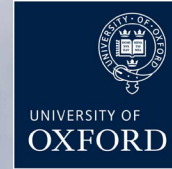




Humanitarian
Engineering and Energy
for Displacement (HEED)



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Definitions and differences: The evolving space of humanitarian energy access

Hajar Al-Kaddo & Sarah Rosenberg-Jansen | **June 2021**



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The paper has attempted to provide an overview of some of the current definitions and core concepts in the humanitarian energy sector as relevant in 2021. For further discussion, please reach out to [Hajar Al-Kaddo](#), [Sarah Rosenberg-Jansen](#), or the Global Platform for Action (GPA).

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More details on the HEED project can found at <http://heed-refugee.coventry.ac.uk>

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Understanding energy for displacement

The world faces a growing humanitarian challenge: over 80 million people are now forcibly displaced from their homes by multiple and protracted conflicts (UNHCR 2021). Global crises such as climate change, conflict and natural disaster have meant that over 26 million people have been forced over borders as refugees and 45 million people are internally displaced within their countries. Within this context, displaced people lack access to clean cooking solutions and are often not able to access modern electricity to meet their needs for power, heating and cooling. The realities of living without energy access are extremely challenging (Mercy Corps and GPA 2020). Many people still cook over three-stone fires using firewood and live in the dark at night. Small enterprises run by displaced people are not able to access the energy they need to run their businesses, provide local jobs, or drive local economic development. Community facilities such as schools, hospitals, water, sanitation, and hygiene (WASH) facilities, and refugee community spaces are without reliable power. Humanitarian facilities, offices, compounds and registration spaces use expensive and polluting diesel fuel (Lahn and Grafham 2018). These factors reduce the quality of life of refugees and other displaced people, cause financial and environmental pressures on humanitarian agencies and host communities, and contribute to global climate emissions (UNITAR, 2018).

Displaced communities are being left behind in progress on sustainable development. It is highly likely that Sustainable Development Goal 7 (SDG 7), ensuring access to affordable, reliable, sustainable and modern energy, will not be met for refugees or internally displaced populations (IDPs). However, due to a considerable lack of data and research into the current levels of access of communities, it is difficult to evaluate the true progress being made towards these global targets. The humanitarian system has made repeated, international commitments to improve the lives of displaced people, through the Grand Bargain and the Global Compacts for Migration and Refugees (IASC 2016, IOM 2018, and UNHCR 2018). However, progress on energy remains limited despite these commitments.



The UN-led Global Platform for Action for Sustainable Energy Solutions in Situations of Displacement ([the GPA](#)) aims to support access to sustainable energy by providing a collaborative agenda for concrete actions to ensure that all refugees and displaced people enjoy safe access to affordable, reliable, sustainable, and modern energy services by 2030. The GPA is supported by academic and research projects, such as the Humanitarian Engineering and Energy for Displacement ([HEED](#)) at Coventry University and the Modern Energy Cooking Services ([MECS](#)) Programme at Loughborough University, to showcase academic work and analytical evidence on how sustainable energy can be provided for vulnerable communities such as refugees. This paper will explore the topic of humanitarian energy, seeking to understand the different definitions and concepts within the sector.

The humanitarian energy sector has been rapidly developing over the past five years. While initial policy discussions and intervention actions were focused on refugees in camps, the sector now also covers IDPs, as well as the communities who host displaced people (Grafham 2020). To support the development of the sector, this briefing paper outlines a number of commonly used definitions and concepts within the humanitarian energy community and discusses why a number of differences have emerged within terminology for energy access for displaced people. It is hoped that the paper will facilitate discussion among partners and sector stakeholders, and inform consensus on the types of terminology to be used in the future. Aligning and standardising definitions may be a first step in harmonisation across the sector and pushing forward institutional action on sustainable energy at a faster pace than has been possible so far. This paper also offers a timely input for the UN High-Level Dialogue on Energy ([HLDE](#)) process which will draw attention to the issue of energy for refugees during Autumn 2021.

