



# Clean and modern energy for cooking

A path to food security and sustainable development



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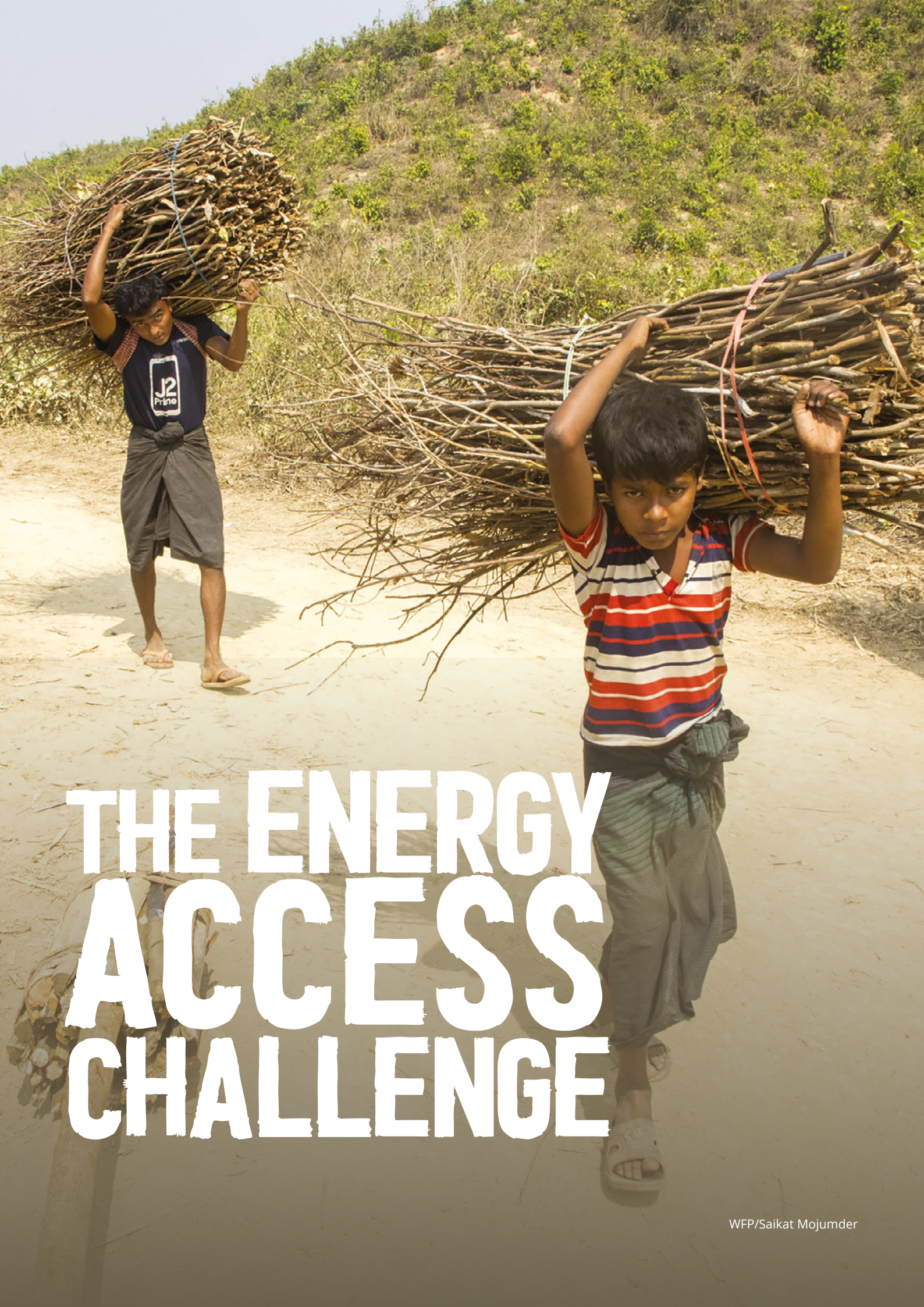
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# THE ENERGY ACCESS CHALLENGE



# The energy access challenge

Energy poverty, defined by Bonan et al. (2017) (p. 492) as the “lack, scarcity or difficulty in accessing modern energy services by households,” affects both urban and rural areas in much of Africa, Asia, and South America, regions where the World Food Programme (WFP) works in many countries (WFP, 2021). Access to safe, sustainable and accessible cooking fuels and technologies for households, institutions and businesses is an essential aspect of addressing both energy poverty and food security as without access to energy for cooking, many foods, including staples such as rice or potatoes, cannot be consumed.

