



## **ECOSOC Innovation Fair**

### **Name of the approach: CLEAN ENERGY FOR OFF-GRID COMMUNITIES**

Founded in 1993, Freeplay Energy's mission is to develop, produce and deliver affordable clean energy technology to the 1.5 billion people around the world currently living with no access to a reliable power supply.

Since Freeplay Energy invented the clockwork radio technological development has continued apace and the company now holds patents on a broad range of innovations. The company works in partnership with development agencies and governments to bring about improvements to the lives of energy impoverished communities through a wide range of products that work independently of grid electricity.

These products are focussed primarily on improving opportunities for education, independence and safety and include solar energy hubs, radios, lighting, media players, mobile phone chargers, medical and water purification products.

Freeplay Energy's products are in use around the world, supporting a range of aid and development and emergency preparedness projects and initiatives. Brief examples of these are set out below.

#### **Community Listeners' Clubs**

Set up by the Food and Agriculture Organization of the United Nations Dimitra project (FAO-Dimitra) with national NGO partners, Community Listeners' Clubs facilitate dialogue for individuals and groups and have proved to be an efficient way for isolated rural communities to access information and engage in participatory communication which leads to action. The use of Freeplay's solar and wind-up radios by Community Listeners' Clubs in the DRC and Niger has enabled villagers to share their concerns, priorities and needs, obtain relevant information about agriculture, food security and rural development, including health, education, and social issues that would otherwise be beyond their reach, and take constructive action together. The clubs have proved to be a valuable tool for empowering people, particularly women, and for giving them a voice in their own development

#### **Vois Blong Yumi**

Freeplay Energy's work with the Vois Blong Yumi (VBY) programme in Vanuatu shows how the access to communication offered by Freeplay's products can help widely scattered communities to stay informed about political issues and play a full and informed role in the democratic process.

VBY aims to improve communications across Vanuatu by supporting the development of an effective Vanuatu Broadcasting and Television Corporation (VBTC), and strengthening its national public service broadcaster Radio Vanuatu. Crucially, radio is the only medium capable of reaching 100 per cent of the population. In 2012, VBY deployed Freeplay Energy's Lifeline wind-up and solar-powered multi-band radios for distribution to the residents of the many remote islands of Vanuatu, ahead of the national elections. By bringing together international government agencies and broadcast organisations, the VBTC, Freeplay Energy and local people, VBY has ensured that more people than ever before have had the opportunity to help shape the future of their communities.

#### **Barika project**

Freeplay has been working with Onyx Développement, which strives to carry out responsible entrepreneurship aimed at creating sustainable values and wealth. Onyx Développement has been looking at building a distribution network, operating under the Barika brand, in Burkina Faso. This will distribute and market modern, accessible and high quality products with significant social value.

Product-testing has been carried out in suburban areas of the Bogodogo district of Ouagadougou and the rural villages of Yamtenga, Saaba and Tanlarghin in Burkina Faso. Feedback has been very positive.

Freeplay Energy's products were chosen because they are ideally-suited for use in environments where there is little or no access to regular electricity and where supplies of batteries can be expensive. They are also reliable and ruggedly-built, to withstand extended use in rural and often challenging conditions.

### **Education in Kenya**

In Kenya, real progress is being made in raising educational standards and achievement, but employing enough teachers, building enough schools and supplying them with the right equipment remains a struggle. Freeplay Energy has been pleased to provide wind-up and solar radios to a number of primary schools, giving students the opportunity to listen to educational broadcasts and gain a window on the world they would otherwise not have had. The latest to have received Freeplay radios is Patmos Junior School, where the head teacher, following discussions with the Kenya Institute of Education, now uses programmes broadcast by the Kenya Broadcasting Corporation to help educate children in years four and five.

Contributing to the achievement of the second UN Millennium Development Goal, the provision of universal primary education, is valuable, but the real success is in helping children in rural schools to access the information they need to fulfil their potential.

### **The Freeplay Solar-Powered Energy Hub Concept**

Recent developments in the harnessing of solar energy and its conversion into electricity, the commoditisation of appropriate storage-battery technology and the increased efficiency of lighting and electronic devices have revolutionised the ability of off-grid, rural communities to enjoy the benefits of modern electronics. When coupled with the dramatic decrease in the price of solar cells energy-accessibility is now within the grasp of millions of energy-impooverished families. Apart from the obvious benefits of electricity, there is an accepted correlation between the economic growth of a community and its ability to receive information and to communicate effectively.

Freeplay has developed a range of energy Hubs to enhance this opportunity. The Hub concept is a central, solar-powered pack able to power or recharge a range of peripheral devices. These devices can be purpose-made Freeplay products and/or part of an installed base of products eg radios, computers and televisions.

The Hubs and their constituent components come in various sizes, classified according to their power specification. Power parameters include the rating of the solar panel, capacity of the rechargeable battery and the output power of the Hub. The output power determines the range of products compatible with a hub. For instance the starter kit is aimed at personal electronics, mobile phones, water purification, radios and CD players and LED lighting products.

The most powerful Hub is able to power a full domestic lighting set, a sewing machine, portable computers and a television set. The components are matched so that at the end a standard solar day the Hub will be fully charged, and be able to service the users' needs for at least one daily set of power requirements.

The Hubs have several technological advances which are aimed at increasing lifespans and protecting against misuse.

There are many obvious benefits to communities able to enjoy the benefit of alternative, off-grid electricity provided by a Hub. These include:

- Reduced fossil fuel consumption, with resulting environmental and health benefits
- Reduced risk of fire.
- Via radio, access to information on education, health, agriculture and news
- Improved safety and security with rechargeable portable lanterns and flashlights
- Social and economic benefit brought about by the use of cellular telephones
- Improvement in water quality using Freeplay's energy-based water treatment
- The ability to undertake educational and revenue earning activities at night

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