

SAVING
LIVES
CHANGING
LIVES



Energy for Food Security

Enhancing people's food security with improved energy access



World Food Programme

July 2019

WFP's efforts to achieve zero hunger can be strengthened by providing the energy beneficiaries need for producing, transforming and consuming food, which will enhance both their food security and nutrition.

Energy is vital in every situation: within humanitarian settings and in vulnerable areas to enable improved livelihoods, preventing shocks and building resilience. Access to energy is a necessary condition for development and underpins the achievement of two-thirds of the other SDGs including equality, peace, prosperity and gender¹.

The majority of food that WFP distributes to beneficiaries requires cooking before consumption, therefore interventions that contribute to affordable, clean and efficient cooking are at the core of WFP's mandate.

FOOD CONSUMPTION AND NUTRITION

Food consumption is negatively affected by lack of fuel, which prevents people from being able to properly cook food or disinfect water by boiling. High prices and energy scarcity force many households struggling to secure cooking fuel to adopt coping strategies that lead to detrimental impacts on nutrition such as **bartering food rations for fuel as well as skipping or undercooking meals.**

WFP's vision for Access to Energy is for all countries to have pathways to high-performing, zero hunger Food Systems powered by sustainable energy services.

Ignoring displaced people's need to cook food often results in tensions with host communities over biomass resources, exposing people who collect fuel (disproportionally women and children) to harassment and violence.

Lowering or eliminating woodfuel demand through improved cookstoves (that burn biomass efficiently) or modern cookstoves (that utilize fuels such as liquid petroleum gas, ethanol, biogas or electricity) can reduce pressure on forests near densely populated areas.



Women exposed to unhealthy smoke in Ruyigi camp, Burundi. Lack of access to modern energy solutions has health implications as well. Cooking indoors with biomass on open fires and traditional stoves, produces harmful emissions that cause approximately 3.8 million premature deaths every year², more than malaria and tuberculosis combined. For women and girls this is the second biggest health risk worldwide and in many developing countries it even ranks first^{3,4}.



Improved fish drying equipment, such as solar or gas dryers, enhance the drying process, protecting from pests and mould, preserving foods' nutritional properties and quality, increasing value in local as well as national markets. It can make the difference between being able to participate in institutional procurement programmes, such as School Feeding, or being excluded from it. Despite the higher capital investment, these technologies can enable greater returns for agricultural output, making it possible to design sustainable schemes to support farmers in the purchase.

The resource demand from refugee camps often lead to heavy environmental impacts, in addition, urban areas drive the demand for charcoal from rural areas. Forest management programmes and efficient cooking can contribute to social stability when tensions around access to woodfuel occur.

Sustainable energy solutions can reduce costs and improve services for displaced people that spend a considerable share of income or time meeting their energy needs through collecting or purchasing woodfuel, charcoal, kerosene and diesel.

Sustainable agricultural practices and reforestation efforts improve the health of local ecosystems and increase the availability of woodfuel, improving the **resilience** of communities against the risks of climate shocks or conflict, which maintains or increases food security.

Not only are these energy sources expensive but they contribute to air pollution, negative health impacts and deliver an inferior service than alternatives, such as thermal or photovoltaic solar technologies.

COMMUNICATIONS

The ability to charge mobile phones and power radios for displaced populations enables beneficiaries to participate in mobile cash and vouchers programmes as well as receive alerts and notifications from camp management. In the case of disasters or conflict, mobile phones provide access to important news updates and geographic information services, which increases people's resilience and ability to cope. Communication with relatives, friends and news agents in situations of distress is crucial to stay connected, be informed about developments and receive remittances.

1. <https://www.ucl.ac.uk/bartlett/energy/news/2017/nov/press-release-equality-peace-and-prosperity-all-depend-affordable-and-clean-energy>
2. <https://www.who.int/en/news-room/fact-sheets/detail/household-air-pollution-and-health>
3. <https://www.who.int/features/factfiles/malaria/en/>
4. <http://apps.who.int/gho/data/view.main.57020ALL>

The ability to charge mobile phones offers connectivity to smallholder farmers that allows for transferring money, purchasing crop insurance, keeping aware of the best market opportunities and receiving weather information that helps with crop management.

GENDER

Women still unevenly bear the burden of household chores, subsistence agriculture and manual labour. They are often prevented from taking part in meaningful societal dynamics and decision-making processes by lack of time. Machines that wash, cool, mill, grind, press, sew, and cook efficiently and cleanly have improved the lives of many women during the last century and can help many more.

FOOD PRODUCTION AND TRANSFORMATION

Access to energy is essential at every stage of the food supply-chain for production, processing and preservation; opening new economic opportunities in rural areas that build resilience and strengthen livelihoods.

In **food production**, energy access increases efficiency and yields through mechanization that enables efficient land clearing, preparation and harvesting. Water pumps allow for irrigation, water distribution and lifting, and oxygenation of fish ponds. Bio-digestion systems transform organic waste into gas energy and soil-fertilizing sludge while concurrently addressing sanitation.

Energy systems can power **food processing** tasks, such as milling, grinding, de-husking, and pressing to extract oils and essences, that also increase the quality of the produce.

