

A systems thinking approach for energy markets in fragile places

Energy is a priority for refugees yet traditional approaches for its delivery are costly and ineffective, while energy access often falls away once aid is withdrawn. By adopting a market systems approach, aid can do more to ensure access to energy in fragile places is more effective and sustainable.

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The nature of aid is changing — humanitarian crises are more protracted, cyclical and intense. Combined with an aid funding shortfall, this has meant that new and transformational solutions are needed. In 2016, the Grand Bargain¹ — an agreement on aid delivery between some of the largest donors and aid providers — was launched during the World Humanitarian Summit by the United Nations (UN) Secretary-General. By making commitments towards more cash programming, local agency and use of local markets, the Grand Bargain has helped the aid sector think more about integrated aid solutions (with humanitarian relief, development and peacebuilding as interconnected processes), sharing power (and aid funding) with local partners, and working through existing systems rather than implementing temporary parallel structures that depend on a continuous aid tap. In recognition of the need to work closer together and a desire to put people at the centre, the UN launched the humanitarian-development nexus and the New Way of Working² following the 2016 Humanitarian Summit, which introduced mechanisms for humanitarian and development actors to work together. Peace was then added as a critical component in what is now referred to as the Triple Nexus³.

These agreements have had a profound impact on energy access in fragile contexts. Energy is a priority for displaced people: in a recent survey of forcibly displaced Rohingya in refugee camps in Bangladesh, energy was considered an unmet need, ahead of cash, food assistance and water, sanitation and hygiene⁴. Energy also helps enhance the effectiveness of the primary humanitarian response areas. For example, in water, sanitation and health (WASH), energy is needed to boil water for drinking and cooking; in livelihoods, energy is needed for cooking and lighting to enable income generating activities; in protection, alternative energy sources are needed to

limit the need to collect firewood in remote, unsafe locations, especially for women and girls; and in food security, energy is needed for cooking. As energy becomes more of a priority for humanitarian agencies, there is an opportunity to apply new and transformational solutions with integrated approaches.

The role of market systems

The current way in which aid is delivered is not working. In fragile contexts, the traditional response is to distribute energy products or services directly to communities, apply large subsidies or carry out training. This approach can be costly and unsustainable. Products selected for distribution often do not meet the actual needs of the local population and are left unused and unwanted or are re-sold in local marketplaces; price subsidies can cheapen energy provision superficially and make it harder for markets to emerge; and training is insufficient, putting pressure on individuals to change their behaviour (and ignoring the need for changes in the wider environment). Whilst local enterprises might be supported to deliver energy access to marginalized and vulnerable populations for a short time period, this happens under the control and oversight of an aid project. If the underlying relationships and incentives are absent or not market-driven then the activities fall away once aid is withdrawn.

Considering this, the aid sector is starting to look more at market-based approaches and market systems development for energy. Markets are made up of the core exchange (or, supply and demand), supporting functions and rules and norms. Market-based approaches in emergencies use, support or develop marketplaces for the provision of critical goods and services that save lives, including direct cash transfers to households and restocking grants for traders. (The Market Based Programming Framework was developed in 2016 by the Markets in Crises Group⁵.) In market

systems development, relationships and incentives matter, the change is deeper and takes longer, and the approach delves into the key dynamics affecting markets and enterprises, such as, money, services, information and power (<https://beamexchange.org/market-systems/what-market-system>).

In markets, energy users and consumers get the products or services they need through local enterprises (large and small firms) by way of supply chains and distribution channels. These interactions between buyer and supply are complex and web-like; they are enabled (or disabled) through deeper, underlying market structures, such as retailers, financial institutions, physical infrastructure, legislation, standards, social norms and more.

Systems thinking considers how this complexity in markets comes about through social relationships, patterns of behaviour over time, feedback loops, incentives, choice, power, gender and geopolitical dynamics. This means that short-term solutions need to be combined with efforts to understand the complexity and the behaviours and norms around how people access energy through markets. The gendered nature of how markets work and how norms constrain actors (or open new opportunities) makes this especially pertinent for women and girls.

The ability of the poor, vulnerable, marginalized and displaced to engage in energy markets is a systemic issue related to incentives, relationships and power. In places where market activity is invisible or absent (otherwise known as ‘thin markets’) there will be some form of market behaviour. For example, a proliferation of firewood cutting means that there are incentives for people to buy and sell firewood, which further indicates that a market for (firewood) energy exists. Market systems development can slowly shape this behaviour into new markets, such as clean cookstoves.



