

SAVING  
LIVES  
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LIVES



## Energising School Feeding

### How sustainable energy multiplies WFP's impact in school feeding programmes

In 2019, WFP has provided school meals, snacks or take-home rations to 17.3 million children in 59 countries in both emergency and stable settings. WFP aims to amplify the multiple positive impacts that school meals bring to education, health and nutrition through modern, clean and affordable energy solutions:

- *Healthy, efficient and convenient cooking*
- *Safe and bright lighting to study after dark*
- *Connectivity, internet and digital learning*
- *Refrigeration for milk and vaccines in schools' kitchens and clinics*
- *Solar water pumping for schools' water wells*
- *Biodigestion that produces methane gas and slurry from human waste to improve sanitation, cooking and soil restoration*

Reaching from schools into the wider community, innovation multiplies benefits for food systems. Children can provide the entry point to transfer innovation to rural households, while procurement of local fresh food can

finance smallholder farmers to access better technologies for their productive activities. Through its work with schools, WFP creates a conducive environment for the adoption of energy products and services to the benefit of local communities, bringing transformative economic and social change.

#### **ENERGISING THE COOKING OF SCHOOL MEALS**

Cooking school meals requires energy. The acquisition of fuel, whether it is purchased or collected, is a considerable burden for schools that risks impacting school performance or attendance and hindering the scale and scope of WFP's programmes.

Because of the high volume of meals prepared, schools that use fuelwood and charcoal for cooking contribute to deforestation in their communities. Each Kenyan school alone may be responsible for the clearing of 56 acres of forest



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**Photo: WFP/Tara Crossley** WFP procures food for its Home Grown School Meals programme from local smallholder farmers, many of them women, in order to help strengthen the livelihoods of farmers and the local value chains.

each year, [according to estimates by Nature Kenya<sup>1</sup>](#), corresponding to more than 1.1 million acres of forest. Deforestation has important implications on ecosystems, including negative impacts on watersheds, increased soil erosion, land degradation, loss of biodiversity and diminished local rainfall.

On the health front, cooking school meals indoors with biomass on traditional stoves, whether at the school or in other kitchens, exposes cooks and children to harmful emissions that lead to respiratory diseases. [3.8 million people a year die prematurely<sup>2</sup>](#) from illness attributable to the household air pollution caused by the inefficient use of solid fuels and kerosene for cooking. For women and girls this is the second biggest health risk globally and in many developing countries it even ranks first.

Shifting to more efficient and less polluting cooking practices addressing several issues at once, from using less fuelwood, reducing the costs or collection time for children and their families, to decreasing indoor air pollution; or using no biomass at all, when modern fuels such as biogas, LPG, ethanol or electricity are utilised.

Electric cooking is particularly clean and efficient, especially when electric pressure cookers (EPC) are used. WFP aims to lead the way toward the electric cooking revolution by trialling EPC in schools and households.

The power can be provided by the national grid if the school is connected or by mini-grids and standalone solar systems in off-grid situations. Electricity is also used to power modern e-learning (radio, TV, tablets) and at the same time the school can serve as an energy hub by providing energy services (cooking, lighting & communication powering agriculture) to the community through energy kiosks.

## ENERGISING THE LOCAL PROCUREMENT OF SCHOOL MEALS

WFP includes fresh foods in school meals to ensure the

highest nutritional value. Whenever possible, this food is sourced locally to support rural livelihoods, but low quality is one barrier that hinders larger volumes of procurement through this practice. Schools can be the connection point between smallholder farmers and families, enabling the market penetration of fresh produce and dairy products to communities. This would improve the nutritional intake of children and their families while offering a reliable outlet to increase livelihood opportunities for the suppliers. Energy



**Photo: WFP/Barry Came.** Electricity can power food processing equipment such as mills, grinders and de-huskers

services are required to improve the quality of locally grown produce, increase the production of highly nutritious foods, process and preserve foodstuffs, and reduce food loss. Providing energy for solar irrigation, lighting, milling, de-husking, chilling, drying, efficient combustion to extract vegetable oils or make soap, and to charge communication devices to receive information about agricultural best

**Cover photo: WFP/Hugh Rutherford.** Refrigeration helps to increase the quality of milk that can then be purchased in WFP's School Feeding programmes, achieving nutritional benefits for children and supporting the development of the local dairy sector.

1. <http://naturekenya.org/2017/07/10/fighting-deforestation-through-fuel-wood-management/>  
 2. <http://www.who.int/en/news-room/fact-sheets/detail/household-air-pollution-and-health>

practices and weather forecasts, is pivotal to transform subsistence agriculture into a more profitable business that can actively connect with schools as hubs for local procurement.

## SPREADING THE BENEFITS OF ENERGISING SCHOOL FEEDING TO LOCAL COMMUNITIES

Innovation that is nurtured within schools can spread beyond the schools' borders and bring transformational change to surrounding communities.

For example, respiratory diseases from cooking activities affect not only school personnel but all cooks and people in the home kitchen environment, overwhelmingly women, girls and small children. Clean and efficient cooking solutions can be extended from the school to local communities and made available to households and commercial activities such as bakeries, food street vendors and clinics.

Through some school feeding programmes, families receive food and/or cash rations on the condition that their children attend school regularly. In-school meals, combined with these food rations, help lower dropout rates and bring more out-of-school children to the classroom. Vouchers for families to acquire fuel-efficient stoves could constitute a substantive value addition to these programmes.

## THE CARBON OPPORTUNITY

By using less fuel and limiting smoke emissions, efficient stoves reduce the amount of CO<sub>2</sub> that is emitted into the atmosphere with each prepared meal. Each metric ton of CO<sub>2</sub> equivalent saved, is worth a carbon credit. Carbon credits can be bought by any organisation or individuals that want to off-set their own emissions. Monetising these credits means more resources available to support schools around the world, while improving quality of performance.

## OPPORTUNITY FOR SCALING

WFP has prepared a new 10-year strategy for school feeding which was launched in early 2020. For the next ten years,



**Photo: WFP/Peter Louis.** The cold chain allows smallholder farmers to preserve milk and develop their market opportunities

WFP will continue working with governments and partners to ensure that 73 million primary school children living in extreme poverty have access to meals in school, complemented by a broader package of health and nutrition services to drive local economic development through linking school feeding to smallholder farmers wherever possible. WFP will build on its existing operations in countries and leverage its expertise, tools, systems and partnerships to support countries achieve their human capital objectives through increased investments in nutrition, quality of learning, gender equality and healthy growth.

The potential scale of the Energising School Feeding approach, affecting schools and their surrounding communities, is therefore considerable. It would constitute an important contribution to ensuring food security and also lead the way to a far reaching clean energy transition in the developing world.



Schools are power stations for education, innovation and development, where clean energy access can serve as an example of sustainable solutions for the surrounding communities.