



**UNHCR**  
The UN Refugee Agency



# **GLOBAL STRATEGY**

## **FOR SUSTAINABLE ENERGY**

A UNHCR STRATEGY 2019-2024

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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](http://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](http://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](http://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.  
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# 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 2019-2024 aims to enable refugees<sup>1</sup>, host communities and other persons of concern to UNHCR to meet their energy needs in a safe and sustainable manner. 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.

Between 2019 and 2024, UNHCR will promote four strategic action areas:

- Addressing refugee households' energy needs from the onset of an emergency;
- Improving access to sustainable, safe and affordable household cooking energy;
- Expanding sustainable household electrification; and
- Expanding sustainable electrification of community and support facilities, while limiting overall consumption.

UNHCR will expand its catalytic role within the energy sector, advocating for, and where possible facilitating, sustainable access to energy in displacement settings. UNHCR will promote integrated

approaches, based on strengthened partnerships, to increase the effectiveness and sustainability of energy interventions in both emergency settings and protracted situations. This will include supporting joint efforts between humanitarian, development and private actors to finance energy interventions in displacement settings, along with advocating for innovative financing mechanisms and predictable, simplified regulatory frameworks.

Building and strengthening partnerships with organizations that have local and regional expertise in the energy sector will be prioritized. It is critical to understand the local context, energy needs, opportunities and constraints in order to make well-informed energy interventions. This principle will be supported through the development of country-level energy strategies. Additionally, global and local monitoring and evaluation systems will be enhanced to measure progress against this Strategy and assess the impact of energy interventions.

UNHCR will advocate for empowerment of refugees and their host communities through their full participation in planning and implementing energy programmes, knowledge transfer and capacity-building in technical and business skills and support for bottom-up innovation to create locally appropriate interventions.

## DEFINITIONS

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

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

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

<sup>1</sup> 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.



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 offices, personnel accommodation and operations 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 2019 to 2024.

UNHCR's work in the area of energy will be guided by its protection mandate and a set of principles con-

tained with the High Commissioner's Global Strategic Directions 2017-2021<sup>2</sup>, 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 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 commitments<sup>3</sup>, 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 Development<sup>4</sup> showed that energy was a factor in 125 (74 per cent) of the 169 targets<sup>5</sup>, 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.

<sup>2</sup> UNHCR's Strategic Directions 2017-2021: <https://www.unhcr.org/5894558d4.pdf>

<sup>3</sup> GBV Accountability Framework - <https://reliefweb.int/sites/reliefweb.int/files/resources/GBV%20Accountability%20Framework.pdf>

<sup>4</sup> A/RES/70/1. Transforming our world: the 2030 Agenda for Sustainable Development: [https://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/RES/70/1](https://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/70/1)

<sup>5</sup> State of Electricity Access Report, 2017: <http://documents.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>





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. Its programming should prioritize the most vulnerable and those at heightened risk of SGBV in line with UNHCR's Strategic Directions 2017-2021.

**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.<sup>6</sup>

**AGE, GENDER AND DIVERSITY<sup>7</sup> 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 UNHCR.

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<sup>6</sup> For more information see the GPC - <http://www.globalprotectioncluster.org/themes/protection-mainstreaming/>

<sup>7</sup> UNHCR, Age, Gender and Diversity Policy, 2018 <https://www.unhcr.org/protection/women/5aa13c0c7/policy-age-gender-diversity-accountability-2018.html>





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



# 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 Initiative<sup>8</sup>, 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.<sup>9</sup> The UN Climate Neutrality Strategy<sup>10</sup> 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.

<sup>8</sup> Energy in situations of displacement. Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement (GPA): [https://unitar.org/ptp/sites/unitar.org.ptp/files/uploads/presentation\\_gpa\\_launch\\_glada.pdf](https://unitar.org/ptp/sites/unitar.org.ptp/files/uploads/presentation_gpa_launch_glada.pdf)

<sup>9</sup> <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

<sup>10</sup> Greening the Blue, the UN Climate Neutrality Strategy: <http://www.greeningtheblue.org/our-approach/introduction/the-mandate>

These principles are supported by the Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement<sup>11</sup>, which UNHCR cofounded in 2018.

