

# GHANA SEforALL NEWS

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## PROGRESS ON HIGH IMPACT PRIORITY AREAS

### PROMOTE PRODUCTIVE USES OF ENERGY (PUE)

- \* A total of seventeen (17) farmers to date have been supported by the German Development Cooperation (GIZ) under the Energising Development (EnDev) Project to install solar PV systems for irrigation. The major barrier to the rapid attainment of the project’s target to reach 30 farmers under the capital subsidy scheme is the upfront cost to the farmer, particularly, the small scale farmer. In addition, farmer awareness of support available under EnDev is still low despite several efforts made to disseminate the information.
- \* Deng Limited in collaboration with Deng Solar Training Centre (DSTC) Limited organised a two-day solar water pumps and irrigation workshop at the Best Western Premier Hotel, Airport Residential Area, Accra on 22nd March and on the Twum Danso Farm, near Nsawam on 23rd February 2017. The event was attended by about 44 participants from both the public and private sectors. Attendees included CEOs of firms; Project Managers; Farmers; Representatives from some foreign embassies, the Ministry of Food and Agriculture, Ghana Irrigation Development Authority (GIDA), the Energy Commission, private sector organisations and the Press. Mr. Enoch Yeboah Agyepong, a Sustainable Development Consultant, facilitated the programme.

The workshop was opened by Mr. F.B. Bosteen, the Chairman of DENG Limited. In his address, Mr. Bosteen mentioned that though Ghana has some successful farmers, the numbers are not

## SECRETARIAT

### GHANA’S SEforALL ACTION AGENDA SEEKS TO:

- > Promote Productive Uses of Energy
- > Improve Access to Improved Cookstove
- > Improve access to LPG for cooking
- > Provide Access to Electricity for Remote Communities Using Off-Grid Systems

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adequate to ensure self sufficiency in food production. In his opinion, Ghana could provide food not only for her own people but also for the whole of the ECOWAS region. Even more importantly, agriculture can provide lots of jobs, especially to the young people in the rural area to reduce the high rate of migration to the cities. He added that agriculture can become a net income earner for the nation. He said the main purpose of the workshop was to educate farmers on the use of solar water pumps for irrigation. He further stressed that the most important ingredient for farmers is the capital required to establish the farm. According to Mr. Bosteen, most banks in Ghana are sitting on a lot of funds, a portion of which could be earmarked for investment in developing business such as agriculture, at reasonable interest rate for young and educated men and women.



**Participants at the two-day solar water pump and irrigation workshop**

Other Speakers included Mr. Kai Reinecke, Channel Sales Manager for Lorentz Solar Water Pumps; Prince Yeboah Baafi, Sales Manager at Calli Ghana; Dr. Ben Vas Nyamadi, Chief Executive of GIDA; Mr. Yaw Oppong, CEO of Rural Development Fund; and Mr. Samuel Adobae, EnDev Programme Manager from GIZ.

The two-day solar workshop was to sensitise stakeholders on the benefits of solar powered water pumps for Agriculture irrigation systems. Overall, the workshop and field trip

were hugely informative and successfully facilitated. Participants expressed the desire to advance the course of solar water pumps for domestic water supply and irrigation. It is hoped that the impact of the two-day event will enhance Ghana's food security and energy independence.



**Installed solar water pump irrigation system at Twum Danso Farms**

## IMPROVE ACCESS TO IMPROVED COOKSTOVES

\* **SNV Netherland Development Organisation continues to increase access to and adoption of improved cookstove by agro-processors.** Under the EnDev project, the organisation has facilitated the construction of 155 stoves to date for gari roasting in 12 districts across Volta, Eastern, Central, Brong Ahafo and Northern Regions of Ghana.

SNV has successfully facilitated the creation of a financing scheme in three (3) rural banks for agro-processors. The scheme supported the construction of 100 out of the 155 stoves constructed to date. The organisation began with one stove builder or entrepreneur and has expanded to five stove builders.

Below are some challenges shared by SNV on their promotion of improved stoves for commercial or economic activities:

1. Most stove users want quality stoves but are not willing to pay for the cost associated with quality. Hence, stove

builders are forced to reduce the quality of the stove in order to meet the user's budget.

2. Even though stove users receive orientation on how to maintain their improved cookstove, most of them disregard the maintenance practice. The result is reduced performance of the stove and rapid deterioration.
3. Lack of standard for cookstoves and inconsistency in replicating tested and approved designs.
4. Most financial institutions still consider the cooking sector a high risk venture.

