



UNHCR
The UN Refugee Agency



GLOBAL STRATEGY FOR SUSTAINABLE ENERGY

2019-2025

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The Strategy builds on the UNHCR Global Strategy for Safe Access to Fuel and Energy (SAFE) 2014-2018.

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UNHCR works closely with a number of key partners to deliver clean energy to persons of concern, including:

IKEA Foundation 



The **IKEA Foundation** works to create a better everyday life for the many people. As the philanthropic arm of INGKA Foundation, the owner of the IKEA Group of companies, it focuses on improving the lives of vulnerable children by enabling their families to create sustainable livelihoods, and to fight and cope with climate change. UNHCR and the IKEA Foundation have built a unique and innovative partnership that has been transformative for UNHCR. It has introduced new ways of working and has deeply influenced how the organisation partners with the private sector, particularly when it comes to access to clean energy as well as economic and financial inclusion. Since 2010, IKEA Foundation has committed more than USD 207 million dollars in both cash and in-kind donations to UNHCR's programmes. Learn more at www.ikeafoundation.org

Sustainable Energy for All shares and supports UNHCR's vision of a world where all refugees, displaced people, host communities, and support structures have access to sustainable energy; www.seforall.org

UNHCR's Energy Strategy delivers and contributes to the vision and goals of the **Global Plan of Action** for Sustainable Energy Solutions in Situations of Displacement (GPA) unitar.org/ptp/sustainable-energy



Cover photo: Za'atari, Jordan. Za'atari's solar power plant provides clean energy to 80,000 Syrian refugees living in the camp. It delivers annual carbon emissions savings equivalent to 30,000 barrels of oil.
 ©UNHCR/Mohammad Hawari

UNHCR 2019, 2020

VISION

*All refugees,
host communities and support structures
should be able to satisfy their energy needs
in a sustainable manner,
without fear or risks to their health, well-being
and personal security,
while ensuring the least possible
environmental impact.*

EXECUTIVE SUMMARY

The UNHCR Global Strategy for Sustainable Energy 2020-2025 aims to enable refugees¹, host communities and other persons of concern to UNHCR to meet their energy needs in a safe and sustainable manner and to ensure that UNHCR's response is also environmentally sustainable. The Strategy seeks to increase the sustainable use of renewable energy sources to minimize environmental impact, in a way that includes host communities and other stakeholders, while improving refugees' protection and well-being. In line with the UNHCR Climate Action Framework and the Global Compact on Refugees, and with the objective to protect the most vulnerable, the strategy will focus on promoting investments "(...) scaling-up capacity development for smart, affordable and appropriate technologies and renewable energy in developing and least developed

refugee hosting countries".

Between 2020 and 2025, UNHCR will promote strategic action outcomes:

- Addressing refugee households' energy needs from the onset of an emergency;
- Improving access to sustainable, safe, affordable and clean household cooking energy;
- Expanding sustainable household access to lighting and connectivity;
- Expanding sustainable electrification of community facilities, while limiting overall consumption;
- Transitioning UNHCR global office infrastructure to renewable energy sources.

DEFINITIONS

Energy: refers primarily to the source powering cooking, lighting, heating and electricity needs of refugee households and businesses, as well as community facilities such as schools and health centres, in displacement settings and UNHCR offices and facilities.

Renewable Energy: refers to energy options that are naturally replenished over time e.g. solar and wind energy and biofuels.

Sustainable Energy: solutions that meet current energy needs without jeopardizing the ability of future generations to meet their own energy needs.

Clean Energy: is defined according to the two following definitions for cooking and electricity.

Clean Cooking: according to the emissions standard defined by the WHO for cooking stoves and sustainable fuel provision (defined as sources from renewable biomass, LPG, Ethanol, Biogas from renewable sources, or renewable electricity sources).²

Clean electricity: access to lighting and connectivity if the energy required to power and/or charge the devices is provided by a renewable energy source.

Connectivity: defined as an energy source that can power small electric appliances and enable connectivity, consistent with the World Bank definition.³

¹ The UNHCR Energy Strategy applies mostly to refugees and their host communities, but may in some cases be extended to include returnees, stateless persons and IDPs.

² [WHO guidelines for indoor air quality: selected pollutants](#)

³ [Beyond Connections : Energy Access Redefined](#)



A Greenlight Secondary School student displays her new solar lantern. Kenya.

INTRODUCTION

The Global Strategy for Sustainable Energy aims to enable refugees, the communities hosting them and other persons of concern to meet their energy needs in a safe and sustainable way.

Energy is a basic need and a key to overcoming poverty and resolving environmental degradation. Restrictions on energy access negatively impact populations in humanitarian settings. A lack of safe access to adequate energy poses serious risks for displaced and vulnerable people. Well-planned energy interventions, on the other hand, can provide significant benefits associated with protection, gender equality, food security, water, sanitation and health, education, livelihoods, connectivity and environmental protection. Access to energy is also empowering, enabling women in particular to gain greater control over their lives and futures.

UNHCR will promote sustainable household energy technologies, including the expanded use of renewable energy, to minimize the environmental impact of operations in a way that is inclusive of host communities and other stakeholders while improving the protection and wellbeing of refugees. Likewise, the Strategy aims to increase access to clean energy for schools, health centres and other institutions. It equally strives to complement UNHCR's efforts to introduce comprehensive energy efficiency measures and equip its global office infrastructure with sustainable energy solutions.

The Strategy comprises the overall conceptual framework that aims to ensure that energy interventions enable enhanced protection and dignified lives for refugees. It provides the principles for the organization's protective, catalytic and operational energy actions for 2020 to 2025.

