

Through its Key Initiatives, UNHCR's Division of Programme Support and Management (DPSM) shares regular updates on interesting projects that produce key tools, practical guidance and new approaches aimed at moving UNHCR's operations forward.



Rwanda / Yvonne, 18, blows on live embers before cooking a meal in her shelter in Kigeme camp. Firewood and charcoal are currently the main sources of fuel in sub-Saharan Africa. However, the use of these fuel sources is increasingly being recognized as unsustainable, both environmentally and financially, and poses significant health hazards to those who use them domestically. / Photo: UNHCR / F. Noy / November 2012

Carbon Financing

ADDRESSING ENERGY NEEDS SUSTAINABLY

UNHCR has teamed up with climate protection organisation *atmosfair* to bring fuel-efficient stoves to refugees in Rwanda. Through this first carbon financing agreement, UNHCR hopes to increase refugee access to energy, decrease environmental degradation and to reduce carbon emission. It is one of many energy initiatives that UNHCR is implementing as part of its *Global Strategy for Safe Access to Fuel and Energy (SAFE) 2014-2018*.

Carbon financing is an innovative funding tool that places a financial value on carbon emissions and allows companies wishing to offset their own emissions to buy carbon credits earned from sustainable projects. This allows for the financing of innovative projects that bring sustainable energy solutions to people living in developing countries worldwide – in this case, refugees and other persons of concern to UNHCR. For UNHCR, this provides a means of increasing the use of fuel-efficient stoves which can help reduce tensions between refugees and host communities over competition for scarce natural resources, and the risk of respiratory infections caused by indoor air pollution.

WHAT IS CARBON FINANCING?

Carbon credits are used by companies to compensate for their carbon emissions, by either adhering to emission allowances or contributing to sustainable projects. This is typically done through an exchange – or carbon financing – which takes the form of an annual payment to a project partner, be it public, private, NGO or other entity, for the emission reductions generated once the project is operational. Carbon financing increases the financial viability of projects, creating an additional revenue stream and enabling the effective transfer of technologies and know-how. It provides a means of

leveraging new private and public investment in projects to reduce greenhouse gas emissions in developing countries and economies in transition.



Emission reductions are typically measured in tonnes of carbon dioxide equivalent (tCO₂e). As a reference, one carbon credit is equivalent to 1 tonne of CO₂ not emitted. / Illustration: Wonderbag.com

HOW WILL UNHCR UTILISE CARBON FINANCING?

In a refugee camp setting, carbon emissions often derive from the inefficient and unsustainable use of firewood for cooking, lighting and heating. Emission can be reduced through the use of fuel-efficient stoves or clean fuels, which can then be transferred into carbon credits.

In Rwanda, the carbon credits generated through UNHCR'S carbon financing agreement with *atmosfair*, are annually exchanged for more fuel-

efficient stoves for refugees. Since 2013, around 4,000 fuel-efficient stoves have been distributed to refugees, and another 7,000 are yet to be distributed. *atmosfair* is also supporting UNHCR with assembly, distribution, monitoring and usage-demonstration of the stoves. Over a 10 year period, the expected use of fuel-efficient stoves would allow refugees in Rwanda to reduce emission of approximately 30,000 tonnes of CO₂ per year.



Uganda / Congolese refugee Runiza uses a mud stove and biomass briquettes (flammable blocks of green waste or organic materials used as fuel) to cook a meal in the Nakivale refugee settlement. The Save80 stove offers a clean fuelling option that closely resembles the cooking methods that refugees have traditionally used and accept. Photo: UNHCR / R. Nuri / August 2013

A CLOSER LOOK AT THE 'SAVE80' STOVE

The Save80 stoves being distributed to refugees in Rwanda are designed to reduce the amount of firewood used for cooking. As the name suggests, according to laboratory tests, the Save80 stove requires 80 per cent less wood than traditional cooking methods – about 250 grams of wood to bring up to 6 litres of water to a boil, although actual performance may vary depending on upon the operational context. The Save80 stove is portable and made of stainless steel. Its design ensures the preheating of air and a complete heat producing combustion with no visible smoke and only small amounts of ash, decreasing the risk of burns or respiratory infections otherwise caused by indoor air pollution. Additionally, each stove comes equipped with a heat retaining device, the 'Wonderbox', which also allows for important energy savings as a pot can be placed in it, after reaching boiling temperature, and continue to simmer until its contents are fully cooked.

Globally, the positive impacts of fuel-efficient stoves are increasingly acknowledged. There are several kinds of fuel-efficient stoves, including locally-made models well-suited to the cultural context. UNHCR is working to further explore the cultural aspects of cooking to provide the most appropriate cooking solutions to all refugees. This distribution of commercially available stoves not matched to the cultural, socio-economic and environmental context may result in rejection of their use among refugees.

IMPROVING CONDITIONS FOR REFUGEES

The Save80 carbon-saving fuel-efficient stove initiative is highly relevant in population-dense Rwanda, where there is a constant pressure on natural resources. The mass influx of more than 70,000 Congolese refugees to Rwanda since the 1990s has further added to the demand for wood for daily cooking. The use of fuel-efficient stoves can help reduce tensions between refugees and host communities over competition for scarce natural resources. By collecting and using less wood, refugee families will be able to cook their meals with decreased risk to their protection and health. For the same reason, using the Save80 stove will also reduce the exposure to risks associated with securing the fuel needed to cook, such as sexual and gender-based violence. Instead, women and children can spend more time engaging in opportunities such as studying, attending school or undertaking livelihood activities, all of which are instrumental in building resilience and achieving durable solutions.

Left: A scale showing the amount of wood needed to fuel a Save80 fuel-efficient stove. Right: The Save80 stove.



Photo: atmosfair



Rwanda / A UNHCR staff member demonstrates how to use the Save80 fuel-efficient stoves for a group of refugees. / Photo: atmosfair

LESSONS LEARNED

The carbon financing agreement between UNHCR and *atmosfair* has been in place since October 2013. A recent UNFCCC monitoring and verification report showed that, from 83 stoves monitored, 31 per cent were being used while 69 per cent were either sold or stolen. Those refugees who were using their stoves enjoyed them and appreciated the benefits in terms of reduced wood consumption, time saved for cooking and money saved on fuel purchase. Some households were sharing stoves with their neighbours.

WHAT COMES NEXT?

In the coming years, UNHCR hopes to expand its work through carbon financing to secure sustainable fuel and energy alternatives for refugees, thereby reducing greenhouse gas emission and encouraging sustainable development.

UNHCR will:

- Measure carbon emissions annually and exchange carbon credits for additional fuel-efficient stoves;
- Continue distribution of stoves in additional refugee camps in Rwanda starting with Mugombwa camp in early 2015, drawing on lessons learned from the initial phase of the project;
- Conduct intensive awareness raising campaigns on the Safe80 stove using communication tools such as leaflets in the local language, market theatre and cooking demos;
- Ensure refugee ownership, quality control and maintenance through refugee training-of-trainers.

MORE INFORMATION

UNHCR Global Strategy for Safe Access to Fuel and Energy (SAFE) 2014-2018:

<http://www.unhcr.org/530f11ee6.html>

For more information on UNHCR's carbon financing and energy initiatives, please contact the Environment Unit in DPSM: energy@unhcr.org