The methodology used to develop this briefing paper draws on our experience as practitioners and our work as academics to codify and understand the humanitarian energy sector as it has developed over the past ten years (Rosenberg-Jansen 2020). The paper draws on definitional ideas presented in the book 'Energy Access and Forced Migration' (Grafham 2020) and builds on analytical work from our doctoral research. The definitions presented in the following sections are intended as starting points for discussion, rather than representing formally agreed terms. It is hoped that over time, such definitions can evolve as an 'industry standard' lexicon for humanitarian energy policy and practice. We welcome feedback and discussion of these ideas to further support the development of the humanitarian energy sector.



Definitional differences

Definitions within the humanitarian energy sector are complex and evolving. There are many differences within the community, and ongoing debates and discussions about which terms cover which topics. For instance, definitions from the practitioner perspective are usually used differently depending on use and the energy needs of displaced communities. This paper, in line with the Global Platform for Action ([GPA](#)) for Sustainable Energy solutions in Situations of Displacement, takes a neutral view and is open to all definitions. There are two core definitions currently used within the sector:

Humanitarian energy: “Institutions, policies, programmes, global initiatives, actions and activities which use a range of sustainable and fossil fuel energy sources in contexts of displacement, to meet the energy needs of people in camps and urban settings, self-settled refugees, host communities, and internally displaced people”. Humanitarian energy covers needs during emergencies and protracted situations, and all populations impacted by war, famine, violence and persecution, climate change, and natural disasters, and can be considered the umbrella term for the sector. From: Rosenberg-Jansen, 2020, p17.

Energy access in displacement settings: Ensuring reliable, sustainable and affordable energy access for all displaced people, including household cooking and electricity solutions, energy for enterprises and community services, and decarbonising energy for humanitarian facilities. Energy for forced displacement covers needs during emergencies and protracted situations, and all populations impacted by war, famine, violence and persecution who are forcibly displaced. Source: this paper.

To some extent these terms are used interchangeably, but some debate suggests that humanitarian energy is more closely linked to development processes, while forced displacement language speaks clearly to traditional humanitarian groups.



Both definitions support the [GPA vision](#) that all “displaced persons, host communities, and associated humanitarian response mechanisms have access to affordable, reliable, sustainable and modern energy services by 2030” that aligns with SDG 7 language agreed by UN member states. Within this context, the term ‘humanitarian action’ is often used to refer to systems which are based on “principled provision of assistance and protection in order to save lives, prevent and reduce suffering and preserve people’s dignity, in crises arising from armed conflict, natural hazards and other causes” (ALNAP, 2021, p5).

Several elements are important to these definitions. Firstly, the inclusion of refugee communities, IDPS, and host communities to ensure that definitions in the sector are inclusive and do not just focus on refugees. The definitions also cover the location of displaced people: whether in camps, settlements, urban or rural locations, and those who are informally or self-settled. Secondly, the terms reflect the principle that action within the sector covers a range of intervention levels – at the field, regional and global levels. These definitions cover a range of initiatives, projects, programmes, and actions both in terms of direct intervention (eg: building a mini-grid or distributing solar lanterns), but also cover policy and coordination activities to build knowledge within the sector. Thirdly, the definitions cover a range of different fuels and solutions, including both fossil fuels and sustainable solutions. While the GPA is aimed at facilitating renewable and sustainable solutions, it is important that sector-wide definitions also include traditional and existing supply mechanisms such as diesel generation and firewood provision in order to capture current practices and sources of energy. This aligns with the sustainable energy work of both [UNHCR](#) and the International Organisation for Migration ([IOM](#)), as well as the ideas and concepts discussed within [GPA steering group members](#).

The ‘energy access in displacement settings’ term outlined above draws directly on the language used for the SDG 7 on energy, which aims to “ensure access to affordable, reliable, sustainable and modern energy for all” (Sustainable Development Goals, 2017). Adapting this language for displaced people is required to provide a specific link between humanitarian approaches and the broader development aims of the SDGs. While in theory SDG 7 includes displaced people, as it refers to ‘all’ communities, refugees and IDPs have only recently started to be mentioned in SDG reports and processes (World Bank, 2017, p44). As 80 million people are now forcibly displaced (UNHCR 2021), a number which is likely to grow over the coming years, it is increasingly important to draw attention to humanitarian energy needs specifically.