In a similar vein, the Global Compact on Refugees<sup>12</sup> (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”.

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.

<sup>11</sup> Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement: [www.bit.ly/EnergyGPA](http://www.bit.ly/EnergyGPA)

<sup>12</sup> A/73/12 (Part II) Global Compact on Refugees: <https://unitar.org/ptp/sustainable-energy> and with the email: [energy@unitar.org](mailto:energy@unitar.org)



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



# 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 four Strategic Outcome Areas, UNHCR will facilitate multi-partner approaches and evidence-based actions founded on systematically collected and analysed data.

## ENERGY IN EMERGENCY SITUATIONS

**OUTCOME 1:** the priority energy needs of refugee households (cooking, lighting and heating) are met swiftly and safely during an emergency response and until more sustainable energy systems can be established.

### 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 Policy<sup>13</sup>. 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 cooking fuel and an appropriate clean, efficient cooking stove are provided as standard items in non-food distributions or cash-based support to refugee households from the onset of an emergency.
- Wherever possible give preference to clean, sustainable cooking fuel.
- Provide hand-held solar lamps as standard items in non-food distributions or cash-based support to refugee households from the onset of an emergency.
- Ensure that heating fuel and appropriate clean, efficient heaters are included 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.

<sup>13</sup> UNHCR, Policy on Emergency Preparedness and Response, August 2019: <https://cms.emergency.unhcr.org/documents/11982/124166/Policy+on+Emergency+Preparedness+and+Response+-+UNHCR+HCP+2017+Rev.1/08206217-d33f-4634-a6a6-d695bf940e37>

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



- Women, girls and boys are at a heightened risk of SGBV 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.



©UNHCR/Patrick Brown

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

# SUSTAINABLE SAFE COOKING ENERGY

**OUTCOME 2:** refugees and host communities have sufficient access to safe, sustainable energy to cook three daily meals.

## 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, 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 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 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/ day<sup>14</sup>, 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 electricity<sup>15</sup>. 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.

<sup>14</sup> World Bank - Beyond Connections, Energy Access Redefined - "Tier 2 daily electricity supply": <https://openknowledge.worldbank.org/bitstream/handle/10986/24368/Beyond0connect0d000technical0report.pdf?sequence=1&isAllowed=y>

<sup>15</sup> Chatham House Report for the Moving Energy Initiative - Heat, Light and Power for Refugees: Saving Lives, Reducing Cost: <https://mei.chathamhouse.org/heat-light-and-power-refugees-saving-lives-reducing-costs-summary-page>

## 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 AND SUPPORT FACILITIES

**OUTCOME 4:** energy-efficient technologies and renewable energy are used to meet the electricity needs of communities: centralized water supplies, street lighting, educational and health facilities and humanitarian support facilities such as offices and staff accommodation.

## CHALLENGES:

The energy needs of communities and support facilities are often addressed by means of oversized, costly, polluting diesel generators. 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 for institutions and allow for expansion to include refugee and host communities over time.
- Where other options are not available, standalone decentralized electricity generation should be achieved using renewable energy where possible (e.g. solar with energy storage systems), rather than standalone diesel generators.
- Install energy metering systems at all institutions so that energy consumption can be monitored.
- Create a culture of energy efficiency: designing institutions to be energy efficient, choosing energy efficient appliances and providing adequate and appropriate efficiency training.

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

©UNHCR/Ajissa Everett



- Institutions 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.
- Electricity costs account for almost 2 per cent of the annual expenditure of humanitarian operations worldwide.
- Estimates indicate that the average carbon intensity of generator-produced electricity in UN compounds is 1,040 gCO<sub>2</sub>/kWh, compared to 0.56 g CO<sub>2</sub>/kWh in the UK and 0.62 g CO<sub>2</sub>/kWh in the US.



## 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.



# 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 engagement of financial institutions and corporations, 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. UNHCR will also establish a dedicated Revolving Fund for Green Energy and Sustainability to enable the transition to renewable energy. 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.



