Project Summary

Project Background
The primary energy source for cooking in the majority of refugee situations is timber, or timber based products, such as charcoal, are often used in three-stone fires which are inefficient and often cause respiratory problems. In addition to the serious protection risks associated with collecting firewood, the quantity of timber required for cooking places a huge stress on locally available resources, often leading to deforestation, environmental degradation and local conflict. To address these issues and provide sustainable alternatives, UNHCR is promoting and distributing fuel-efficient cookstoves and sustainable fuel options, such as LPG and briquettes made from agricultural and industrial biomass wastes.

Project Objectives
The work is divided into two stages. In Stage I, INTEGRATION conducted a Desk Review and Feasibility Study focused at a regional level surrounding Ampain, Fetentaa and Egyekrom refugee camps on sustainable biomass, including but not limited to the following biomass options: bagasse, cane husks, saw dust and palm kernel. Stage II - Feasibility Study - Business Model - focused on identifying key stakeholders, including refugee and host communities, camp management organizations, local government and potential local business partners/market links; identifying gaps, challenges, and barriers for developing the value chain for briquettes; developing project planning documents detailing resources, timelines, budgets for all steps in establishing and operating the briquette manufacturing operation.

Project Results
Both stages provide clear and comprehensive recommendations that are technically measured and proven, economically based, environmentally sound and build the bases to decide whether briquette production is worthwhile to continue or expand. The urgency, importance and complexity of the cooking fuel supply question calls for a concerted and holistic research based on rigorous methodologies in order to evaluate potentially feasible fuel supply options with biomass. Stage II ensures that any business model takes into account the cost per briquette and what refugees are able to pay for fuels.

Services Provided
• Desk Review and feasibility study of biomass and manufacturing processes involved
• identify key stakeholders;
• identify gaps, challenges, and barriers for developing the value chain for briquettes and gather data on the production, trade and marketing of briquettes by refugees;
• map out the value chain of briquettes from producers to the local market;
• identify supports required, licenses, regulations, contracts with suppliers/vendors and determine composition and type of briquette manufactured on site;
• develop the methodology to determine project beneficiaries, owners and operators, staff and partner selection, taking into account vulnerabilities, age, gender and diversity and define all actions, roles and responsibilities for each step in the overall process;
• develop a complete business model, staffing structure, profit and loss accounts, budgets, sales and marketing strategy, legal documentation, transport, licenses, maintenance, health & safety scalability, etc.

Ghana

Feasibility Study and Business Model for Briquette Manufacturing Operation in Refugee Camps

Client
United Nations High Commissioner for Refugees (UNHCR)

Duration
16/11/2016 - 31/12/2017

Personnel
• 1 international STE (1 PM, energy and briquetting expert)
• 1 international STE (1 PM, energy economist)
• 1 national STE (1 PM, energy and socio-economic expert)