UNHCR's work in the area of energy will be guided by its protection mandate and a set of principles contained with the High Commissioner's Global Strategic

Directions 2017-2021⁴, the UNHCR policy on Age, Gender and Diversity (AGD), the Global Compact on Refugees (GCR), the 2030 Agenda for UN Sustainable Development Goals (SDG), the UNHCR Strategic Framework for Climate Action (SFCA), the Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement (GPA), the UN Climate Neutrality Strategy and the objectives of the Paris Agreement.

As a core component of the UNHCR protection mandate and global commitments⁵, the Strategy aims to safeguard refugees from protection risks such as sexual and gender-based violence (SGBV) and/or tensions between refugees and host communities due to environmental impacts or competition over energy resources. It also supports access to rights, nutrition, education and livelihoods, thereby promoting the self-reliance of refugees.

UNHCR recognizes that energy access is not only a development goal (SDG 7) in its own right, but also a bridge between short-term humanitarian responses and longer-term development goals. For example, ensuring safe access to affordable, reliable and modern energy is essential to attainment of SDG 5 on gender equality. A review of all SDG targets based on the 2030 Agenda for Sustainable Development⁶ showed that energy was a factor in 125 (74 per cent) of the 169 targets⁷, highlighting the fundamental importance of the subject. The Strategy will therefore also promote a broader approach to finding lasting solutions for refugees and host communities, across the humanitarian-development nexus.

UNHCR's role for the implementation of the Strategy will include direct operational responses. However, UNHCR's default role will increasingly be as a catalyst, encouraging other actors to implement energy projects, in particular development actors and the private sector, in collaboration with national and local authorities.

⁴ UNHCR's Strategic Directions 2017-2021

⁵ GBV Accountability Framework

⁶ A/RES/70/1. Transforming our world: the 2030 Agenda for Sustainable Development

⁷ State of Electricity Access Report, 2017



A South Sudanese refugee given a small grant to start a restaurant cooks on an improved stove in Ocea, Northern Uganda.

GUIDING PRINCIPLES

PROTECTION OUTCOMES: limited access to energy can have severe repercussions on the safety and security of refugees; in particular, it exposes them to heightened risks of SGBV. Safe access to affordable clean energy is closely linked to the enjoyment of rights associated with protection, peaceful co-existence, education, safety, health, nutrition, WASH (Water Sanitation and Hygiene), food and livelihoods. Energy should therefore be conceptualized as a critical means of achieving protection outcomes across sectors of GBV in line with the UNHCR Policy on the Prevention of Risk Mitigation and Response to Gender-based Violence.⁸

PROTECTION MAINSTREAMING: protection mainstreaming is a key principle guiding UNHCR interventions across the range of its operational engagements, including in the energy field. It refers to the process of incorporating protection principles and promoting meaningful access, safety and dignity, accountability and participation and empowerment in interventions in all aspects of programming. It also specifies the requirement to do no harm and to prevent and mitigate the risk of any unintended negative effects of interventions.⁹

AGE, GENDER AND DIVERSITY¹⁰ INCLUSION: the UNHCR policy on Age, Gender and Diversity (AGD) aims to ensure that all segments of a population have equitable and non-discriminatory access to assistance and protection, and have a say in decisions that affect their lives. Through this approach, energy interventions should suitably and sustainably address different energy needs, and ensure that all energy-related technology is appropriate to different groups within the refugee community. Special measures to ensure inclusiveness and accessibility for specific groups of concern, including women, girls and boys, older persons and persons with disabilities, will inform and guide implementation of the Strategy.

EQUITY: the provision of energy must promote equity for all and support should be extended to surrounding communities wherever possible. Host communities may require particular assistance in the context of a humanitarian operation or to address their energy needs. The SDGs provide a basis for such an inclusive approach: the principle of leaving no one behind.

PARTICIPATION AND EMPOWERMENT: meaningful community participation will ensure that the agency and capacities of communities are recognized and engaged in developing interventions placing user needs and preferences first and foremost when designing and delivering energy responses.

SUSTAINABILITY: UNHCR will prioritize energy solutions that meet the current energy needs of refugees and host communities without jeopardizing the ability of future generations to meet their own energy needs. This will mean understanding refugees' energy needs, prioritizing renewable energy technologies, enhancing livelihood opportunities and strengthening the technical and managerial capacities of staff and partners.

EFFICIENCY: UNHCR is aiming to deliver high quality, efficient services in its operations. This includes giving priority to energy efficiency measures and reducing energy demands wherever possible. UNHCR will promote the careful use of energy resources by refugees, host communities, partner organizations, and raise awareness within the UNHCR organization.

⁸ UNHCR Policy on the Prevention of, Risk Mitigation and Response to Gender-based Violence, 2020

⁹ For more information see the GPC

¹⁰ UNHCR, Age, Gender and Diversity Policy, 2018

CONTEXT AND SITUATIONAL ANALYSIS

Despite growing awareness of the importance of energy for the wellbeing and protection of refugees, large displaced populations still lack sufficient access to clean, sustainable, reliable, appropriate and affordable energy. According to estimates by the Moving Energy Initiative¹¹, some 85 per cent of displaced populations in camps burn biomass such as firewood for cooking, and some 97 per cent have limited or no access to electricity. In situations where firewood is the main source of fuel, the competition for dwindling natural resources is frequently a trigger for tension between refugees and host communities. It also has negative impacts on local ecosystems, which refugees often rely on for their livelihoods. The resulting environmental degradation can be long-lasting, expensive and difficult to reverse.

At the socioeconomic level, access to sustainable household energy is conducive to social cohesion in environments with scarce resources. More hours of light and access to electricity also offer more chances for productive activities like learning and business development, as well as greater mobile and data connectivity. These in turn facilitate improved wellbeing and self-reliance for refugees.