## 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 the 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 under-


taking a stocktake of the existing global-level data and energy needs assessment. Existing global data collection processes such as the annual Green House Gas inventory, that captures the organizational energy use of UNHCR, will be strengthened by ensuring universal participation by country operations. 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.

A photograph showing two women in a field of young trees. The woman on the left is wearing a yellow and red patterned headscarf and a matching patterned dress, smiling broadly. The woman on the right is wearing a black top and a patterned skirt, holding a small object in her hands. The background shows a dry, open landscape with some buildings in the distance.

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



# ANNEX 1 GLOBAL STRATEGY FOR SUSTAINABLE ENERGY FRAMEWORK<sup>16</sup>

Outcome #1		
Refugee households' priority energy needs for cooking, lighting and heating are met swiftly and safely during an emergency response and until more sustainable energy systems can be established		
<i>Global Initiatives</i>	<i>Global Milestones</i>	<i>Milestone Indicators</i>
<ul style="list-style-type: none"> <li>• Basic lighting and cooking energy is included in contingency planning processes</li> <li>• Energy needs assessments are conducted for all new emergencies</li> <li>• Emergency energy needs are included in all global appeals</li> <li>• Energy needs are included in all emergency refugee response plans</li> <li>• Access to cooking fuel (and heating fuel if needed) is facilitated in emergencies</li> <li>• Appropriate lighting solutions, including handheld solar lights, are made available to refugees in emergencies</li> </ul>	<ul style="list-style-type: none"> <li>• All contingency plans include emergency cooking and lighting energy</li> <li>• All new refugee response plans and joint response plans include provision for emergency cooking and lighting energy</li> <li>• Refugee households in new emergencies are able to access cooking fuel</li> <li>• Refugee households are able to benefit from appropriate lighting solutions, including handheld solar lights</li> <li>• Refugee households in cold climates are able to access heating fuel</li> </ul>	<ul style="list-style-type: none"> <li>• % of new emergency response plans that include energy needs</li> <li>• % of refugee households in new emergencies that received cooking fuel</li> <li>• % of refugee households in new emergencies that received handheld solar lights</li> <li>• % of refugee households in new emergencies in cold climates that received heating fuel</li> </ul>

<sup>16</sup> These indicators will be further adapted in line with UNHCR's upcoming revised Results-Based Management system. Milestones are considered to be Sector-wide, to be delivered in collaboration with key partners.

**Outcome #2**

**Refugees and host communities have access to sufficient safe, sustainable energy to cook three daily meals.**

<i>Global Initiatives</i>	<i>Global Milestones</i>	<i>Milestone Indicators</i>
<ul style="list-style-type: none"> <li>• Global data collection and analysis on refugee cooking energy needs in urban and camp or settlement settings</li> <li>• Global data collection and analysis on appropriate cooking energy and stove technologies for a range of refugee settings</li> <li>• Development of guidelines, standards and monitoring tools for cooking energy and stove technologies in displacement settings</li> <li>• Develop guidelines, standards and monitoring tools for the use, and phaseout, of local biomass as cooking energy in displacement settings</li> <li>• Disseminate data, guidelines, standards and monitoring tools for cooking energy in displacement settings and advocate for partnerships and resources to meet the standards</li> <li>• In 10 priority countries, identify partners to establish markets-based cooking energy access programmes.</li> <li>• In 10 priority countries, identify partners to establish cooking energy-based livelihoods initiatives for refugees and host communities.</li> </ul>	<ul style="list-style-type: none"> <li>• A global, up-to-date public database on cooking energy needs and cooking energy and stove technologies for displacement settings is launched, maintained and made accessible to all stakeholders.</li> <li>• Guidelines on cooking energy, stove technologies and the use of local biomass in cooking are published and accessible to all stakeholders.</li> <li>• Resources are mobilized to enable UNHCR and partners to meet the cooking related standards.</li> <li>• 10 priority countries have active market-based cooking energy access projects.</li> <li>• 10 priority countries have active livelihoods projects related to cooking energy.</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly number of user visits to the global energy in displacement settings database</li> <li>• Number of country operations reporting on households' ability to cook three meals per day without resorting to negative coping mechanisms</li> <li>• Number of new partners engaged in delivering cooking energy services to refugees and host communities</li> <li>• % of partners reporting progress in meeting the cooking energy and biomass standards</li> <li>• Number of country operations reporting on households' ability to cook three meals per day without collecting local biomass for cooking energy</li> <li>• % of cooking energy related projects using market-based approaches</li> <li>• % of livelihoods projects that are related to cooking energy</li> </ul>