The World Health Organization (WHO) estimates that around 2.6 billion people cook using open fires or simple stoves fuelled by kerosene, biomass and coal, attributing close to four million premature deaths annually to illnesses associated with using polluting stoves (World Health Organisation, 2021). Charcoal and other solid biomass fuels are used in 70% of households in sub-Saharan Africa (SSA) (DAI, 2019). Charcoal is one of the most important commodities in SSA (Haysom et al., 2021). Its production, which takes place in rural and peri-urban areas to satisfy urban demand, generates income for millions of people in SSA and in some rural areas as many as 6% of people are employed in charcoal production with few alternative employment options (FAO, 2021).

Fuel collection and meal preparation using biomass is time consuming, labour intensive and unsafe; a burden which disproportionately affects women and girls (Clean Cooking Alliance, 2014; Jagoe et al., 2020). The cost of cooking fuels can also be a financial stress (Batchelor et al., 2019) on households, businesses and institutions, particularly in areas with increased biomass scarcity due to overextraction, clearing and urbanization (Price, 2021). Rapid population growth over the next few decades will only exacerbate those challenges (DAI, 2019). Shifting away from burning of solid fuels and kerosene for cooking can significantly

reduce carbon dioxide and black carbon emissions (Clean Cooking Alliance, 2019), contributing to climate mitigation and addressing environmental degradation (Bailis et al., 2015; Rob et al., 2017).

## Cooking within the Sustainable Development Goals

Given its social, economic and environmental relevance, clean cooking is an issue which has attracted increasing attention from scholars, public institutions, private sector companies, energy financiers and development partners. Access to energy for cooking plays a critical role in WFP’s mandate to achieve zero hunger by delivering food assistance in emergencies and working with communities to improve nutrition and build resilience. Energy access is not only needed to prepare the food that WFP distributes but is also a driver for socioeconomic transformation as it underpins the success of several other Sustainable Development Goals (SDGs). This is reflected in the commitments forming the *Compact to Unlock the SDGs and Net-Zero with Clean Cooking* (CCA, 2021), endorsed by WFP along with a wide range of stakeholders within the frame of the United Nations’ High-Level Dialogue on Energy (UN, 2021). Research has shown that access to clean, modern, sustainable and affordable energy can help achieve 143 out of the 169 SDG targets (Fuso-Nerini et al., 2018).

Clean cooking impacts SDG3 on health by reducing or eliminating exposure to smoke (WHO, 2021); SDG4 on education creating cleaner study environments for children and reducing time-poverty resulting from fuel collection (Frempong et al., 2021; IEA et al., 2019); SDG8 on economic growth by saving time (UNESCAP, 2021) and money (Jagoe et al., 2020) that can be spent increasing productivity; SDG5 on gender; and SDG16 on peace by reducing the instances of conflict when collecting cooking fuel in situations of scarcity (GACC, 2016).

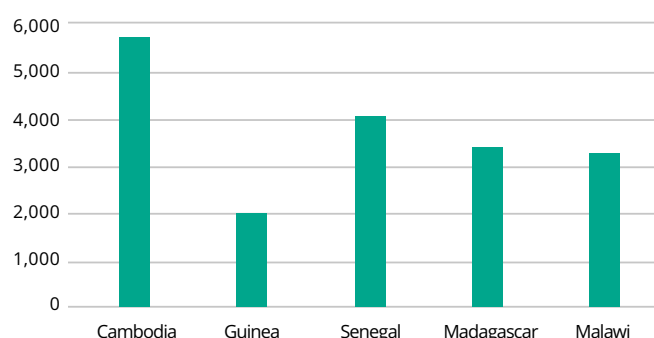
## Energy as a critical component of WFP's work

WFP is the world's largest humanitarian organization working towards zero hunger; making food the centre of its focus. In 2020, WFP provided food assistance to over 100 million vulnerable people in 84 countries. It has six decades of experience supporting school feeding initiatives and working with more than 100 countries to set up sustainable national school feeding programmes. In 2020 alone, WFP reached 15 million schoolchildren with nutritious meals and snacks in some of the most food-insecure regions of the world. In the next 10 years, WFP is planning to provide school feeding to 35 million children in 30 of the most fragile and low-income countries.

However, most of the food distributed by WFP to schools needs to be cooked before consumption and given the high volume of meals prepared in schools, they are contributors to the negative impacts resulting from inefficient cooking processes. It is estimated that 80% of the school meals cooked in WFP-assisted schools are prepared on three stone fires, where fuel is often supplied by children and their parents. Further, schools' reliance on traditional biomass for the cooking of meals contributes to environmental degradation in the surrounding areas. WFP's ambition is to be the leading agency promoting alternatives to inefficient cookstoves and open fires in schools, building on interventions in 34 countries and the distribution of 28,932 improved institutional stoves between 2003 and 2021 (of which 612 in 2021 alone).

