

GHANA SE4ALL NEWS

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GHANA'S SE4ALL ACTION AGENDA SEEKS TO:

- > Promote Productive Uses of Electricity
- > 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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* Ghana Holds its First SE4ALL IMSC Meeting

PROGRESS ON HIGH IMPACT PRIORITY AREAS

Promoting Productive Uses of Energy

- * The EnDev Project is still seeing further increases in their attainment of developing Ghana's food sector through irrigation schemes. The number of farmers supported under EnDev has increased from 62 to 79 as of February 2016. Out of the 79 farmers supported: 19 were practicing manual irrigation (classified as farmers with new access to energy), 23 switched from conventional diesel or petrol pumps to electric pumps, and 37 were using electricity from connected neighbours for a fee.
- * The SE4ALL secretariat is working with stakeholders from government institutions and private businesses to develop bankable funding proposals on solar drying, aerators for pond culture and solar powered irrigation. The Secretariat is exploring funding opportunities to implement these interventions.

Improve Access to Improved Cookstove

- * Data collected by the Energy Commission from 2012 to 2015 on number of improved cookstoves disseminated in Ghana shows that over 3,200 firewood and pellet stoves have been built or disseminated nationwide for economic and institutional cooking activities such as fish smoking, pito brewing, rice par boiling, gari frying, school feeding, etc. For residential cooking applications, over 910,200 improved and energy efficient charcoal, firewood and bio-gel stoves have been disseminated to date (see Table on Page 6 for details). The target set by the Government of Ghana is to facilitate the adoption of improved and energy efficient bio-

mass stoves by 1,000 commercial users and 2 million households by 2020.

The high adoption of improved firewood stoves for economic or commercial activities is largely driven by donor supported projects which provided consumer subsidy to reduce the cost of the improved stove. The private sector has over the years worked tirelessly to translate technical support given by the Government of Ghana into a growing market for improved biomass stoves for residential cooking with no consumer subsidy scheme except for a couple of local manufacturers and distributors who are benefiting from carbon finance.

Improved Access to LPG for cooking

- * During the first quarter of this year, the Ministry of Petroleum has facilitated access to LPG for cooking for 12,000 people in six districts in the Brong Ahafo and Volta regions of Ghana under the Rural LPG Promotion Programme.

Provide Access to Electricity for Remote Communities Using Off-grid Systems

- * Under the government's Kerosene Lantern Replacement Programme being implemented by the Ministry of Power, over 72,000 solar lanterns have been disseminated to date to rural populations. The project provides 70% subsidy for solar lanterns promoted under the project. The target is to disseminate 2 million solar lanterns by 2020.

SE4LL Secretariat Visits Improved Cookstoves and Fuels Producers in Ghana

As part of activities planned by the SE4LL Secretariat for 2016, a team made up of Paula

Edze, National Coordinator for SE4ALL and Michael Kofi Abrokwa, Staff of the Secretariat visited 12 companies in the Greater Accra, Ashanti and Eastern Regions of Ghana working in the improved cookstoves and fuels sector of Ghana. Below is a profile of four of the companies visited, their operations and challenges identified (the rest will be published in subsequent newsletters).

1. Abellon CleanEnergy Ghana

Abellon CleanEnergy Ghana is a subsidiary of Abellon CleanEnergy (India), an international organisation that produces clean fuels. The Ghana factory was established in 2013 and it started production in July 2014. The Company is located at Sokoban Wood Village in Kumasi. Its primary operation is the production of pellets for export and local consumption using wood waste from the Sokoban wood village. It also assembles the "Eco stove" for sale on the local market to drive domestic consumption of the pellet for cooking and heating.

Abellon Eco Stove: The Eco stove is a forced draft stove which uses a technology powered by a battery (charged using electricity) which aids in the efficient combustion of fuel. Parts of the Eco stove such as the combustion chamber, fan and electronics are imported from Abellon CleanEnergy India, while the stand is fabricated in Ghana.

The marketing strategy being used by Abellon CleanEnergy is to first and foremost give the stove to customers identified (in restaurants and schools) for a period of time to demonstrate the efficiency and suitability of the stove for cooking before selling it or entering into a rental agreement. Financing plans being used include outright purchase, payment

over a period of three to six months or rental of \$100 for a year. Demonstrations have been done in 10 Senior High Schools (SHSs) in Kumasi and its environs including Kumasi Secondary Technical, Opoku Ware and Joy Standard SHSs, among others.