\* **USAID is supporting the promotion of improved stoves for fish processing under the Sustainable Fisheries Management Project (SFMP).**

The SFMP is a Feed the Future Initiative implemented by the University of Rhode Island in the United States of America in collaboration with international and local partners, including SNV, SSG-Advisors, Hen Mpoano, Friends of the Nation, the Central and Western Fish Mangers Improvement Association in Ghana (CEWEFIA), Daasgift Quality Foundation, Development Action Association, and Spatial Solutions. The project is being implemented in collaboration with the Ministry of Fisheries and Aquaculture Development, and the Fisheries Commission.

The primary goal of the project is to rebuild targeted marine fish stocks through the adoption of responsible fishing practices and sustainable harvesting levels. The promotion of improved fish smoking stoves or oven is one of the interventions being implemented to add value to fish products and reduce environmental and health related impacts from the use of inefficient fish ovens.

According to a stove stock-taking exercise conducted by SNV in 2014, there are about 120,000 fish smoking stoves in use along Ghana's coastline and the Volta Lake basin, most of which are fuel inefficient and smoky.

Under the SFMP, a 30% incentive is being provided for the first 200 adopters of an improved fish smoking oven or stove called the 'Ahotor' (meaning comfort) oven. The project provides beneficiaries with the option to finance the oven through loans from designated rural banks.



Above: The Ahotor Oven

Below: Beneficiaries being taught how to use the oven

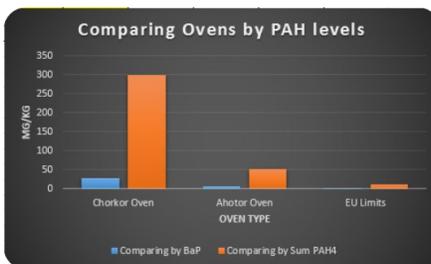


The Ahotor oven, is an improvement made to the Chorkor oven which was developed and promoted in Ghana in 1969 by the Food and Agriculture Organisation (FAO) of the United Nations in collaboration with government institutions. An earlier mold of the Ahotor oven was assessed by the Institute of Industrial Research of the Council for Scientific and Industrial Research (IIR-CSIR) and found to have a fuel saving of 32% over the Chorkor oven.

The Ahotor oven comprises a cement based combustion chamber, a fat collection tray, and fish trays. The combustion chamber is designed to efficiently burn small quantity of firewood to generate enough heat to roast the fish. The fat collection tray allows hot air from the combustion chamber to flow up to roast the fish while preventing fat or oil from

the fish from dropping into the fire to produce smoke.

On issues of food safety, fish smoked in the Ahotor oven was found to have lower concentrations of Polycyclic Aromatic Hydrocarbons (PAH), produced from the incomplete combustion of organic matter such as biomass as compared to the Chorkor oven. Exposure to high levels of PAHs are linked to cancers, cardiovascular disease and poor fetal development.



Comparison of PAH levels in Chorkor and Ahotor oven smoked fish

The project seeks to develop a market for healthy fish, where fish processors can earn more from the sale of better quality, low PAH fish.

The project has identified and trained nine (9) stove construction companies to promote the Ahotor oven, ensure quality control and continued product development.

A total of 60 Ahotor ovens have been constructed to date in the Western, Central, Greater Accra, Volta and Ashanti Regions.

### IMPROVE ACCESS TO LPG

The Government of Ghana (GoG) through the Ministry of Energy (elsewhile Ministries of Petroleum and Power) continues to improve access to LPG in unserved communities nationwide as part of efforts to increase the penetration and adoption of LPG as primary cooking fuel in Ghana. The Rural LPG Promotion Programme which is in its fourth

year has seen the dissemination of free 6kg LPG cylinders, stoves and accessories to approximately 91,190 households nationwide, to date. Specifically, 14,000 households were reached in the first quarter of 2017 in fourteen (14) districts and municipalities across the Ashanti, Central and Eastern Regions of Ghana.

## A SUSTAINABLE ENERGY BUSINESS IN GHANA

### DAASGIFT QUALITY FOUNDATION: PROMOTING CLEAN AND EFFICIENT ENERGY SOLUTIONS

Daasgift Quality Foundation is a financial non-governmental and community development organisation that seeks to empower the poor and needy, especially women and youth, through the facilitation and provision of micro loans and micro business development services. Daasgift promotes access to renewable energy and efficient energy solutions; creates awareness on global warming and climate change; provides education on environmental sustainability, and training on youth career development and employable skills.



