



CLIMATE AND DISASTER RISK REDUCTION

World Food Programme

SAVING LIVES
CHANGING LIVES

2022 Energy Results

In 2022, WFP conducted energy activities in 18 countries.

WFP met the cooking needs of food insecure populations by providing 136,850 improved stoves to households and upgrading 10,738 institutional cookstoves in 955 schools. In total 1,687,049 people were reached (households' members and school children) with cooking interventions.

In addition, 81,889 smallholder farmers could access energy products or services for productive uses such as solar water pumps, and dryers.

These data were obtained through the Corporate Reports Framework that guides the planning, implementation, and monitoring of WFP's programmes towards the objectives identified in the Strategic Plan.

1.6 M PEOPLE Household members and school children reached through cooking interventions

10,738 STOVES / 955 SCHOOLS Institutional improved cookstoves provided to schools

136,000 STOVES Improved cookstoves provided to households

COUNTRIES WITH ACTIVE ENERGY PROGRAMMES IN 2022



Countries with active energy programmes in 2022 include: Armenia, Chad, Egypt, El Salvador, Ethiopia, Guatemala, Haiti, Honduras, Lebanon, Mali, Malawi, Mozambique, Nepal, Niger, Nigeria, Rwanda, Senegal, and Uganda.

HOUSEHOLD COOKING

Eight countries have implemented household cooking programmes in 2022, mainly promoting biomass fuel efficient stoves. In **Mali, Niger, Chad, Guatemala, Honduras** this was part of resilience activities to limit the degradation of forest land, while in **Sudan** it was part of a broader energy access focus. **Chad** worked with biogas systems. In **Nigeria**, 738 stoves were distributed to food assisted populations and people were trained on cooking practices and nutrition principles, leading to 20 percent increase in dietary diversity. **Malawi** trialed both improved stoves as well as solar electric ones. Three hundred solar electric cookers were provided in Dzaleka refugee camp, addressing both cooking, lighting and charging needs.

CLIMATE SMART SCHOOLS

Cooking programmes for the preparation of school meals with institutional efficient biomass stoves were conducted in **Malawi** and **Niger**. The **Mali** CO partnered with a local company to promote multi fuel stoves and train school cooks on stove use and maintenance while also focusing on fuel efficient cooking practices. Other countries went beyond biomass to introduce cleaner technologies. For example, in **Senegal**, nearly eight percent of the stoves introduced were gas stoves, while **Haiti** promoted Heat Retention Bags in combination with biomass or gas stoves. The delivery of these technologies, alien to local practices, was associated with trainings on how to cook traditional

recipes using the new appliances. The heat retention bags are produced by local companies already active in the recycling and textile businesses, that working on plastic collection, recycling and bag assembly create jobs while eliminating polluting plastic from the environment. This cooking solution decreases energy costs by up to 70 percent and reduces cooking time by ten fold. While cooks would typically start cooking beans at four to five in the morning, now they cook for thirty minutes in the evening and then leave the food to cook in the bags for the night. WFP also started to introduce smaller bags to the community through the school cooks. In **Lebanon**, WFP provided schools with solar panels, **Chad** introduced solar irrigation and **Lesotho** energy efficient Electric Pressure



Cookers (EPC) in peri urban schools as part of the school based programme.

In **El Salvador**, in collaboration with the government, WFP's Innovation Accelerator supported and the "Kitchen in a Box" concept. These are kitchens made from refurbished shipping containers, that integrate renewable energy, water harvesting systems, and vegetable gardens. WFP **Rwanda**, in collaboration with the Ministry of Education and the University of Loughborough, carried out a study to evaluate the impact that changing ingredients in school diets could have on fuel costs and carbon footprint, at the same time optimising the food's nutritional value. In **Armenia**, WFP has introduced whole grain products in school meals to improving children's diets and create opportunities for local communities and food producers. This included enabling access to energy to power schools and agriculture activities. Solar PV systems were installed in schools, saving up to 30 percent on costs compared to previous years. The savings allow to pay for school infrastructure improvements and maintenance. Other solar energy systems were provided to cooperatives involved in whole grain production, a bakery and a logistic hub for legume processing and distribution.