Abellon Eco stove in use

Abellon Eco stove comes in three sizes: 6 kg, 12 kg and 30 kg and it cost between GHS800 – GHS2,500 depending on the size. The total number of stoves sold as at March 2016 was 120. Typically, stove users are able to recoup their capital investment and begin to make savings on cooking fuel budget in a year. The pellet is estimated to be 18-20% fuel efficient over LPG.

Eco Pellet production: Abellon's Eco Pellets are produced from a compression of wood waste which is sourced in bulk from Sokoban Wood village. It is naturally compressed with no adhesive. Lait bagging is done with the machine producing 700 - 800 bags an hour. The company has an installed capacity of 72,000 tonnes of pellets per annum. It currently produces 80-100 tonnes of pellet per day which is about 40% of its total installed capacity.



Staffing: The company has a total staff strength of 63—comprising 2 Administrative staff (women), 58 technical staff (men, including graduate engineers from university and polytechnics, all locals) and 3 managers from India Abellon.

Challenges: 1) Low local demand for the pellets and improved cookstoves, the largest consumer for the pellet is the European market; 2) Payment of VAT on local sale of pellet which makes it expensive compared to other solid fuels like charcoal.

2. Best Performance Engineering Services & Energy Solutions

Best Performance Engineering Services and Energy Solutions (BPSS) is a registered Ghanaian company, based in Accra that deals in modern technologies in renewable energy efficiency services such as Design and Construction of Institutional Cookstoves (LPG & Biomass); Biogas Design; Energy Audit, Solar PV Installation and Maintenance; and Consultancy Services in Oil & Gas Sector. The company was founded in 2012 by Mr. Lawrence Amaning (CEO), an ex-oil refinery mechanical engineer. The office location is Rana Plaza suite R19 (opposite Ecobank, Spintex Road).

Construction of improved cookstoves: BPSS uses modern technology in the design and construction of institutional stoves. The company has three (3) models of stoves namely: Chrisaach Gari Stove, Lawrence Fish Stove and Lawrence Pito Stove which are constructed using either bricks or clay. The stoves have been reported to be 40% fuel efficient (energy efficient) by the Cookstoves and fuels test laboratory at the Institute of

Industrial Research, Accra. The Chrisaach gari stove is currently being promoted by the Netherlands Development Organisation (SNV) under GIZ's Energising Development Project.



Chrisaach Gari Stoves in use at Adaklu (top) and Manfi Kumasi (bottom) in the Volta Region



Lawrence Fish Stove (top, at Ekunfi Narkwa, Central Region) and Lawrence Pito Stove (bottom, at Nandom, Upper West Region)



Features of BPSS improved stoves: The above stoves are fuel efficient, saves time spent in cooking or heating, are safe and easy

to use.

BPSS has built eighty five (85) institutional stoves to date in various parts of the country under productive use of thermal energy projects implemented by SNV and the Association of Ghana Industries (AGI) supported by Dutch Ministry of Foreign Affairs and German Federal Ministry for Economic Cooperation and Development; and UNDP/UNOPS, respectively.

Capacity Building: The company has so far trained 100 local artisans across five regions of Ghana under projects implemented.

Challenges: 1) Low adoption rate of institutional stoves; 2) Difficulty in accessing consumer financing to boost stove adoption and grants to implement technology transfer activities.

3. Cookclean Ghana Limited

Cookclean is a social entrepreneur with a mission to improve the socio-economic and environmental conditions of families in Ghana through the production of improved and energy efficient charcoal stoves branded as "Cookmate Coal Pot" which significantly reduce woodfuel use and CO₂ emission. The company became operational in December 2012.

Cookclean employs 26 people in its production facility located at Asofa, Accra. The facility has a production capacity of 150 stoves per day using modern machines.

Stove manufacturing process: Stoves are produced from mild steel sheets. The metal sheets are cut into respective sizes using a modern CNC cutting machines. There are 2

main parts that constitute the stove; the stove outer body and the combustion chamber.

The stove body after cutting is provided with serial number and then passed on to be rolled to form a cylindrical shape using a modern rolling machine. Thereafter, it goes to a section where the edges are smoothed and curved to eliminate the sharp top end. It is then passed over for the cutting of the door.