Beyond these two core definitions, several further variations exist. Many of these are outlined in the table below and demonstrate a number of differences within the sector. Historically, energy provision in displacement settings focused on household energy, covering both cooking solutions and lighting for homes. Language on cooking drew heavily from the experience of the [Clean Cooking Alliance](#) and previous sectoral work, such as that under the SAFE network. While initial work on electricity focused on household lighting, the sector has now expanded to include the electricity and power needs of households. However, more recent definitions are more comprehensive and include a range of users and technologies. This focus changed within research and policy documents in 2015 with the publication of the Heat, Light and Power paper by [Chatham House](#), which included energy needed for community facilities and enterprises as well as considering the sustainability of energy for humanitarian institutions. In 2021, the sector covers the range of energy solutions and needs of different populations, as outlined in the table below.



Further definitions on terms used across the sector, for example the use of the terms ‘market-based’ and ‘delivery models’, are provided by the WFP and UNITAR Energy Delivery Models (EDM) training produced during 2020 and 2021. Several organisations, including the Humanitarian Engineering and Energy for Displacement (HEED) project at Coventry University and the Modern Energy Cooking Services (MECS) programme at Loughborough University, have helped to shape these ideas and definitions.

The table below covers a number of specific terms, including:

- Energy for both emergencies and in protracted (long-term) settings.
- Energy for refugees, internally displaced people (IDPs), and for other migrants.
- Renewable, clean, sustainable energy and fossil fuel sources.
- Modern (often electricity and gas sources) and traditional energy (for example, three stone fires, firewood, basic lanterns, etc).
- Access in households, but also energy access for local businesses and enterprises, community facilities, and humanitarian operations and facilities.
- Terms covering policy, management, and the humanitarian-development nexus.

Table 1: Existing terms within the sector

Commonly used terms	Current scope	Suggested definition
Overarching definitions		
Energy access in displacement settings, energy for displaced people, energy and forced migration	Sector-wide term, holistic and covering a range of displacement contexts. Energy for displacement is often the umbrella and informal term used across settings. Sometimes this term is preferred by humanitarian actors.	Ensuring reliable, sustainable and affordable energy access for all displaced people, including household cooking and electricity solutions, energy for enterprises and community services, and decarbonising energy for humanitarian facilities. Energy for forced displacement covers needs during emergencies and protracted situations, and all populations impacted by war, famine, violence and persecution. Inclusive of energy supply and use for all forcibly displaced people: including migrants, refugees in camps and urban settings, and internally displaced people. Host communities and self-settled refugees can also be included in this definition as their energy needs are impacted by displacement, although these terms normally focus on energy for people in refugee and IDP camps or refugees in urban areas.



Commonly used terms	Current scope	Suggested definition
Humanitarian energy: energy access in humanitarian settings	Sector-wide term, holistic and covering a range of humanitarian contexts. Increasingly, practitioners are using the term humanitarian energy instead of energy for displacement to align explicitly with the humanitarian sector. Sometimes this term is preferred by energy actors.	“Institutions, policies, programmes, global initiatives, actions and activities which use a range of sustainable and fossil fuel energy sources in contexts of displacement, to meet the energy needs of people in camps and urban settings, self-settled refugees, host communities, and internally displaced people” (Rosenberg-Jansen, 2020, p17). Including the use of a range of energy sources across all contexts of displacement, and the energy needs of people in camps and urban settings, self-settled refugees, host communities and internally displaced people. Humanitarian energy covers needs during emergencies and protracted situations, and all populations impacted by war, famine, violence and persecution, climate change, and natural disasters. While energy for displacement is often used as a neutral term, humanitarian energy is often being used to align with progressive ideals on renewable energy and emerging lessons from the energy access sector on energy access rights, sustainability, and leaving no-one behind in the transition to modern energy access.
Energy in emergencies	Focused on crisis and emergency situations, including natural disasters and conflict settings.	The use and supply of energy for crisis situations, including disasters and conflict settings. Often focused on short-term power and fuel supplies and the immediate needs of newly encamped and displaced populations. Energy in emergencies can also cover a wide range of people, including those who are not displaced from their region, but are in an emergency in or near their home (for example, people affected by earthquakes or other disasters).
Energy and migration	Focused on people on the move and migrants.	The supply for, and use of, energy by migrant communities, including economic migrants and asylum seekers. Often focused on migrants to the global north rather than migrants within the global south or internally displaced people, and linked with climate change and development narratives. To date limited empirical work has been done on this topic.
Renewable energy for refugees	Renewable energy focus usually supporting refugees and increasingly host communities.	The use of renewable, sustainable and replenishable biomass energy sources in contexts of displacement. This term often is used in association with refugee camps, as camps are often densely populated and renewable solutions are often needed within communities.
Energy policy and management definitions		
Humanitarian energy policy	National and global policy considerations, including host government priorities on energy and global initiatives to support the development of sustainable energy solutions.	Humanitarian energy policy is the provision of evidence-based energy strategies, targets, goals and frameworks that are focused on populations in need of humanitarian assistance, which can be produced by global humanitarian organisations, NGOs, national host countries, or development organisations. Humanitarian energy policies often cover both micro and macro factors which include environmental sustainability, host country political and legal frameworks and existing energy infrastructures (definition built on the work of Armstrong et al 2016 and Islam 2020).