An additional energy issue in refugee situations is the energy used by humanitarian agencies, such as UNHCR, for their own operations. In some settings, a large proportion of the available energy is consumed by service providers. With the rapid development of new energy technologies, especially solar, there is an opportunity to reduce non-renewable energy expenditure by switching from fossil fuels to clean energy. Solar generation and energy storage solutions have not only become cheaper and more efficient, they now represent the fastest growing part of the global energy sector. Expanding and transforming energy systems towards such renewables offers opportunities for local, national and regional economies.

Transforming energy programming to reduce negative environmental impacts, while meeting the needs of refugees, host populations and humanitarian operations, requires close collaboration with refugees, host communities and host governments. Strengthened partnerships with donors, and between development and humanitarian actors will be essential for the transition to sustainable energy solutions that meet refugees' needs and improve their well-being and protection. Likewise, new partnerships are needed with the private sector and with research institutions in order to support innovative approaches to meeting energy needs in humanitarian situations.

UNHCR energy activities need to take into account and support important global commitments relating to energy and the environment. At a multilateral level, States are investing in ongoing efforts to implement the commitments outlined in the Paris Agreement.¹² The UN Climate Neutrality Strategy¹³ also commits all UN entities to minimizing their impact on climate change by measuring their greenhouse gas emissions, making efforts to reduce these emissions and offsetting unavoidable emissions. This Strategy is complementary to the UN-wide Environmental Sustainability Strategy 2020-2030 Strategy, with the latter reflected in UNHCR energy activities.

The international community has acknowledged the key role of energy through the Sustainable Development Goals (2030 Agenda), which include SDG 7 – Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All. In addition to universal access, SDG 7 aims to achieve a significant increase in renewable energy and to double the global rate of improvement in energy efficiency. UNHCR believes that access to sustainable, clean energy is closely linked to protection and a key factor in ensuring that basic needs are met, as well as in creating more sustainable and inclusive communities and building resilience to climate change.

¹¹ GLOBAL PLAN OF ACTION (GPA) FOR SUSTAINABLE ENERGY

¹² Paris Agreement

¹³ Greening the Blue, the UN Climate Neutrality Strategy

A Rohingya family learns to use their new solar lantern. Bangladesh.

These principles are supported by the Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement¹⁴, which UNHCR cofounded in 2018.

In a similar vein, the Global Compact on Refugees¹⁵ (GCR) calls for increased investment in renewable energy in countries hosting refugees, – in order to secure “safe access to fuel and energy”. It further encourages all actors to “promote integrated and sustainable management of natural resources and ecosystems (...) in or near refugee-hosting rural and urban areas”. The GCR makes specific reference to the need to reduce disaster risks and recognizes that “environmental degradation and natural disasters increasingly interact with the drivers of refugee movements”.

In the GCR is highlighted the importance to “Bolster national capacity to address accommodation, (...), infrastructure and environmental challenges in or near refugee-hosting rural and urban areas”; and the focus of the intervention to advocate investments

“in closing the technology gap and scaling-up capacity development for smart, affordable and appropriate technologies and renewable energy in developing and least developed refugee hosting countries”

This Strategy acknowledges that current energy generation and consumption habits are not sustainable and need to change: renewable energy sources need to be integrated and overall energy consumption reduced. In this sense, interventions such as provision of LPG, to reduce environmental degradation during emergencies, have to be seen as a transitional approach pending the development of complete renewable energy solutions. UNHCR will act as a catalyst for energy collaboration in displacement settings in order to promote and complement protection, humanitarian assistance and solutions. UNHCR field operations around the globe will be paramount in localizing this Strategy and ensuring that the Agency’s catalytic and operational role is implemented in a locally appropriate way.

¹⁴ Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement

¹⁵ A/73/12 (Part II) Global Compact on Refugees

STRATEGIC OUTCOMES

The Strategic Outcomes were developed based on the global recognition that, in displacement situations and far beyond, current energy generation and consumption habits are not sustainable and need to change. In all five Strategic Outcome Areas¹⁶, UNHCR will facilitate multi-partner approaches and evidence-based actions founded on systematically collected and analysed data.

ENERGY IN EMERGENCY SITUATIONS

OUTCOME 1: Vulnerable refugees meet their priority energy needs (cooking, lighting and heating) during emergency responses.

CHALLENGES:

The energy needs of refugee households are typically not sufficiently met from the onset of an emergency for them to be able to cook food, find their way around at night and keep warm, as called for in the UNHCR Emergency Policy¹⁷. This exposes newly arrived refugees to protection and health risks. Additionally, environmental damage can be extensive but is often overlooked, especially where firewood collection takes place.

HIGH-LEVEL GUIDANCE:

- Integrate emergency energy requirements into contingency plans, humanitarian needs assessments, emergency market analysis, and humanitarian interventions.
- Ensure that distribution of cooking fuel and an appropriate clean, efficient cooking stove as standard items in non-food distribution is facilitated or cash based support is granted to refugee households from the onset of an emergency.
- Wherever possible give preference to clean, sustainable cooking fuel.
- Provide solar lamps as standard items in-kind distributions or cash-based assistance to refugee households from the onset of an emergency.
- Ensure that distribution of heating fuel and appropriate clean, efficient heaters is facilitated in the provision of winterization items, combined with safety training and heat insulation measures, as appropriate where appropriate.
- Coordinate with development and private sector actors to identify energy systems for cooking, lighting and heating that are affordable, sustainable, safe and appropriate (vis-à-vis local regulations, resource availability, community acceptance, environmental impact and technical feasibility), in the longer term.

¹⁶ UNHCR, Policy on Emergency Preparedness and Response, August 2019

¹⁷ As per internal UNHCR organization, Outcome 1, 2, 3 and 4 is managed by the Department of Resilience And Solutions (DRS). Outcome 5 is managed by the Division of Financial and Administrative Management (DFAM).



Solar electricity is generated during the day and stored for use of street lighting at night in Cox's Bazar refugee camps.

Hot cornmeal being prepared for the recently arrived South Sudanese refugees at Kuluba, Uganda.