A demonstration to create awareness on improved and smokeless household cookstoves

Daasgift identified two main challenges in

Ghana's energy sector :

- ◆ Low consumer awareness, education, and outreach; and
- ◆ difficulty in accessing finance to purchase clean energy products.

The above, coupled with the realisation that energy poverty is a bottleneck to development and access, being key to development and climate change mitigation, formed the premise for the introduction of a clean energy access micro financing initiative by Daasgift.

Daasgift beneficiaries include fish processors, bakers, palm-kernel oil producers, food vendors, 'chop bar' operators, schools, restaurants, retailers and off-grid communities in the Western region of Ghana.



A retailer displaying some of the products supplied by Daasgift under the clean energy access programme



Above and below: Off-grid communities enjoy solar lighting and phone charging installations



Daasgift is a founding member of the Ghana Alliance for Clean Cookstoves and Fuels, the Association of Ghana Solar Industries, and Association of Financial NGOs.

The Founder and Executive Director of the company is Mrs. Gifty Baaba Asmah.

## FACILITATING THE IMPLEMENTATION OF RENEWABLE ENERGY INTERVENTIONS IN GHANA

### STATUS OF THE CHINA-GHANA SOUTH-SOUTH COOPERATION ON RENEWABLE ENERGY TECHNOLOGY TRANSFER PROJECT

The China-Ghana South-South Cooperation on Renewable Energy Technology Transfer (RETT) Project is a four year (2014-2018) initiative established to facilitate exchange of expertise and technology transfer between China and Ghana, thereby building on China's unique development experience. It forms part of Denmark Government's commitments to enable coherent cooperation between China and countries in Africa, in particular around the promotion of the UN's Sustainable Energy for All (SEforALL) initiative.

In Ghana, the project is a collaboration between the Energy Commission, the Ministry of Science and Technology in China together with the UNDP Country Offices in Accra and Beijing. The project is implemented in China by the Administrative Center for China's Agenda 21 (ACCA21).

The RETT Project is focused on creating an enabling environment in Ghana for absorbing new technology and in China for providing it appropriately, with a strong focus on private sector development and inclusion. It is expected that the project will contribute to help increase universal energy access by facilitating off-grid community-based electrification, increase the share of renewable energy, and promote the productive uses of energy to broader socio-economic and environmental

#### DAASGIFT

#### QUICK READ

- ◆ Mobilised over 5,000 women food processors
- ◆ Provided 4,750 micro loans to individuals, groups and micro entrepreneurs
- ◆ Distributed over 3,500 solar powered lanterns
- ◆ Constructed 380 smokeless stoves
- ◆ Constructed over 50 Improved fish smoking stoves
- ◆ Distributed over 5,000 varieties of clean cookstoves
- ◆ Distributed over 600 LPGs cylinders, and over 420 LPG stoves and ovens
- ◆ Distributed 20 KIKE stoves and bio-gel fuel
- ◆ Distributed over 300 cooking bags
- ◆ Supplied 3,000 water filters
- ◆ Established five (5) Village Savings and Loans Associations (VSLA)

objectives.

Below are highlights of the project and achievements since inception:

### 1. Development of a Renewable Energy Master Plan for Ghana

The project has supported the development of a Renewable Energy Master Plan (REMP), which is currently in the draft phase. The development of the plan has been carried out by a special purpose taskforce constituting representatives from the Ministry of Energy, Energy Commission, National Development Planning Commission (NDPC), representative from Academia and ad-hoc members from government agencies and private sector. The objective of the REMP is to provide an investment focused framework for promotion and development of Ghana's rich renewable energy resources for sustainable economic growth as well as reduction of adverse climate change effects.

The task force has consulted extensively to ensure that the plan addresses all the various needs of stakeholders and is realistic based on the demands and projections for energy use in residential, commercial and industrial establishments. The plan will also feed into the long-term plans for the country to ensure consistency and prevent duplication of efforts by various government, civil and private actors.

A major stakeholders meeting was held in March, 2017 with participation from 74 key institutions. The plan is expected to be finalised by the 3rd Quarter of 2017.