Commonly used terms	Current scope	Suggested definition
Energy at the Humanitarian – Development Nexus	Considers the interplay of development and humanitarianism, aimed at bringing the lessons of development practice to humanitarian systems.	Energy in the humanitarian-development nexus is the bridge between humanitarian action and development assistance using renewable, sustainable and modern energy systems and technologies to develop better support, livelihood, health, protection and other basic needs for displaced populations. The nexus is the reliance on humanitarian energy to enable energy related development initiatives for populations in need of humanitarian assistance that simultaneously increase funding and investment opportunities from a variety of traditional and non-traditional donors and actors. Furthermore, this can be expanded to include peace, as part of the already established humanitarian-development-peace nexus. Peace in this context is important as it enables integrated sustainable and longer lasting humanitarian and development initiatives for displaced populations.
Humanitarian energy management	New term emerging to understand the longer-term and holistic elements of energy planning for displaced communities.	Humanitarian energy management is a new term referring to both the usage and application of energy products and services. It includes the planning and operation of the installation, production and consumption of energy with the view to enhancing energy access and energy efficiency measures for end-users. The approach includes the management of the entire life cycle of energy technologies, innovations and programmes by stakeholders for displaced populations. The life cycle includes the raw material production, technological implementation in the refugee host country, the political, legal and institutional frameworks available, the environmental challenges and the needs of the displaced populations. Other important factors important to the end of the life cycle include; by-products produced from a waste management perspective, the access to procurement through local entities, the evaluation of systems design throughout the production and implementation of renewable energy systems for populations (definition building on work of Islam, 2017).
Community- based and inclusive humanitarian energy processes	Focused on inclusivity and ensuring that the voices of refugees and IDPs are embedded fully within policy and programming processes.	Humanitarian energy policies and practices which are based on the needs and priorities of refugees and displaced people: going beyond participation as a means of engagement to design programmes and policies <i>with</i> substantive input from refugees and displaced people. Including approaches which use participatory methods, community co-design principles, inclusive planning tools, which are refugee-led or led by displaced communities, and listen directly to the voices of the displaced to inform policy and implementation throughout the programme cycle.
Sustainable humanitarian energy approaches	Focused on all elements of sustainability: including technological, financial, environmental, and societal sustainability.	Approaches which use sustainable thinking to inform long-term solutions in humanitarian energy. Including technological sustainability (the use of renewables), financial sustainability (long-term planning and structures for graduation from aid and grant mechanisms), environmental sustainability (reducing emissions, deforestation and pollution), and societal sustainability (improving the livelihood, health, education, and social outcomes of societies in the long-term). We take a progressive stance in this definition to encourage actors to only label projects 'sustainable' when they meet the above definition.