- Women, girls and boys are at a heightened risk of GBV in the early stages of an emergency and immediate protection gains can be achieved through energy provision upon arrival at the hosting site.
- The majority of environmental impacts that occur in refugee hosting areas happen at the onset of an emergency and as a result of unmet energy demands.

CASE STUDY: KUTUPALONG, BANGLADESH, SAFE ACCESS TO CLEAN COOKING FUEL

In October 2018 UNHCR and partners started a large-scale distribution of Liquefied Petroleum Gas (LPG) to Rohingya refugees sheltered in Kutupalong and the other refugee settlements in Bangladesh. In March 2019 the LPG initiative reached more than 100,000 refugee and host community households, providing a clean, healthy, safe and reliable source of energy for cooking. As part of the distribution, refugees received hands-on training on how to safely and responsibly use the LPG cylinders and stoves. To ensure households have a consistent reliable source of LPG, UNHCR has introduced the global distribution tool, which is based on the use of biometric data. This greatly reduces refugees' wait time for LPG refills which can now be dispensed in under 120 seconds. UNHCR's joint monitoring with partners has shown that this initiative immediately and drastically reduced protection risks associated with firewood collection, and health hazards have also been reduced as refugees no longer have to cook on open fires using wood or other materials they find. Furthermore, the use of LPG is preventing the collection of 700 metric tons of wood from local forests every day. This has allowed UNHCR with its partners, including IUCN (the International Union for Conservation of Nature), to make progress on forest restoration by planting tens of thousands of trees in the refugee settlements. While this example represents a significant success, UNHCR's goal globally is to move towards low-carbon energy cooking solutions, when technological advances allow.



A Rohingya family enjoys cooking together with safe, clean LPG. Bangladesh.

SUSTAINABLE, SAFE AND CLEAN COOKING ENERGY

OUTCOME 2: Refugees and host communities have access to sufficient, safe, sustainable and clean cooking energy.

CHALLENGES:

The need for cooking energy is often inadequately addressed throughout all phases of the humanitarian response. Refugees in all settings are at risk of cooking energy shortages, and consequently face protection and health risks. In urban centres, refugees may share existing shelters that have cooking energy services; however, without investment this can overburden existing infrastructure. In rural areas, cooking energy and stove supply services are frequently limited or entirely absent.

HIGH-LEVEL GUIDANCE:

- Ensure that refugees have access to a selection of affordable, sustainable, safe energy sources and stoves for cooking, select these in consideration of the expected demand, local infrastructure, supply chain, regulations, resource availability and technical feasibility.
- Wherever possible, avoid establishing dependency on locally harvested biomass, give preference to clean modern cooking energy over firewood or other traditional solid fuels.
- Wherever possible, coordinate with development and private sector actors to promote access to clean cooking energy and stoves through local markets and market-based approaches, but allow for distribution where markets are limited or absent.
- Coordinate with government, development and private sector actors to continually optimize the cooking energy options available to refugees and host communities by introducing technological innovations and new approaches to service delivery.
- Support refugees and host communities, either directly (via cash based or in-kind assistance) or through coordination with other actors, to develop livelihood opportunities that improve services and the supply of sustainable cooking energy for all.

- Some 85 per cent of displaced populations in camps use unsustainably harvested biomass, such as firewood, for cooking. This presents a variety of risks to human life and health including indoor air pollution and conflict with local communities, while women, girls and boys are exposed to the risk of SGBV when out gathering wood.
- Refugees in firewood dependent areas report spending upwards of 20 hours per week collecting firewood, which negatively affects their ability to attend school or earn an income.
- According to WHO, close to four million people die prematurely each year from illnesses linked to household air pollution resulting from inefficient cooking practices using polluting solid fuel or kerosene stoves.
- Burning solid fuels for cooking and heating in homes contributes to global climate change, accounting for approximately 25 per cent of total black carbon emissions worldwide.



A Burundian refugee carries a LPG cylinder home from refill depot, Tanzania

CASE STUDY: ETHIOPIA, UNDERSTANDING ENERGY

Understanding the energy needs of refugees, host communities and other stakeholders in displacement settings is a key requirement for the delivery of appropriate, clean and sustainable energy solutions. To meet this need, UNHCR is partnering with the International Renewable Energy Agency (IRENA), to gather reliable energy data and identify technically and financially sound renewable energy and energy efficiency options. In August 2019 UNHCR and IRENA worked together in Ethiopia to assess the current, and possible future, energy needs in refugee settlements. To ensure that the perspectives of refugees and host communities were considered, interviews were conducted with stakeholders at community and household levels to understand their needs for lighting, cooking and phone charging. Energy assessments were also conducted at humanitarian compounds and at service centres such as schools and health clinics. This information is now being used by UNHCR and partners to design and deliver quality energy solutions. UNHCR and IRENA will conduct further quality energy assessments in Iraq and beyond as part of a strong on-going collaboration.



Prosopis firewood processing and charcoal briquette production scheme in Melkadida Camp, Ethiopia.

SUSTAINABLE HOUSEHOLD LIGHTING AND ELECTRIFICATION

OUTCOME 3: refugees have access to 200 Wh/ household/ day¹⁸, allowing for basic lighting and connectivity.

CHALLENGES:

Access to electricity is especially limited in rural areas. Currently only 10 per cent of households in camp settings have access to electricity¹⁹. If households lack access to electricity, especially for lighting and connectivity, this affects the occupants' security and limits their opportunities for socialization, learning and self-reliance.