**Group discussions during Stakeholder Meeting on the REMP at Koforidua**

The Ghanaian experts developing the plan received significant feedback from their Chinese counterparts who have been involved in the development of China's 5-Year plans.

### 2. Policy Studies on Renewable Energy in Ghana

During the last quarter of 2015, stakeholders validated a study that was commissioned by the Ghana Project Management Unit (PMU) to review the Barriers to Technology Transfer and Propose Strategies to address the gaps. The report was finalised and published online in 2016. The project has also produced another study which focused on Policy Review of the Renewable Energy Sector and Identification gaps.

Chinese experts made substantial inputs towards the development of these two documents by sharing experiences and lessons learnt in the development of a vibrant renewable energy sector in China. The various government programmes, incentives and subsidies were discussed through workshops between Chinese and Ghanaians to offer greater insight and explore aspects that could be adopted and adapted by Ghanaians. The interactions also revealed some challenges encountered by the Chinese in the development process of their renewable energy sector.

The project has also conducted an extensive field survey to capture the status of on-going renewable energy projects in Ghana and documented relevant information on these. This report will serve as an industry reference that will highlight the various interventions by government, development partners, civil societies and private sector in developing the sector. This report is expected to be published by the end of the second quarter of 2017.

### 3. Building Collaboration between Researchers, Policy Makers and Private Sector

Through the collaborative efforts between China and Ghana, the project has developed a comprehensive catalogue of Renewable Energy Technologies in China. This catalogue is intended for the private sector players in the renewable energy industry who require equipment and spare parts from reputable sources to develop their project. The catalogue seeks to address the challenge faced by project developers and importers who have difficulty in establishing business contacts with manufacturers of quality products.

The project has also collaborated with research organisations to develop criteria for selection of appropriate renewable energy technologies for transfer. This enables Ghana's government to prioritise specific technologies and products that could be prioritised by Government to receive the needed support.

### 4. Building Partnerships between Renewable Energy Actors in Ghana and China

During the second quarter of 2016, the Ghana PMU organised a breakfast meeting with renewable energy developers and practitioners to introduce the project, create a platform for networking and lay a foundation for collaboration for demonstration projects in the sector. A total of 78 participants took part in the meeting.

In China, ACCAZI worked with Chinese stakeholders to set up an alliance of technology companies and research institutes to support RETT to Ghana, Zambia and other partner countries in Africa;

Two exchange visits were conducted during 2016. The first was conducted in March 2016 by a Chinese delegation to Accra. The delegation provided support to local stakeholders to develop their business

models based on renewable energy utilisation, as well as support to develop the REMP and initial consultations on feasibility studies of demonstration sites. In October of 2016, an 18-member delegation visited China for the first China-Ghana-Zambia Joint Stakeholder Workshop on Renewable Energy Technology Transfer. The Ghana delegation was composed of Government officials, research institutions, private sector and the PMU.



A section of participants during the 1st Joint China-Ghana-Zambia meeting in Beijing

During the visit, a business matchmaking session was held to connect Chinese and Ghanaian business interests. The meeting events also provided the opportunity for a sizeable number of Chinese private sector to learn about the opportunities and challenges in Ghana.



Group photograph of participants at the joint meeting and business matchmaking session in Chengdu

## 5. Renewable Energy Demonstration Projects

Pre-feasibility studies have also been completed for shortlisted sites to receive demonstrational facilities for biogas for processing agricultural waste, solar for irrigation, improved cookstoves and mini-hydro. These projects will be implemented to test specific business models that will enable commercialisation of the selected technologies. These demonstration projects will determine the level of government support that will make these technologies commercial. Lessons from previous projects have proved that merely demonstrating technologies through grants without showcasing the business potential mostly lead to failure.

The demonstration projects are planned to commence by the third quarter of 2017.

## 6. Trilateral Cooperation

The project has been able to establish a working mechanism towards trilateral cooperation by setting up local and global Steering Committees. The PMU in China and Ghana also have established good cooperation and are able to exchange ideas on the best approach for project implementation. Through the exchange, PMU in China has been able to identify Chinese experts who have shared their knowledge in renewable energy development with policy makers, researchers and private developers in Ghana. This approach is bridging the gap in Ghana in terms of what has worked in China and how the approach and technology could be adapted for the local environment.

The project will document lessons learnt and share experiences with a wider body.