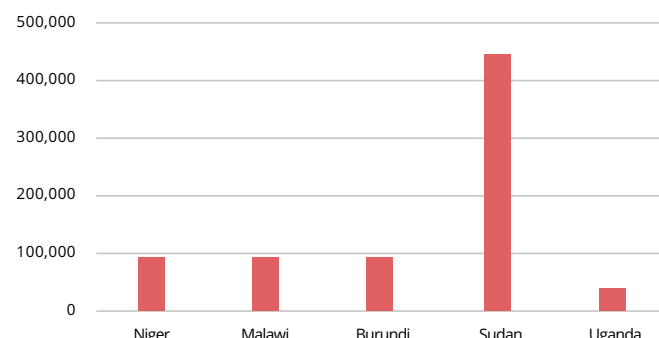
**FIGURE 1.**

Graph showing number of school stoves distributed in five countries with highest volumes of stoves in the period 2003-2021.



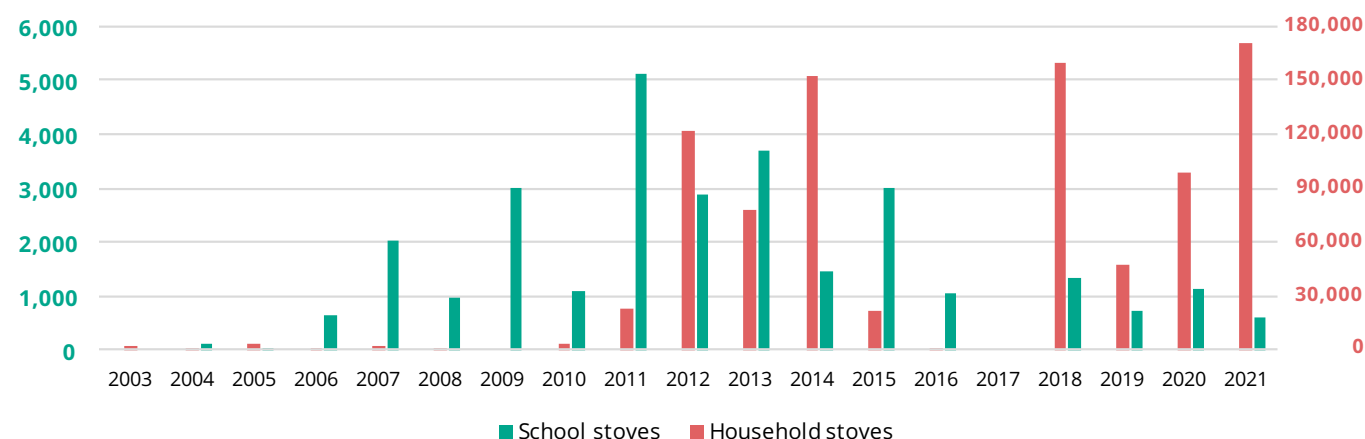
**FIGURE 2.**

Graph showing number of household stoves distributed in five countries with highest volumes of stoves in the period 2003-2021.