IRRIGATION

Climate unpredictability, together with the necessity to increase production, make solar irrigation an interesting opportunity in several countries. In **Chad**, as part of resilience activities, such as land rehabilitation and reforestation, construction of micro dams, water ponds and dikes, WFP introduced solar pumps and sprinkler systems to irrigate tree nurseries and farms. **Egypt**, established water users' associations to manage irrigation schedules, canal lining and solar powered pumps which were recorded to induce a 35 percent reduction in water usage and costs. In **El Salvador**, people affected by COVID19 and Tropical Storm Julia were supported with CBT for early recovery and livelihood diversification. Smallholder farmers engaged in soil and water conservation works, rainwater harvesting and drip irrigation systems, the use of drought resistant crops, combined with solar water pumping. In **Ethiopia**, WFP partnered with a local energy company to support a farmer cooperative to shift from a diesel irrigation system



to a solar solution on a cost sharing basis (WFP contributed 60 percent of the funds required for the solar PV system, while the farmers would contribute 40 percent in instalments depending on their harvest). Among the advantages pointed out by the farmers was cost saving down to 50 percent, less maintenance and not having to travel to purchase fuel. In **Malawi**, mobile solar pumps were distributed to allow farmers to expand the land under irrigation without incurring in unaffordable costs. Solar pumped boreholes supported the irrigation of vegetable gardens in **Mali** and the creation of vegetable gardens together with seeds distribution and biofertilizer production in **Senegal**. In **Sudan**, WFP initiated rural solarization projects shifting from diesel water pumps to solar for irrigation and to provide safe drinking water. In **Honduras**, solar water pumping systems benefited 250 smallholder farmers and in **Niger** were used to grow fruits, vegetables and moringa in market garden sites. These pumps enabled the farmers to have two to four harvests a year compared to their neighbors who are dependent on rain fed agriculture. In **Rwanda**, farmer organizations were provided with solar powered irrigation systems enabling them to grow vegetables during the dry season for the first time. Members from each cooperative have been trained on basic irrigation systems maintenance and repair techniques to increase sustainability.





OTHER ENERGY APPLICATIONS

In **Malawi**, solar driers were provided to increase the shelf life of vegetables and fruits. In **Mozambique**, this was linked to cooking demonstrations, vegetable drying sessions and promotion of other post harvest storage technologies such as hermetic bags and raffia bags. **Nepal** powered a community center with solar panels.

ADVOCATING FOR ENERGY

In partnership with IMPACT, WFP **Niger** is currently engaged in a study aimed at assessing the energy market potential and identifying the energy needs of assisted populations. In collaboration with the Niger Agency for the Promotion of Rural Electrification and the National Solar Energy Agency, WFP has created a Community of Practice to promote coordination, advocacy, and capacity building among energy sector actors. In **Lebanon**, WFP launched the Food System Challenge in 2021 to support small businesses in the agri food sector with cash grants, tailored technical assistance and coaching to find sustainable solutions to challenges including access to energy and access to raw materials. The expansion of these businesses is expected to create new jobs. In **Egypt**, WFP has been working in partnership with the Ministry of Agriculture and Land Reclamation to contribute to the country's National Agricultural Strategy 2030 and Climate Change Strategy 2050.

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The following graphs show the number of institutional and household stoves provided in 2022 globally as well as the number of people reached with energy products or services for cooking and productive uses (food production, processing and preservation).

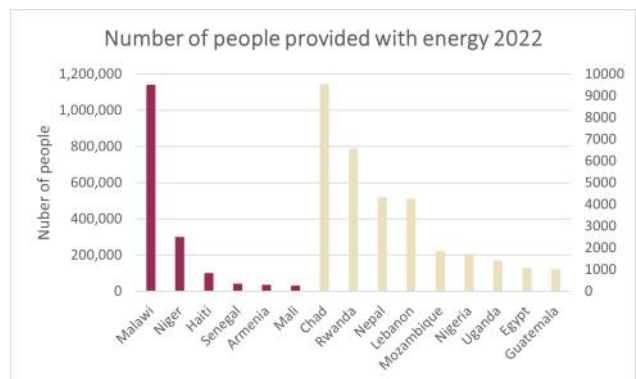
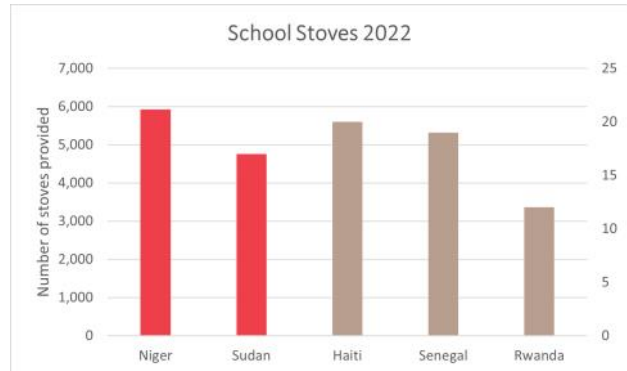


Photo page 1: WFP/Samantha Reinders

Photo page 2: WFP/Malehloa Letsie

Photo page 3, top: WFP/Anna Eriksen

Photo page 3, left: WFP/Omnia Elzahar

Photo page 3, bottom: WFP/Evelyn Fey

Photo page 4: WFP/Rafael Campos