HIGH-LEVEL GUIDANCE:

- Where possible, engage with government, development and private sector actors to connect refugee hosting sites to existing national grids.
- Where national grids exist, advocate for the promotion of renewable energy power plants to reduce dependency on fossil fuels and decrease expenditure on electricity.
- Where national grids are distant or absent, promote access to decentralized clean electricity generation for refugee households, such as mini-grids or home solar systems.
- Wherever possible, coordinate with development and private sector actors to promote access to clean electricity through local markets and market-based approaches, but avoid promoting carbon intensive and polluting electricity generation systems.
- Coordinate with government, 'humanitarian', and 'development' private sector actors to continually optimize the electricity options available to refugees and host communities by introducing technological innovations and new approaches to service delivery.
- Promote education on energy efficiency to reduce demand for electricity and boost efficiency.

- According to the World Bank, 860 million people, mostly in rural areas, will not have access to electricity by 2030, with 90 per cent of those residing in Sub-Saharan Africa.
- Lack of light creates protection risks and reduces opportunities for studying and livelihoods.
- Dry cell battery-powered lights are not sustainable and create waste.
- Single solar lamps do not allow different family members to engage in separate activities at the same time after dark.
- Mobile phone and internet access have become increasingly critical for social life and for safety and security purposes; charging options are often limited to costly and polluting diesel generators.

¹⁸ World Bank - Beyond Connections, Energy Access Redefined - "Tier 2 daily electricity supply"

¹⁹ Chatham House Report for the Moving Energy Initiative - Heat, Light and Power for Refugees: Saving Lives, Reducing Cost

CASE STUDY: AZRAQ, JORDAN, THE WORLD'S FIRST REFUGEE CAMP POWERED BY RENEWABLE ENERGY

In 2017, the installation of the 2-megawatt solar photovoltaic plant near Azraq refugee camp in Jordan brought renewable power to a population that previously lived with only sporadic access to electricity. This initiative, supported by IKEA Foundation's Brighter Lives for Refugees campaign, has transformed Azraq into the world's first refugee camp powered by renewable energy. It provides affordable and sustainable electricity to approximately 40,000 Syrian refugees. Families in Azraq can now connect lights, a fridge and a TV and can charge their phones to keep in contact with relatives abroad. The construction of the Azraq solar plant has also provided an opportunity to employ skilled refugees. Fifty refugees were employed in the construction of the solar plant and 120 were employed in setting up the electrical network; on-going employment will be provided by maintenance works in the future. In Jordan, where electricity costs are high, the solar farm resulted in immediate savings of 2.75 million US\$ per year, and it will cut CO2 emissions by 6,300 tons per year. As of August 2019, the plant has already been extended twice, – bringing the total plant capacity to 5 megawatts. It has also been connected to the national grid, allowing any extra clean electricity to be sent to the grid free of cost, and supporting the host community energy needs.



Syrian refugee children enjoy the evening outside their shelters. Jordan.

SUSTAINABLE ELECTRIFICATION OF COMMUNITY FACILITIES

OUTCOME 4: Community facilities in refugee camps and settlements have access to energy, the renewable energy proportion is maximized, while limiting the overall energy consumption.

CHALLENGES:

The energy needs of community facilities are often addressed by means of oversized, costly, polluting diesel generators, or these facilities do not have access to electricity. This, compounded by the use of inefficient appliances, poor monitoring of energy consumption and no incentives for energy efficiency or shifting to renewable energy, leads to high financial and environmental costs.

HIGH-LEVEL GUIDANCE:

- Where national grids exist, advocate for the promotion of renewable energy power plants, and when selecting backup systems give preference to renewable energy, such as solar with storage capacity.
- Where national grids do not exist or are not a feasible option, support hybrid or fully renewable energy mini-grid systems that provide energy to refugees community facilities and host communities.
- Where other options are not available, standalone decentralized electricity generation should be achieved using renewable energy (e.g. solar with energy storage systems), rather than standalone diesel generators.
- Create a culture of energy efficiency: designing and upgrading community facilities to be energy efficient, choosing energy efficient appliances and providing adequate and appropriate efficiency training.

- Community facilities often lack continuous electrical power for basic needs like security lighting or refrigerators containing vaccines.
- Electricity supply is often fully dependent on standing diesel generation.
- Community facilities in need of a reliable and sustainable source of energy include, but are not limited to water pumping systems, health centers and hospitals, training centers and schools, communal facilities such as sport fields and other shared areas.

GREENING UNHCR INFRASTRUCTURE

OUTCOME 5: Transitioning UNHCR global office infrastructure to renewable energy sources

CHALLENGES:

UNHCR operates about 3,000 generators using fossil fuels, partially providing power to UNHCR's global office infrastructure. Currently, there are low incentives and low support for offices to increase energy efficiency or shift to renewable energy. Contributing factors include a decentralized approach that does not adequately share learnings and take advantage of potential financial efficiencies, inefficient monitoring of energy consumption, lack of technical capacity on energy, environment, and energy financing to support offices and sub-offices, and lack of common policies and guidelines.

HIGH-LEVEL GUIDANCE:

Green Box

- Measure global energy consumption by installing energy metering systems in UNHCR offices.
- Carry out energy audits at UNHCR offices and prepare business cases with feasibility analysis for e.g. connecting to national grids, mini-grid, solar systems, etc. for transition to clean energy.

Green Financing Facility

- Develop innovative financing model(s) to support the transition of UNHCR offices from fossil fuels to renewable energy.
- Promote access to flexible pooled financing instruments and increased flexibility in fund allocation to invest in greener infrastructure.

Green Data

- Create a centralized database capturing accurate information on selected sustainability indicators of UNHCR offices, allowing to define a baseline, benchmark, and measure progress.
- Introduce new technologies and solutions for UNHCR office construction projects to increase efficiencies and reduce environmental impact.

Awareness & Behavior Change

- Continuously promote energy efficient practices and eco-conscious behaviors throughout UNHCR to create a culture of energy efficiency.
- Establish an environmental policy to guide UNHCR Operations on reducing internal carbon emission sources such as travel, facilities and fleet management, waste and water management, and building management.