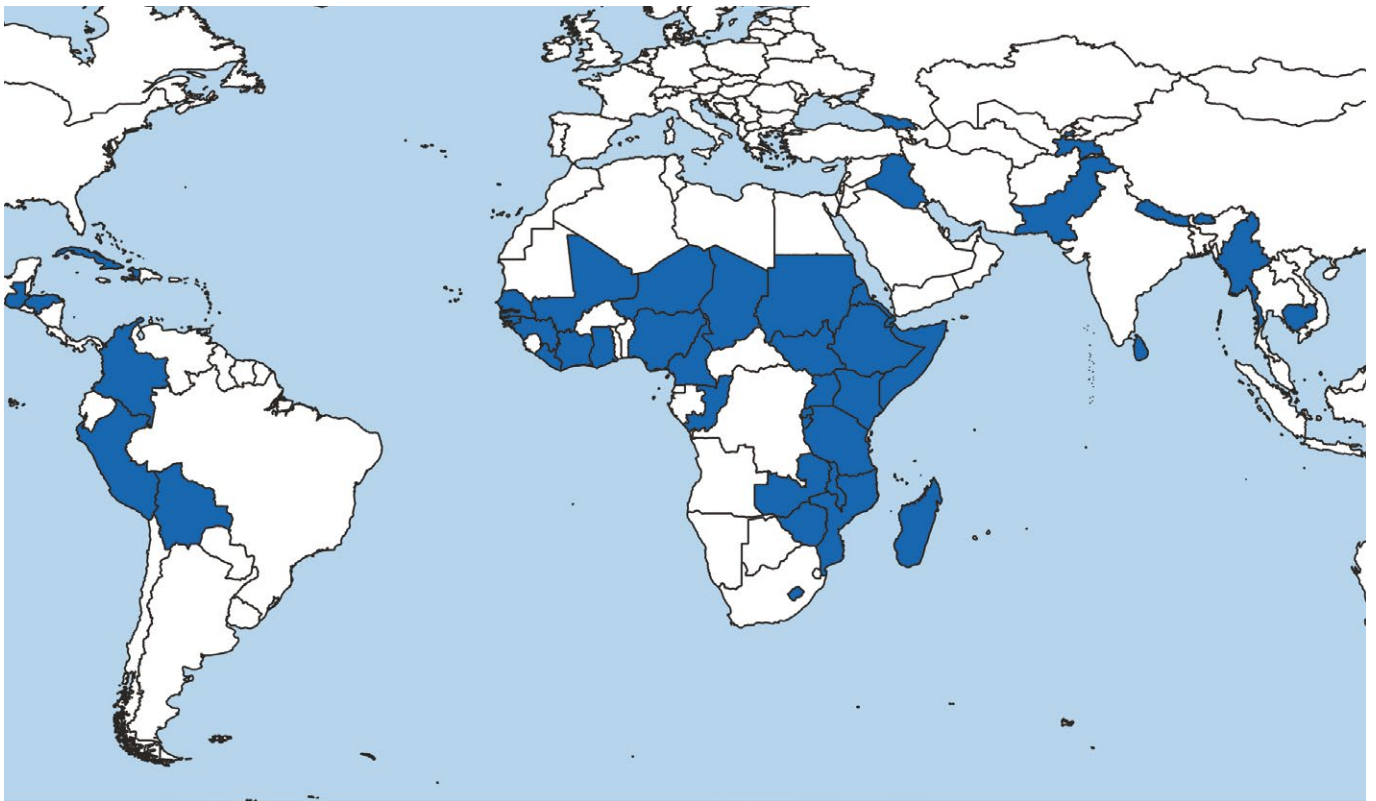
**FIGURE 3.**

Graph showing total number of household stoves and school stoves distributed per year in the period 2003-2021.



**FIGURE 4.**

Map showing countries with WFP-implemented cooking activities between 2003 and 2021.



Further, WFP is working towards zero hunger by delivering food, cash and other assistance in emergencies, where it supports both displaced people and host communities. WFP was tackling 10 emergencies by the latter half of 2021, fuelled by conflict, natural hazards, and climate change. To limit the environmental, health and socio-economic impacts that food assistance is indirectly causing due to cooking, WFP promotes alternatives to inefficient cookstoves and open fires in humanitarian and fragile settings, with interventions in 48 countries and distribution of over 880,000 household stoves between 2003 and 2021 (of which 171,000 in 2021 alone).

However, simply distributing improved cookstoves is not addressing the cooking challenge. WFP's experience shows that often schools and families who have received improved stoves quickly revert to previous cooking practices for reasons including malfunction and lack of repair and maintenance services, high fuel costs and low familiarity with the cooking solution. Permanently shifting toward clean and modern technologies requires comprehensive interventions that can address and prevent these issues, which requires long term planning.

WFP recognises the opportunities for not only making energy access integral to its operations, but also shifting to modern cooking by leveraging global progress made on electrification and the development of market-based approaches to energy access. WFP intends to adopt such approaches and collaborate with private sector suppliers of cooking solutions to offer after-sale assistance, maintenance, repair and end of life substitution to end users. It will target households in displacement settings and fragile contexts, and schools but also commercial activities such as bakeries, restaurants and food street vendors. Given their large energy consumption and the potential to showcase innovative solutions, it is important to include commercial cooking activities as part of clean cooking interventions.

Developed through a partnership with the Modern Energy Cooking Programme (MECS), this paper provides an overview of the current landscape of energy for cooking and its role within food security, wider well-being and resilience issues. It outlines the main opportunities for WFP to adopt new approaches to address cooking energy challenges which are key in achieving food security.

# COOKING CONTEXTS



预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_31263](https://www.yunbaogao.cn/report/index/report?reportId=5_31263)