**Outcome #3**

**Refugees have access to 200 Wh/ household/ day, allowing for basic lighting and connectivity.**

<i>Global Initiatives</i>	<i>Global Milestones</i>	<i>Milestone Indicators</i>
<ul style="list-style-type: none"> <li>• Global data collection and analysis on refugee household electricity needs in camp or settlement settings</li> <li>• Global data collection and analysis on clean electricity technologies appropriate for households in camp or settlement settings</li> <li>• Development of guidelines, standards and monitoring tools for electricity access in displacement settings</li> <li>• Disseminate data, guidelines, standards and monitoring tools for electricity access in displacement settings and advocate for partnerships and resources to meet the standards</li> <li>• In 10 priority countries, identify partners to establish market-based energy access programmes.</li> <li>• In 10 priority countries, identify partners to establish electricity-based livelihoods initiatives for refugees and host communities.</li> </ul>	<ul style="list-style-type: none"> <li>• An up-to-date global, public database on electricity needs and appropriate technologies for displacement settings is launched, maintained and made accessible to all stakeholders.</li> <li>• Guidelines on electricity access and appropriate technologies are published and accessible to all stakeholders.</li> <li>• Resources are mobilized to enable UNHCR and partners to meet the electricity related standards.</li> <li>• 10 priority countries have active market-based electricity access projects.</li> <li>• 10 priority countries have active livelihoods projects related to electricity access.</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly number of user visits to the global electricity in displacement settings database</li> <li>• Number of operations reporting progress in meeting the electricity standards</li> <li>• Number of new partners engaged in delivery electricity services to refugees and host communities</li> <li>• % of partners reporting progress in meeting the electricity standards</li> <li>• % of electricity access projects that use market-based approaches</li> <li>• % of livelihoods projects that are related to electricity access</li> </ul>