CASE STUDY: MAHAMA, RWANDA, BECOME THE LIGHT PROJECT

In 2017, UNHCR teamed up with the International Olympic Committee (IOC) to bring light to residents of Mahama refugee camp in Rwanda. Through IOC's "Become the light" campaign, solar lanterns were provided to 20,000 families and two major sports grounds, and selected pathways were illuminated through the installation of solar street lights and two solar mini-grid systems. Now community athletics can continue after dark, students can do their homework in the evenings and there are more opportunities for all forms of community interaction. Lighting up the camp has also significantly reduced protection risks in the camp. In order to ensure the sustainability of these initiatives, refugees participated in all stages of their development from design, through implementation where refugee technicians were trained and employed in the construction and installation of mini-grids and streetlights. The project also continues to be a source of long-term employment for trained refugees as they provide the maintenance services for the solar lighting systems.



A sports field in Mahama is equipped with lights for use at night. Rwanda.

STRATEGIC APPROACHES

PARTNERSHIP AND COORDINATION

Given the scale of the energy investments needed in most refugee hosting areas, especially for electrification and clean energy sources for cooking, strong, well-coordinated partnerships are critical to achieve the outcomes of this Strategy. Collaboration is required both internally and externally. The internal collective response of UNHCR is based on effective interrelations among various divisions, regional bureaux and country offices within the organization. Key sectors must be streamlined throughout all energy interventions; these include: SGBV, child protection, education, cash-based interventions, shelter and settlement, health, nutrition, WASH, livelihoods and environmental considerations.

External coordination and partnership building will target both public and private sector entities. In the rapidly developing energy sector, the private sector will be a key part of delivering sustainable energy solutions. The ambition of UNHCR to broaden its engagement with the private sector in renewable energy and encourage opportunities for technological innovations is in line with the multi-stakeholder and partnership approach called for by the GPA and GCR. Nevertheless, energy markets will need to be guided to ensure refugees are empowered and vulnerabilities are not exacerbated by market forces.

To ensure effective coordination between partners, UNHCR, in its role as convener, will engage with a range of stakeholders, facilitating communication between them and encouraging the cross-fertilization of initiatives. Stakeholders include, but are not limited to: public entities and utilities, financial institutions such as development banks, multilateral funds and foundations. Key partners also include donors and their technical cooperation agencies, as well as humanitarian, development and civil society organizations. UNHCR will also work through existing advocacy platforms and ensure that they support communications between local, regional and national authorities, inter-governmental organizations, UN

Country Teams, academia and civil society organizations. Most critically, UNHCR will ensure that refugees, host communities and local stakeholders are active participants in energy partnerships.

FINANCING

A joint effort is needed from public and private actors to finance energy interventions in humanitarian settings. New approaches such as de-risking facilities and innovative financing mechanisms will be required to meet energy needs. UNHCR currently spends a conservative amount of its own budget on energy interventions and aims to reinforce fund mobilization for energy solutions as part of the GCR and as described in its Strategic Directions 2017-2021. Financing is required not just for the upfront investments in long-term cost-effective sustainable energy infrastructure and services, but also for the mobilization of a specialist workforce, including energy experts and project managers, for UNHCR and its partners. Additionally, cash-based interventions will require further investments, to include provisions for sustainable cooking and electrification.

In its role as a catalyst, UNHCR will support financing through the creation of fit-for-purpose financing mechanisms in partnership with public and private sector partners, as well as donor entities and Technical Cooperation Agencies concerned with the interlinkage between energy access for refugees and sustainable development. To achieve this, UNHCR will reinforce systematic collection of the energy and market assessments that are needed in order to provide partner organizations with relevant data to inform their involvement in energy programmes. In 2020, UNHCR has established and capitalized an internal Green Financing Facility, an innovative financing instrument intended to support the transition of UNHCR infrastructure from diesel generators to solar energy through multi-year clean-energy-as-a-service contracts. The Green Financing Facility has been designed to provide risk mitigation and act as a guarantee

Installation of solar streetlights enables life to continue after dark and makes the settlement safer for all. Bangladesh.



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mechanism to enable the private sector to invest in the financing, construction and operation of solar power plants at UNHCR premises. Further, UNHCR will continue working with partners to develop innovative delivery models and financing mechanisms that fit in with existing financial regulations, procurement processes, humanitarian funding

cycles and regulatory frameworks, including market-based and improved livelihood project approaches and, where possible, private sector involvement.

CAPACITY DEVELOPMENT

All energy programmes require a training component and other capacity-building activities to equip

individuals and organizations with the skills and knowledge needed to deliver quality interventions. UNHCR will work to ensure that staff, partner organizations, local governments, refugees and host communities benefit from energy capacity-building as direct participants or indirect beneficiaries. UNHCR will further identify new energy partners to undertake participatory trainings, combining theory with practice, which can be organized nationally with local partners and global expertise. Local capacity-building ensures the sustainability of energy interventions, including further deployment of this capacity in the region when necessary. UNHCR will further work to promote local technical expertise by encouraging the recruitment of national staff by UNHCR and partners.

INTEGRATED APPROACHES

The energy requirements of households, communities and institutions impact many sectors and must be perceived in the context of protection. There are clear links, for example, with SGBV, education, health and nutrition, WASH, environment, livelihoods, shelter and settlement. Currently, however, energy is rarely and inconsistently considered in country programmes, projects and budgets. This has been true of UNHCR-managed programmes as well as those of its government counterparts and partners. To address this, UNHCR will support energy planning, programming and management at regional and country level, so that it becomes mainstreamed in all operations, from emergency response to durable solutions. Furthermore, UNHCR will advocate for policies and interventions in the energy sector in the interest of refugees, which reinforce and align national policies and practices to ensure their sustainability.