Energy powered **storage and handling** (e.g. refrigeration, drying, smoking, pasteurization, fermentation, canning and packaging) reduce post-harvest food loss and improve food quality, increasing availability of nutritious foods at the household level and enabling farmers to control the timing of crop sales, improving household income.



Cookstoves sold among other households items in markets.

Energy is not about procuring equipment. Failing to recognize the importance of building sustainable value chains for energy products and services seriously affects the success of WFP's interventions.

Transport enables goods to reach markets and consumers (e.g. refrigerated mobile kiosks allow milk and meat capillary distribution in towns).

ACCESS TO ENERGY IN WFP

Overall, some 2 million **smallholder farmers** in more than 60 countries are benefiting from WFP's agricultural market development work. WFP's procurement footprint in these markets provides a good base for inclusive agricultural growth and the sustainable dissemination of energy equipment and services to boost food production and transformation.

WFP's **School Feeding Programme** reaches 76,000 schools and 18 million children globally.

Energizing School Feeding is an initiative that has the potential to improve kitchen environments with healthier, efficient stoves, enhance education outcomes with light and connectivity, and turn schools into innovation hubs that introduce modern energy solutions to children, parents and their community.

Access to energy can support WFP in contributing to the 2030 Agenda in most contexts where it is active, spanning from acute emergency to building long-term resilience. Leveraging the technical expertise of the engineering department and the extensive logistics infrastructure, WFP is in a unique position to address the energy gaps that impact food security through relentlessly testing innovative solutions and delivery models, while scaling up proven approaches.



Solar powered fridge enables the conservation of milk in a cafeteria in Ruyigi camp, Burundi.



By energizing the School Feeding Programme WFP can turn schools into innovation hubs that introduce modern energy solutions to children, parents and their community.

Since 2009 WFP, through the **Safe Access to Fuel and Energy (SAFE)** initiative, has contributed to meeting the energy needs of displaced people worldwide, while protecting both the populations and the environment in which they live.

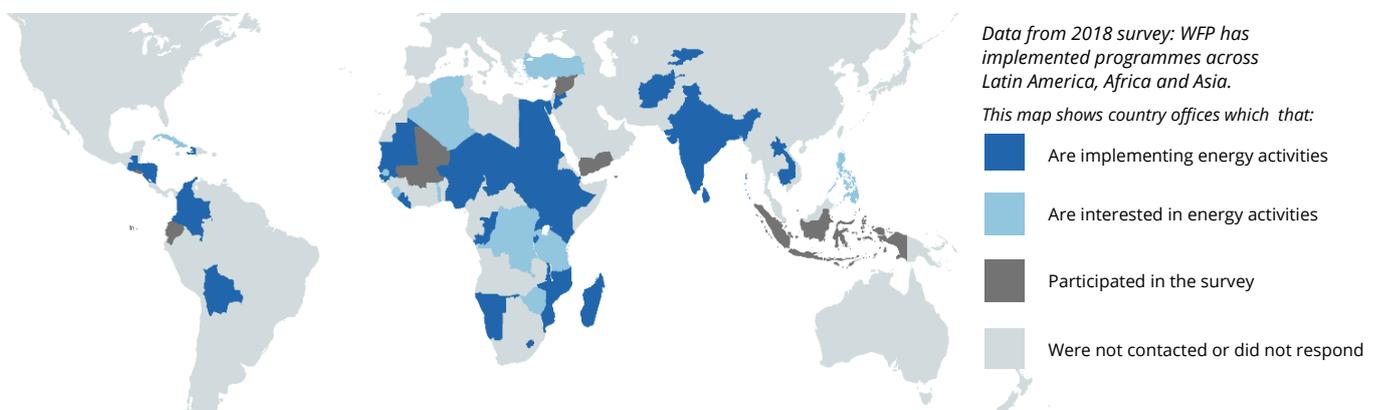
According to the 2018 energy survey, 53 countries have identified energy access issues ranging from deforestation to unsafe or inadequate solutions for cooking, low production and inefficient processing in agriculture, lack of options to preserve and transport food and drudgery in household's chores.

Energy activities are implemented by WFP in 36 countries, with over 100 projects mostly focussing on reforestation and diffusion of energy products. In addition, 39 countries include energy activities within their [Country Strategic Plan](#).

Current implementation approaches vary substantially, from simple distribution to more sustainable market-based solutions that connect households, institutions and commercial activities' demand for better energy access to local commercial suppliers of energy products and services. Settlements, many of which are the size of small to medium towns, can be regarded as active communities rather than long term recipients of aid.

Informal markets and trade start as soon as a camp is created and evolve with time. By injecting cash support and encouraging enterprises that provide access to energy, WFP can support economic recovery and increase food security.

Leveraging its presence and capacity on the ground, WFP can enable greater energy access by connecting its beneficiaries and the communities where they live or are hosted, to market systems while ensuring inclusion for the most vulnerable.



Climate and Disaster Risk Reduction Programmes Unit

World Food Programme

Via Cesare Giulio Viola 68/70,
00148 Rome, Italy
T +39 06 65131 wfp.org/climate-action
climatechange@wfp.org

Photo credits:

Cover Photo: WFP/Giulio d'Adamo
Page 1: WFP/Diego Fernandez, WFP/Raffaella Bellanca
Page 2: WFP/Raffaella Bellanca