Commonly used terms	Current scope	Suggested definition
Energy services and uses definitions		
Household energy for displaced people	Focus on lighting, mobile charging, heating, cooking, and cooling for homes and households.	Ensuring refugees and displaced people in camps, settlements and urban settings have access to energy for their household use, including affordable lighting and mobile charging, safe cooking technologies, low-carbon power for household appliances.
Electricity and lighting for displaced households	Electricity, lighting, power and appliance focused.	Energy access in homes of refugees and IDPs, including access to products such as lanterns and torches, services such as electricity supply from solar home systems, and sources including individual electrical appliances and connections to mini-grids or local electricity suppliers.
Cooking and cooking systems in humanitarian settings	Cooking, firewood, and fuel focused.	The use of firewood and fuels as energy for refugees and displaced people: the supply for cookstoves, clean cooking technologies and firewood for displaced people.
Fuel and energy, SAFE access to fuel and energy in humanitarian settings	Focus on fuel and energy: firewood for households and diesel generation for humanitarian response organisations.	Sustainable and safe use of firewood and fuels as energy for refugees and displaced people and effective use of energy resources by humanitarian agencies. Term is often used to focus at the household level on provision of fuels for cooking in refugee and IDP homes and often framed in terms of protection needs.
Energy for displaced enterprises, energy for refugee businesses	Focus on energy for businesses and small enterprises within refugee or displaced settings. An emerging set of terms that may increase in visibility over time.	Term used “to encapsulate energy supply and use across end-users, including energy for livelihoods and jobs, small businesses and productive enterprises, and energy to support the functioning of markets and shops within refugee camps, settlements for displaced people, and host communities” (adapted from Rosenberg-Jansen, 2019, p1). Term inclusive of productive uses of energy which may use larger-scale power, as below, and micro-enterprises such as tailors, hairdressers and mobile phone charging businesses.
Energy for micro-enterprises in displacement settings	Focus on energy for micro-businesses and within refugee or displaced communities. A subset of enterprises covered in the definition above.	As defined by EnDev and Practical Action (2021): “Energy for micro-enterprises: covers a number of elements, including: energy-consumer entrepreneurs – for example, electricity required in hairdressing salons, charging shops; lighting for informal food sellers and other spaces that require electricity to provide a service; restaurants and informal cafes that use cooking fuels and energy technologies to power their needs. Energy supplier entrepreneurs – meaning entrepreneurs that provide energy services. For example, businesses selling lanterns or cookstoves; businesses selling electricity directly through informal mini-grids; mobile phone charging; refrigeration services. Energy entrepreneurs can also provide training or maintenance of energy technologies. Energy economies” of refugee camps and settlements – meaning the informal and formal exchanges on energy within and across markets, trading spaces and businesses within refugee spaces. Energy economies also include the financial and non-financial trading mechanisms supporting energy access for micro-enterprises, as well as being a mechanism for the delivery and supply of energy products and services for displaced people” (p15).



Commonly used terms	Current scope	Suggested definition
Energy for productive use in humanitarian settings	Usually focused on camps, mini-grid solutions, and electricity-based solutions such as connection to national grids.	The supply of energy for medium or large sized enterprises in refugee camps: enabling entrepreneurship to develop within refugee camps. Often focused on commercial, agricultural, and industrial activities using electricity services for the production of goods or provision of services, which consume a considerable amount of power.
Community facilities and energy for displaced people	Often focused on mini-grid and decentralised energy solutions.	Providing sustainable and affordable energy to community facilities, including schools, hospitals, community spaces, and street lighting. Often focuses on electricity solutions, but can encompass community cooking initiatives and kitchens.
Institutional energy for humanitarian agencies, energy for operations	How humanitarian organisations and their partners access energy, how much is consumed and the cost of energy within operations	The supply of energy for humanitarian agencies, NGOs and implementing partners working in refugee camps, displacement settings, and crisis response situations. Focused on electricity products and services: currently most operations use diesel fuel to power their operations.
Solarising operations	Focused on camps, grid-level connection services or and mini-grid solutions using solar energy.	The supply and development of solar energy solutions for humanitarian power sources, including energy needs for offices and compounds, registration centres and core humanitarian spaces. Often referring to the move to replace diesel generators with renewable and solar solutions to reduce emissions, cut costs, and improve the sustainability of UN operations.

Table: Adapted from Rosenberg-Jansen, 2020 (in Grafham, 2020, Energy for Forced Migration).



Evolution and adaptation of terminology in humanitarian energy

The table above provides some sense of the scope of humanitarian energy, both in terms of the depth and breadth of the terms used. We can consider the different sections of the table as.