MEASUREMENT

Assessment and baseline data are fundamental starting points for impact measurement. UNHCR is undertaking a stocktake of the existing global-level data and energy needs assessment. Internally, UNHCR strengthens existing global data collection processes, such as the annual UN-wide Environmental Inventory (Greening the Blue report) that

also includes energy consumption data of UNHCR facilities and aims for participation of all UNHCR offices. In a first instance, energy meters are installed in UNHCR offices to facilitate this process and may help to identify alternative energy source options. Further, country teams will be supported to undertake assessments of existing data and analyses of local energy needs, including the local knowledge of refugees and the host communities. For example, household monthly cooking energy needs vary with the local context and need to be regularly assessed. Equally, in locations where local natural resources are used to meet all or part of the energy needs, data is required on how these resources are collected and managed, as well as the environmental impact of their use. Information on what sustainable energy options, technologies and alternative fuels might be available in local and national markets further allows operations to select options that reduce reliance on unsustainable energy sources. Such data will be consolidated locally and globally to enable reliable monitoring and reporting. It will also ensure that energy programming is tailored to the needs of refugees and host communities.

INNOVATION

In engaging with new partners, such as private sector energy suppliers or academic institutions, UNHCR will seek to change the way in which energy interventions are planned and delivered. UNHCR will act as a catalyst, connecting existing platforms, networks and communities of practice to enable knowledge and expertise sharing on thematic issues related to energy innovation. UNHCR will also advocate for the inclusion of refugee needs into energy research and development to ensure that refugees benefit from creative innovations in existing and renewable energy solutions. Apart from global technological advances, UNHCR will support local innovations, and take advantage of the resourcefulness that exists within refugee and host communities.

CASE STUDY: MINAWAO, CAMEROON, ADDRESSING THE FUNDAMENTAL LINK BETWEEN ENERGY AND THE ENVIRONMENT

Minawao Refugee Camp in Northern Cameroon hosts 63,000 refugees fleeing violence in neighbouring Nigeria. The region suffers from desertification and the extra demand for fuel-wood, resulting from the refugee influx, had the potential to accelerate negative environmental impacts through deforestation. To address this, a holistic energy and environment programme was needed. UNHCR, together with its partners, and with support from the Dutch National Postcode Lottery, worked to replace firewood with a more sustainable cooking alternative produced in the camp and to source sustainable, locally-produced bricks for shelters. In parallel, UNHCR and Land Life Company joined forces to restore more than 100 hectares of degraded land in and around Minawao. This initiative also provided 175 jobs and, by including productive trees in the reforestation programme, established the basis for on-going livelihoods for refugees and host communities. Over their productive life, the trees will produce 2,160 tons of cashews and 8,400 tons of neem oil and, as their biomass increases, temperatures will drop and desertification will decrease.



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Nigerian refugee women monitor some of the 20,000 trees planted in Minawao camp, Cameroon.

ANNEX 1 GLOBAL STRATEGY FOR SUSTAINABLE ENERGY FRAMEWORK¹⁶

Outcome #1 Vulnerable refugees meet their priority energy needs (cooking, lighting and heating) during emergency responses		
Global Initiatives	Global Milestones	Indicators*
<ul style="list-style-type: none"> Basic energy cooking and lighting needs are included in emergency responses Energy access via cash assistance or provision of core relief items is facilitated in new emergencies 	<ul style="list-style-type: none"> In new emergencies, vulnerable refugees are able to satisfy basic energy (cooking, lighting and heating) needs to mitigate protection risks and environmental impact In new emergency response plans basic energy needs are included for vulnerable refugees 	<ul style="list-style-type: none"> % of vulnerable PoC receiving essential support to meet basic energy needs during emergency responses % of emergency response plans including basic energy needs for vulnerable refugees

Outcome #2 Refugees and host communities have access to sufficient, safe, sustainable and clean cooking energy		
Global Initiatives	Global Milestones	Indicators*
<ul style="list-style-type: none"> Collect data and assess cooking fuel and technologies access Provide technical support to develop clean cooking energy access projects Identify countries to establish clean cooking access projects and programmes 	<ul style="list-style-type: none"> In 10 countries, clean cooking access projects and programmes for refugees and host communities are scaled up 	<ul style="list-style-type: none"> Proportion of PoC with primary reliance on clean (cooking) fuels and technology # of countries with clean cooking access projects # of countries with livelihoods projects and programmes that are linked to cooking energy

*Applicable for the number of countries reporting on this indicators

Outcome #3 Refugees have access to 200 Wh/household/day, allowing for basic lighting and connectivity		
Global Initiatives	Global Milestones	Indicators*
<ul style="list-style-type: none"> Collect data and assess lighting and connectivity access Provide technical support to develop lighting and connectivity access projects Identify countries to establish lighting and connectivity access projects and programmes 	<ul style="list-style-type: none"> In 10 countries, lighting and connectivity access projects for refugees are enhanced 	<ul style="list-style-type: none"> Proportion of PoC that have energy to ensure lighting # of countries with active lighting and connectivity access projects # of countries with livelihoods projects and programmes that are linked to lighting and connectivity access

Outcome #4 Community facilities in refugee camps and settlements have access to energy, the renewable energy proportion is maximized, while limiting the overall energy consumption		
Global Initiatives	Global Milestones	Indicators*
<ul style="list-style-type: none"> Collect data and assess renewable energy (electricity) access for community facilities in refugee camps and settlements Provide technical support to develop renewable energy access projects for community facilities Identify countries to establish renewable energy access projects and programmes for community facilities 	<ul style="list-style-type: none"> In 10 countries, community facilities in refugee camps and settlements are upgraded with renewable energy systems 	<ul style="list-style-type: none"> % of community facilities (schools, health centres) with access to sustainable energy % of solar powered water systems installed in community facilities, schools or health facilities. # of countries with renewable energy access projects for community facilities

