV and solar thermal technologies and products, clean stoves and sustainable fuels, and biogas technologies. Renewable energy and energy efficiency activities outlined by the organisation for 2018 to 2020 include:

### Capacity building and awareness creation:

- i) Increase the capacity of 100 youths in sustainable energy business incubation to establish 30 businesses by 2020;
- ii) Increase the awareness of 2,000 people on the benefits of sustainable energy and energy efficient products and services;

- iii) Increase awareness and application of renewable energy and energy efficiency technologies, and environmental conservation practices among 300 students by 2020.

### Advisory services:

- i) Provide advisory support to at least 20 sustainable energy businesses in development of business plans, operations, and how to access finance and market;
- ii) Provide at least 30 consultancy services to at least 10 organisations in research, capacity building and technology development;
- iii) Establish stronger partnerships with at least 5 district assemblies and contribute to the development of their renewable energy, climate change and sanitation action plans and programmes.

### Knowledge development

- i) Conduct at least 60 research in renewable energy by 2020 to improve knowledge and provide evidence for policy advocacy and technology development;
- ii) Prepare and disseminate at least 30 policy and research briefs to increase knowledge in renewable energy and energy efficiency;
- iii) Support at least 150 students in renewable energy and energy efficiency research by 2020.

### Technology deployment and marketing unit

- i) Disseminate at least 1,500 solar lanterns by 2020 to households and women agro-processors in rural and peri-urban communities;
- ii) Promote access to at least 100 solar thermal systems (solar dryers, heaters and cookers) for households and agro-processing groups by 2020;
- iii) Promote access to 6,000 LED bulbs by 2020 for households and institutions to reduce their energy expenditure;

iv) Promote the use of improved institutional cookstoves for productive uses among women groups involved in fish smoking; rice parboiling; cassava, shea butter, and palm oil processing; and school feeding;

v) Collaborate with other stakeholders to install at least 15 institutional biogas systems and 150 household biogas systems by 2020;

vi) Promote the use of biomass gasifier for electricity generation and plastic pyrolysis for industrial fuel generation.

The activities of ISEES is governed by a 5-member board of trustees and 7 council of advisors. It has a total of 20 core staff consisting of 5 managerial, 5 full-time and 10 part-time staff. The organisation is supported by 20 associate staff who support in its consulting and training services. It also works with a network of 30 field officers in the regions who support in driving access to renewable energy services at the grassroots.

For more information about ISEES, please go to [www.iseesghana.org](http://www.iseesghana.org) or contact Lovans Dwusu-Takyi via [director@iseesghana.org](mailto:director@iseesghana.org)

## SEforALL RELATED EVENTS HELD IN THIS QUARTER

### LAUNCH OF PAN AFRICAN ETHANOL STOVE AND FUEL ALLIANCE IN ACCRA, GHANA

The Ghana Alliance for Clean Cookstoves and Fuels (GHACCO) and the FITIA Association of Madagascar hosted the first Pan African Ethanol Stove and Fuel Alliance (PAESFA) forum in Accra, Ghana from 5-6 February 2018. The forum was attended by representatives from national alliances, government institutions, private enterprises, and stakeholders across 15 African countries



Group photograph of the PAESFA forum participants (Photo credit: GHACCO)

who were working to accelerate the ethanol fuel market.

The forum was used to discuss and build consensus on the need for the formation of a regional alliance to drive the development and use of ethanol, to increase access to clean fuels in Africa. Issues discussed include: the need to promote biofuels; biofuel resources and their availability across Africa, production technology, cost effective production and distribution; price competitiveness and consumer acceptability; creation of an enabling environment to develop the market in Africa through policy, research and financing; and how to leverage lessons from the past to bring ethanol fuels closer to commercialization in Africa.

The forum was also used to discuss and adopt the name and logo for PAESFA; discuss the constitution and institutional arrangement for PAESFA; and draft a roadmap for 2018. Participants agreed that PAESFA would be permanently headquartered in Ghana, but the Secretariat will be rotated among member states.



### PAN AFRICAN ETHANOL STOVE & FUEL ALLIANCE

#### Adopted name and logo for the Alliance

The Action Plan proposed for 2018 is summarized below:

- Establish the secretariat;
- Define the role of the governing board and budget estimate;
- Conduct market study and map out actors in the sector;

- Find solutions to challenges being faced by manufacturers of ethanol;
- Set up micro distilleries for ethanol production across the region;
- Embark on education, awareness creation and training activities; and
- Draft activity budget for 2018.

Dignitaries present at the event include H.E. Mialy Rajoleina, the former First Lady of Madagascar, and Chair of PAESFA; Prof. Christopher D. Olopade, MD, MPH, professor of medicine and Director, International Programs, Pritzker School of Medicine, Chicago; Wisdom Ahiataku-Togobo, Director for Renewable and Alternative Energy, Ministry of Energy, Ghana; Kwesi B. Sarpong, West Africa Regional Market Manager, Global Alliance for Clean Cookstoves and Fuels; Hilary Njau, Director, Mkoa, Tanzania; Joy Isimoya, Deputy Director, Project GATA, Nigeria; Desalegn Gephaneh, Director, Project GATA, Ethiopia; Nirina Rakotomanantsoa, Coordinator, FITIA Association, Madagascar; etc.

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Link to the Ghana SEforALL Action  
Plan: [http://energycom.gov.gh/  
renewables/se4all](http://energycom.gov.gh/renewables/se4all)

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