The second part which is the combustion chamber, a rectangular metal is punched with holes and then formed into a conical shape. It is then put together with the stove body to form a complete stove.

The stove which at this stage has sharp surfaces is grinded to eliminate all sharp ends and then it goes to the painting section where it is coated and oven-dried ready for delivery to the market



Assembling of Combustion Chamber and Body (top left) and Oven-drying of Sprayed Stove (top right); Cookmate Coal Pot (bottom)



Challenge: High import duties on raw materials and VAT on stoves

4. Relief International

Relief International (RI) was founded in 1990 by Farshad Rastegar in Los Angeles, USA in response to the devastating earthquake in northwestern Iran. The mission of the organisation has expanded over the past two decades, to embrace issues such as poverty, hunger and promotion of economic activities. In 2009, RI merged with EnterpriseWorks/VITA in Ghana.

RI began working in the improved cookstove sector in 2002 under the “Gyapa” (meaning “good fire”) improved cookstove program which was supported by Shell Foundation, USAID and the U.S. Environmental Protection Agency. The program has grown into the largest locally produced cookstove industry and largest carbon financed cookstove project on the continent.

RI uses an approach called “embedded busi-

ness support” to create a local supply chain of Gyapa improved cookstove through the facilitation and management of a network of local ceramic liner producers, metal fabricators, retailers and partners in the production and distribution of low cost improved cookstoves. The organization also provides training, business advisory and financial support to the Gyapa value chain and ensures that quality control and assurance procedures are followed.

The Gyapa Value Chain: The Gyapa value chain consists of 7 certified ceramists (employing over 60 personnel) who produce the internal ceramic liners; more than 130 metal artisans who fabricate the outer casing of the stove and install the ceramic liner in the stove; and over 500 distributors and retailers who bring the product to the consumer.

The Gyapa stove is fabricated using scrap metal sheets and it comes in 3 main sizes – small, medium and large. There are four main production centres—Greater Accra, Kumasi, Takoradi and Sunyani. The current production capacity is 13,000 stoves per month. The Gyapa network has produced and distributed over 800,000 stoves nationwide since its inception.



RI, in partnership with Climate Care, registered the Gyapa Improved Stoves Project as



Rolling of stove (top); Cutting of Combustion Chamber (bottom left) followed by Punching of Holes for Chamber (right)



a Verified Emissions Reduction Project with the Gold Standard Foundation, in 2010. Thus, in compliance with the applied methodologies, the Gyapa Improved Stoves in Ghana project has reached nearly 2,000,000 tons in carbon emissions reductions, with over 800,000 stoves sold and \$100 in fuel-savings annually per domestic end-user. (<https://prezi.com/ismkuacwd4nf/1-million/>)

A Case Study of Peter Amoako Atta, Lead Gyapa Stove Producer

Peter Amoako Atta hails from the Ashanti Region of Ghana but now lives and work in Accra. Prior to becoming the lead Gyapa stove manufacturer, Peter earned a living from the repair and sales of shoes. In 2002, Peter had the opportunity to participate in a stove production training organised by Enterprise Works.. He has since trained several artisans who are now manufacturers in the Gyapa value chain.

Peter has four employees and is able to produce about 1,500 stoves per month. Peter's business is growing by the day and he has no intention of returning to shoe repairs and sales.



Peter Amoako Atta with the SE4ALL Team

Challenges: 1) Increasing cost of sheet metal for the stove production; 2) Inability of manu-

facturers to increase production capacity due to low profit margins; 3) Competition with other artisans outside the Gyapa value chain who are producing inferior and cheaper Gyapa stoves with fake labels.

Actions to be Taken by the SE4ALL Secretariat to Address Challenges in the Cooking Sector of Ghana

The SE4ALL Secretariat would continue to work with the Ministry of Power, The Energy Commission, the Global and Ghana Alliances for Clean Cookstoves and Fuels to: 1) Increase public awareness on the benefits of adopting improved cookstoves and alternative fuels like pellets and briquettes; 2) Explore the possibility of removing VAT on locally produced pellets and cookstoves to promote local production; and 3) Develop and promote sustainable business models to boost growth of the improved cookstove sector and support increased adoption of institutional cookstoves, especially, for economic activities.