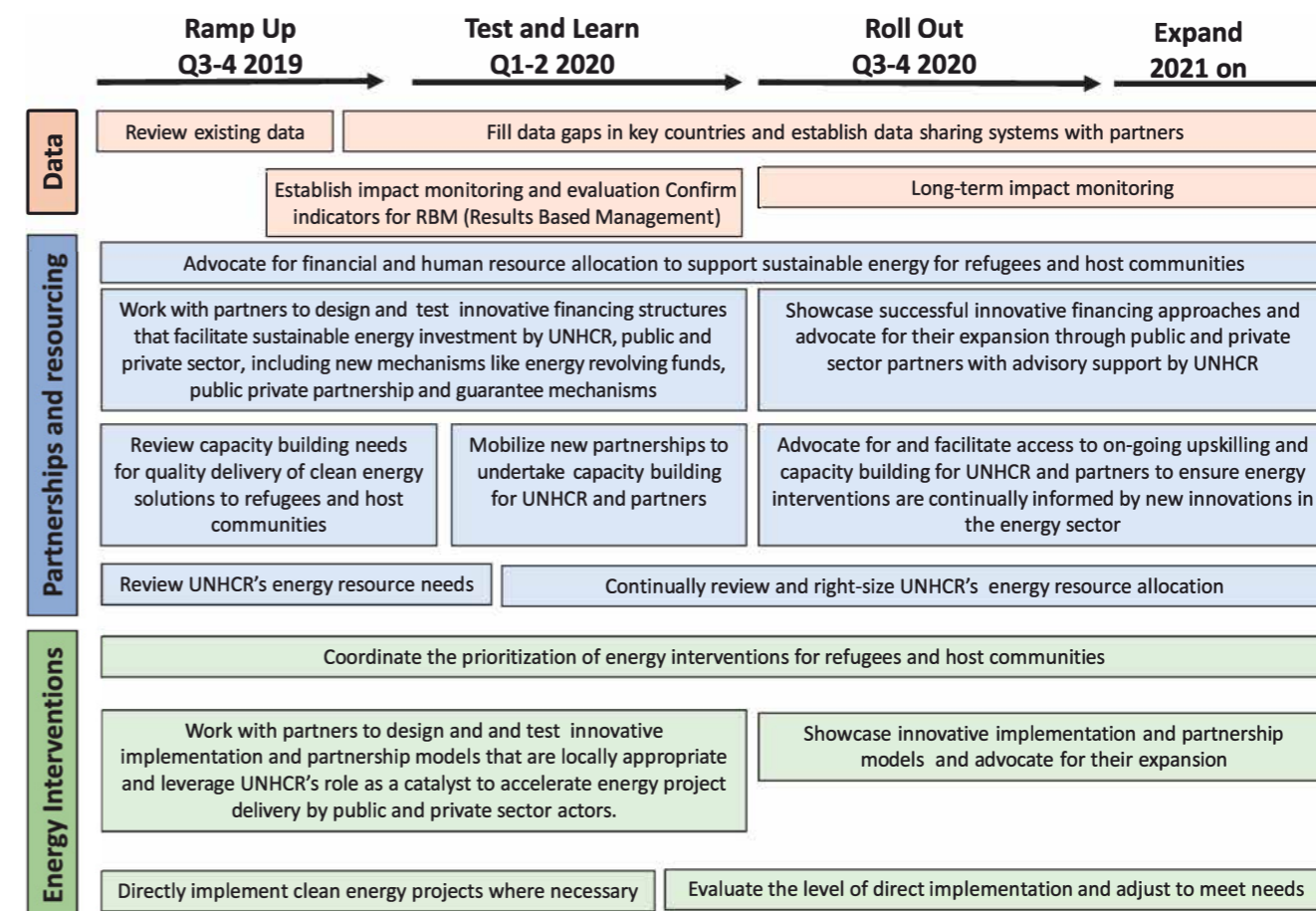
*Applicable for the number of countries reporting on this indicators

Outcome #5 Transitioning UNHCR global office infrastructure to renewable energy sources		
Global Initiatives	Global Milestones	Indicators*
<ul style="list-style-type: none"> Enhance Green Box project to measure global energy consumption and carry out feasibility analysis 	<ul style="list-style-type: none"> Installation of energy meters in 50% of UNHCR offices Design of business cases with energy audits and feasibility analysis for transitioning UNHCR offices to clean energy 	<ul style="list-style-type: none"> % of offices providing data on energy consumption Number of offices²⁰ with full feasibility analysis (technical, legal, financial) for transition to clean energy
<ul style="list-style-type: none"> Develop and enhance the Green Financing Facility, as innovative financing instrument 	<ul style="list-style-type: none"> Conclusive competitive tender for the procurement of clean-energy-as-a-service First agreement entered with private sector for the procurement of clean-energy-as-a-service via the Green Financing Facility 	<ul style="list-style-type: none"> Number of UNHCR offices that have transitioned to renewable energy or made investments in environmental efficiency
<ul style="list-style-type: none"> Implement dynamic Green Data technology platform for real-time monitoring and data visualization of sustainability 	<ul style="list-style-type: none"> Real-time monitoring and data visualization of UNHCR office's energy consumption 	<ul style="list-style-type: none"> % of UNHCR offices onboarded on the Green Data platform
<ul style="list-style-type: none"> Increase awareness on energy efficiency and introduce an environmental policy focused on reducing internal UNHCR carbon emission sources 	<ul style="list-style-type: none"> Publish environmental policy focused on reducing internal UNHCR carbon emission sources 	

*Applicable for the number of countries reporting on this indicators

²⁰ Including UNHCR infrastructure such as regional offices, country offices, field offices, field units.

ANNEX 2 IMPLEMENTATION PLAN



Back cover photo: A UNHCR intern holds up a sapling grown in the Minawao camp nursery. Cameroon

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