- **Overarching terms used across the sector:** these terms reflect that a mix of ideas are outlined to reflect the different terms used and discussed by sector participants. These differences do not reflect our views as academics, but rather the realities of a sector still in the emergent process of defining itself. As an example, different actors may choose to use the terms 'energy in displacement settings' as opposed to 'humanitarian energy' due to the perceived differences of these terms to connect with the core audiences that actor is speaking to.
- **Energy policy and management terms:** Many of the terms outlined in this section of the table are currently unwritten perceptions or understandings within the sector, but to date have largely been un-codified in academic or practice literature. As a result, this briefing paper offers a concrete suggestion on what such terms could mean and a sense of how they are used within humanitarian energy spaces. These terms build on existing terminology developed within the energy access or management literature, to consider how such thinking applies in humanitarian contexts.
- **Energy services and use definitions:** the definitions can demonstrate the different focus areas of certain policies or programming interventions. For example, the coalition of some actors around the term 'SAFE' (Safe Access to Fuel and Energy), compared to those who use the term 'cooking systems' implies both a shift in focus from the physical safety and health benefits of clean cooking, to considerations of the holistic approach to understanding cooking needs in displacement settings.



Within the complexity presented in the table above, it is clear that the humanitarian energy sector is evolving. Terminology that was relevant five years ago, such as the use of the term SAFE, has now largely been discarded in favour of terms centred on the population in need – for example, energy for the displaced and energy for refugees. The ‘energy use’ terms outlined in the third section of the table suggest how the sector has evolved to develop semi-structured ‘sub-sectors’ to separate and identify the energy needs of households compared to energy needs of community facilities or in humanitarian operations. Many of the ideas presented within this paper overlap and definitions do not have strict bounded remits. The evolution of definitions has often caused confusion within the sector on the precise focus and remit of different initiatives. It is hoped that this paper may contribute to clearer understanding and ongoing debate on the evolution of concepts and programming in humanitarian energy.

As well as evolving, so too has the sector adapted, changing its focus to align with global initiatives and policy focus areas as they have emerged. For example, renewed policy and donor focus on livelihoods and jobs has led to the creation of a subsection of activity and terms on energy and micro-enterprises and energy for refugee business. Further policy analysis could be undertaken to understand how such changes happen and identify the drivers underpinning alterations in terminology within the sector.



Conclusion

The humanitarian energy sector will continue to evolve and change over the coming years. Definitions on energy use and supply are likely to expand and change focus. This paper provides a sense of the state of play within the sector in 2021, and may offer some possibilities for consolidation by actors who are often divided both by terminology and by perceived remits of institutions.

While our work has suggested a number of academic definitions to support the development of the sector, it is important to note that changes are often driven by practitioners and policy-makers who are tailoring terms and solutions depending on the needs of displaced people and specific displacement contexts. As a result, it is likely that these definitions will evolve and change further over the coming years. Additionally, this paper focuses on the overarching terminology surrounding the sector, however, much work still needs to be done on precise terms and data definitions. Initial work to provide concrete discussion on measurable indicators for humanitarian energy has also been developed by the GPA community and a [summary is online](#) (Rosenberg-Jansen and Bisaga 2020).

Further academic analysis of the history and governance of humanitarian energy is needed to fully understand the roles and responsibilities present within the sector, as well as to provide commentary on the evolution of ideas that inform both policy and practice in the humanitarian energy space. The authors encourage responsible research that is applicable to the needs of displaced populations using the most recent [research gaps](#) and analysis produced by the GPA in 2021.



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Humanitarian Engineering and Energy for Displacement (HEED)

Since the introduction of the UNCHR global strategy on Safe Access to Fuels and Energy (SAFE) in 2014, humanitarian responses to refugees and internally displaced people (IDPs) have sought to deliver safe and sustainable energy provision. By focusing on the lived experiences of refugees and IDPs in Nepal and Rwanda to understand energy usage in refugee camps and settlements, the HEED project will develop, and contribute to, innovative responses which address demands for improved energy services.

Our research, led by key experts in the fields of engineering and social science, is looking for solutions that will provide crucial guidance on creative approaches and technologies to clean or fuel-efficient cookers, alternative and sustainable fuels, and solar-powered lighting, which will build the resilience of refugee communities.

Our partners

The HEED project, is led by an interdisciplinary team based at Coventry University, in partnership with the international development charity, Practical Action, and Scene Connect, a social enterprise strengthening communities through the development of ICT products.



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