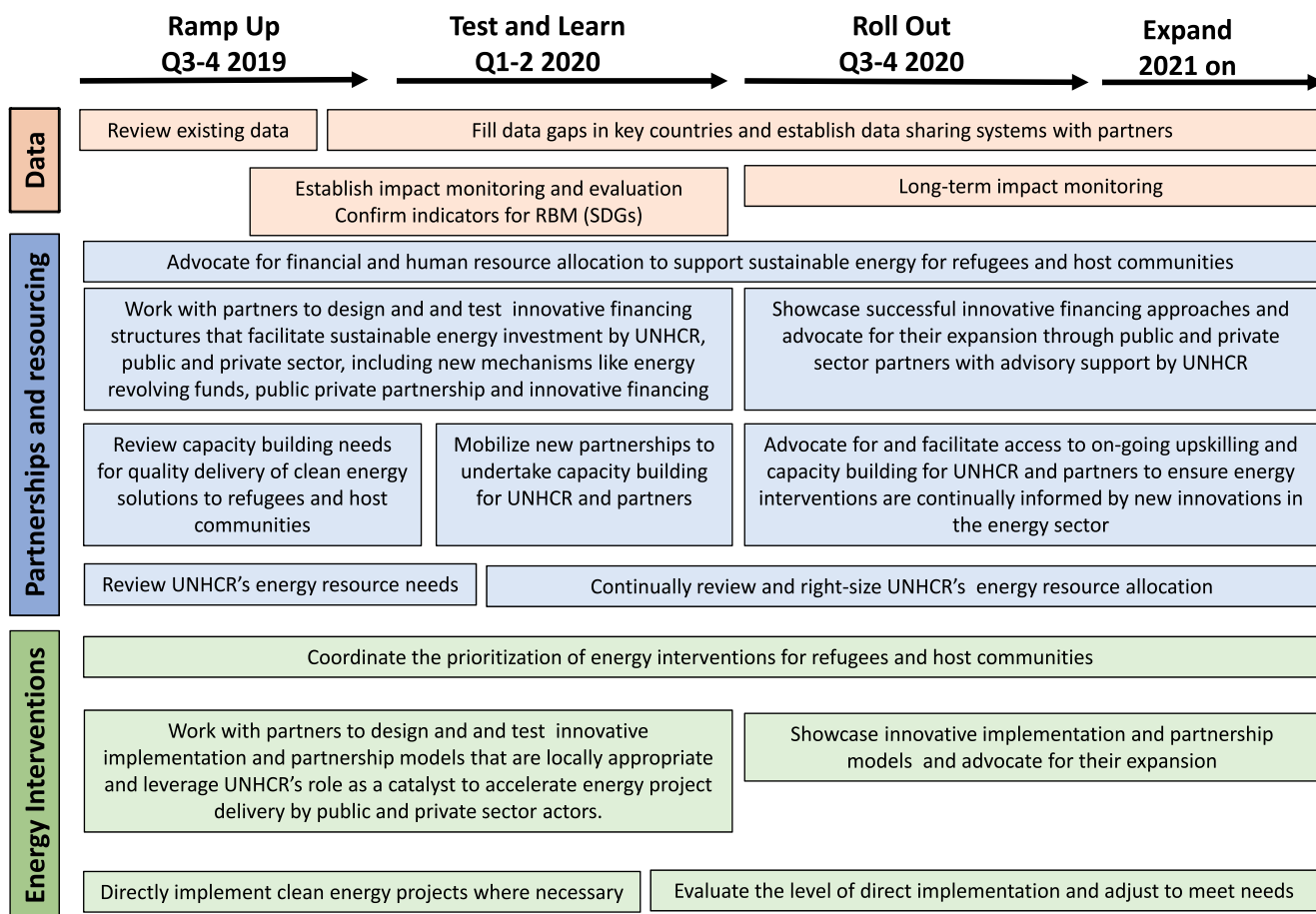
#### Outcome #4

Energy-efficient technologies and renewable energy are used to meet the electricity needs of communities: centralized water supplies, street lighting, educational and health facilities and humanitarian support facilities such as offices and staff accommodation.

<i>Global Initiatives</i>	<i>Global Milestones</i>	<i>Milestone Indicators</i>
<ul style="list-style-type: none"> <li>• Global data collection and analysis on institutional and public electricity needs</li> <li>• Global data collection and analysis on appropriate renewable electricity technologies for institutional and public electricity</li> <li>• Development of guidelines, standards and monitoring tools for renewable, sustainable electricity generation for institutional and public electricity in camp or settlement settings</li> <li>• Disseminate data, guidelines, standards and monitoring tools for renewable, sustainable electricity for institutional and public electricity in camp or settlement settings</li> <li>• In 10 priority countries, undertake projects to transition institutional and public electricity to renewable energy sources in camp or settlement settings</li> <li>• In 10 priority countries, undertake projects that attract private sector investment in the transition to renewable energy sources for institutional and public electricity</li> </ul>	<ul style="list-style-type: none"> <li>• A global, up-to-date, public database on electricity needs and renewable energy for institutional and public electricity is launched, maintained and made accessible to all stakeholders.</li> <li>• Guidelines on transitioning to renewable energy for institutional and public electricity are launched, maintained and made accessible to all stakeholders</li> <li>• Resources are mobilized to enable UNHCR and partners to transition to renewable energy for institutional and public electricity</li> <li>• 10 priority countries have projects supporting the transition to renewable energy for institutional and public electricity</li> <li>• 10 priority countries have attracted private sector investment for the transition to renewable energy for institutional and public electricity</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly number of user visits to the global renewable energy for institutional and public electricity database</li> <li>• % of refugee support institutions and public spaces that have electricity from renewable energy sources</li> <li>• Number of new partners engaged in the delivery of renewable electricity services to humanitarian agencies</li> <li>• % of support institutions and public spaces that meet the standards for sustainable electricity generation</li> <li>• % of institutions and public spaces that have transitioned to renewable energy</li> <li>• % change in carbon emissions from institutions and public spaces in refugee settings</li> </ul>



# 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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