On regulation of the cookstove sector, the Energy Commission is working with the Ghana Standards Authority to develop and implement national standard and labeling scheme for improved biomass stoves in Ghana.

SE4ALL MEETINGS HELD

African Development Bank Organises the Third Annual Workshop on Advancing SE4ALL Country Action in Africa

The Sustainable Energy for All (SE4ALL) Africa Hub hosted by the African Development Bank

(AfDB) in partnership with the Africa Union Commission, the NEPAD Agency and UNDP, in collaboration with the SE4ALL Global Facilitation Team (GFT) organised the 3rd annual workshop on advancing SE4ALL country action in Africa on 9-11 February 2016 in Abidjan, Côte d'Ivoire. The objectives of the workshop were to:

- 1) Discuss how SE4ALL can facilitate a coordinated follow-up to Action Agenda (AAs) or Investment Prospectuses (IPs) specifically regarding the mobilisation of required investments and technical assistance and the forging of the required public-private partnerships;
- 2) Discuss how SE4ALL can facilitate the coordination of the many energy initiatives in Africa pursuing similar objectives thereby increasing overall effectiveness; and
- 3) Discuss how to link in a meaningful and mutually reinforcing manner the SE4ALL Action Agenda, which contain the nationally defined SE4ALL targets and the emerging monitoring structures and the global SE4ALL monitoring and tracking work.

The meeting was attended by over 100 participants including SE4ALL national focal points across Africa, development partners, national and regional institutions, civil society and private sector.

Participating from Ghana were Mrs. Gifty Delali Tettey, Deputy Director, Bioenergy, Ministry of Power; Mr. Ebenezer Ashie, SE4ALL Projects Advisor and Ms. Paula Edze, SE4ALL National Coordinator, Energy Commission; and Mr. Kwesi Sarpong, Regional Marketing Manager, Global Alliance for Clean Cookstoves.

The SE4ALL National Coordinator for Ghana participated as a panelist and shared the

experience of Ghana in developing a monitoring framework for tracking and reporting on SE4ALL implementation progress in Ghana.

Ghana Holds its First SE4ALL IMSC Meeting

The Ghana SE4ALL Inter-Ministerial Steering Committee (IMSC) held its first meeting on Wednesday 23 March 2016 at the Ministry of Power Conference Room. The purpose of the meeting was to discuss and adopt the Terms of Reference (TOR) of the IMSC, discuss the SE4ALL Action Agenda for Ghana and agree on follow-up actions for members.

The meeting was attended by 10 participants from six member ministries—Power; Petroleum; Health; Gender, Children and Social Protection; Food and Agriculture; and Fisheries and Aquaculture Development. It was chaired by representative from the Ministry of Power, Mrs. Gifty Delali Tettey (for the Deputy Minister of Power).

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Penetration of Improved and Energy Efficient Cookstoves in Ghana

The Table below gives a breakdown of data gathered on the total number of improved and energy efficient cookstoves disseminated in Ghana from 2012 to 2015 (source: local manufacturers and distributors of improved cookstoves in Ghana).

Year	Name of Manufacturer & Brand of Stove	Quantity Disseminated (2012-2015)	Percent of Total ICS Disseminated (%)
2012 - 2015	Commercial:		
	Abellon: Eco Stove (pellets)	100	0.01
	BPSS: Chrisaach Gari & Lawrence Stoves (firewood)	74	0.01
	Kowa Farms: Anipah Stoves (firewood)	668	0.07
	Morrison Energy: Morrison Stove (firewood)	994	0.11
	Trees for the Future: Aben Dada (firewood)	1,437	0.16
	Subtotal	3,273	
	Residential:		
	SNV: Philips Stove (pellets, charcoal & briquettes)	276	0.03
	Toyola Energy: Toyola Stove (charcoal)	156,606	17.14
	RI: Gyapa Stove (charcoal)	597101	65.36
	Man & Man: Holy Cookstove (charcoal)	89000	9.74
	Green Energy and Biofuels Ghana Ltd*: Kike Stove (Bio gel)	531	0.06
	CEESD & Burro Brand*: Envirofit Stove (charcoal)	15900	1.75
	Cookclean*: Cookmate Coal Pot (charcoal)	50,862	5.57
Subtotal	910,276		
Total		913,549	100

*These companies are importers & distributors of the foreign product stated



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