## SEforALL RELATED EVENTS

### FAO COLLABORATES WITH SEforALL AFRICA HUB TO ORGANISE A TRAINING ON BIOENERGY AND FOOD SECURITY

The Food and Agriculture Organisation (FAO) of the United Nations in collaboration with the SEforALL Africa Hub hosted by the African Development Bank (AfDB) organised a training on Bioenergy and Food Security (BEFS) Approach and Rapid Appraisal (RA). A week's face-to-face introductory training was organised by FAO's training partner, the Energy Institute Hrvoje Požar (EIHP) in Zagreb, Croatia.

Participating were eighteen (18) people made up of SEforALL focal points, Government officials, and researchers from universities from Benin, Burkina Faso, Ghana, Niger, Senegal, Swaziland, Togo, and Zambia.

The BEFS Approach is part of a Sustainable Bioenergy Support Package developed by FAO to support countries in designing and implementing sustainable bioenergy strategies based on country specific circumstances. The BEFS Approach has six components:

1. Scoping,
2. Stakeholder Dialogue and Capacity Building,
3. Sustainable Bioenergy Assessment,
4. Support to Policy Formulation,

5. Impact Monitoring and Evaluation and Response, and
6. Risk Prevention, Management and Investment Screening.

The tools of the BEFS RA assist policy makers or technical officers in:

- \* Defining the country energy, agriculture and food security context;
- \* Outlining the sustainable bioenergy options of interest;
- \* Obtaining initial estimates of which sustainable bioenergy supply chains are viable in the country, based on economic profitability, labour implications and smallholder inclusion; and
- \* Identifying options of interest that require in-depth analysis.

During the training, participants were introduced to the various BEFS RA Tools, data required and data available on FAD online database, analysis of results obtained from the use of the BEFS RA Tools, etc. Participants carried out practical exercises using the tools for Country Status, Natural Resources Assessment, Budgeting, and Energy End Use Options and analysed the techno economic and socio economic results and implications.



Group photograph of participants at Agrokor Energija biogas plant near Zagreb

The face-to-face training would be followed by three virtual sessions during which participants would use the above mentioned tools to analyse the viability of a proposed energy intervention.

#### FOURTH SEforALL AFRICA WORKSHOP HELD IN ABIDJAN

The SEforALL Africa Hub in partnership with the Africa Union Commission, the NEPAD Agency and the UNDP hosted the fourth Annual Sustainable Energy for All Africa Workshop at the AfDB premises in Abidjan from 29-30 March 2017. The workshop was organised in collaboration with the SEforALL Global Facilitation Team (GFT) and the theme was 'Joining forces for universal energy access in Africa: from SEforALL to SDG7, AREI and the New Deal on Energy'.

The workshop was attended by over 90 participants from Africa and other continents and consisted of SEforALL focal points, development partners, financing institutions, national and regional institutions, civil society organisations and the private sector. Distinguished participants include: Rachel Kyte, CEO of SEforALL; Mosad Elmissry, Senior Energy Advisor of NEPAD; Mahama Kappiah, Executive Director of ECREEE; and Felice Zaccheo, Head of Sustainable Energy and Climate Change Unit of the European Commission; among others.

Some of the key highlights of the workshop were:

- \* The need to have a delivery mechanism for SEforALL implementation at the country level

- \* The need to initiate actual project implementation alongside the development of regulations
- \* The need to de-risk interventions that are seen as high risk and unattractive to financing institutions through the creation of financing schemes and guarantees for private sector participation
- \* The need to build relationships and partnerships at all levels
- \* The need to organise investment fora to bring project proponents and potential investors together
- \* Bioenergy, improved cookstoves and energy efficiency interventions need more visibility and support
- \* The need for champions at the high political level to drive SEforALL implementation at the county level



Group photograph of participants at the 4th SEforALL Africa Workshop in Abidjan (Photo credit: AfDB)

During the workshop, SEforALL focal points had the privilege of meeting the CEO of SEforALL over lunch. The networking event was used to express the need to feel the presence and support of the SEforALL GFT and partners in SEforALL implementation at the national level.

A summary of key discussions and recommended actions were compiled by Jane Ebinger, Policy Director for SEforALL; and Daniel-Alexander Schroth, SEforALL Africa Hub Coordinator for presentation as voices from Africa at the Third SEforALL Annual Forum in New York..



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Link to the Ghana SEforALL Action Plan: <http://energycom.gov.gh/files/SE4ALL-GHANA%20ACTION%20PLAN.pdf>

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