A shop in Kakuma camp, Kenya, that stocks solar panels for household use. Credit: Edoardo Santangelo

In 'thicker markets', with more vibrant market activity, there might be a lack of counterbalancing mechanisms that leave power unchecked and the poor at a disadvantage. For example, even when there is a wide range of energy products on the market — from torches and gas cookstoves, to solar lamps and solar home systems, imported from the European Union or China or made locally — the market might be beyond reach for low income consumers who have low confidence in the product offer because they question what can fulfil their needs, what value they can get from what they pay for (return on investment) and how able they are to process the information available (possibly, due to literacy issues). In such cases there might be a need to strengthen quality assurance standards and branding and advertising to help people make good decisions about what to pay for (and how to complain when products are not fit for purpose).

In both types of market systems, it is insufficient for local market actors to be delivering subsidized products on behalf of aid projects; there needs to be a value proposition for both consumers and energy suppliers where the quality and usefulness of what is on offer is aligned with the willingness and ability to pay. The delivery mechanism needs to be relationship-led through business strategies that reach underserved populations. Market actors need to figure out their own way through the market — markets are not technical systematic solutions that are designed and implemented by projects.

This means working with market actors to experiment with responses to complex relationships and incentives. For instance, how quality is assessed by the market affects branding and advertising; how social norms intersect with economic activity affects marketing outreach and distribution strategies; and how people use credit affects the financing options that can be embedded into energy supply. To illustrate the latter case, whilst money-off vouchers for energy products might be available to the very poor, how they incentivize markets matters: vouchers need to be delivered so that they do not disincentivize other energy consumers to pay for products and services.

Gender norms in markets are also crucial. This means asking questions about how women and men relate to each other all through the market system from the consumer level to enterprise, service provider, rule-maker and others. Some market strategies work better for women because of gender and power dynamics and where the market itself is a mechanism to shake up unhelpful social norms and establish new ones. For example, a market assessment in North-East Nigeria found that women who had been displaced from their homes were taking up new activities in food transportation to reinstate local markets that had collapsed during recent insurgent attacks⁶.

In summary, a market systems approach looks at aligning the incentives between actors in market-driven relationships so that the system works on behalf of the poor, marginalized, vulnerable and displaced.

Learning from existing projects

A greater number of projects are starting to integrate aspects of a market systems approach into energy. Whilst most are not doing wholesale market systems development, many are experimenting and testing ideas and theories. Emerging lessons will be useful for the aid sector as we move towards more programming and practice.

The value proposition for energy products.

In humanitarian settings, marketplaces typically offer a very thin selection of energy products (often with only undervalued products available). Yet, demand for new energy products is often strong⁷. In Rwandan refugee camps, lighting, phone charging and entertainment have all been stated as commonly desired products for households and enterprises if adequate electricity were made available⁸. In Kakuma camp, Kenya, a recent survey suggested that 28% of surveyed households were ready to bear the full costs of a mini-grid; 17% would pay for a US\$126 solar home system (with multiple lights and charger), and 18% would pay for a US\$10 solar lantern (a small task light)⁷. These examples show an opportunity for introducing new energy products. SNV and Energising Development (Endev) are working with energy entrepreneurs in and around Kakuma camp to facilitate solar home systems from four companies that received a grant to encourage them into the region: Azuri, Greenlight Planet, Pawame and Sollatek. In the nine months from September 2017 to June 2018 the companies had sold over 950 assorted lights between them⁹.

In Jordan, a market-based approach around the value proposition of water — whose provision is intimately connected to energy — has helped to drive down household expenses and made a scarce resource stretch further. Over 80% of refugees live outside of camps in the towns and cities of the country¹⁰. Mercy Corps has been working to help manage limited water resources and improve water infrastructure by partnering with community-based organizations to promote increased awareness, responsibility and accountability of local water resources. Through these organizations, they have granted US\$1.85 million in loans to finance household rainwater harvesting and grey water recycling systems, water catchment and reservoir construction, and much more. The impact of these projects is significant: a household catchment system can capture a three-month supply of rainwater.

Building supporting functions for energy access. In Burkina Faso, the Moving Energy Initiative worked with a number of local Burkinabe energy firms to deliver energy for refugees in Goudoubo camp. The project worked through suppliers of energy products as well as those involved in the wider energy market, such as the local mayor's office, technical training centre and municipal radio station. The project supported market activities in the form of a field visit, trade fair, a mobile energy shop, door-to-door sales with agents on motorbikes, a radio show on energy usage, the training of solar repair technicians and pay as you go and other financial technology opportunities¹¹. Women were actively engaged by solar companies in all types of market activity — as buyers of product to providers of technical services. Provisional results suggest that such activities have led to local firms maintaining a more long-term and sustainable presence in and around the refugee camp, with several refugees finding jobs with the energy firms, and many new products entering use^{11,12}.

In the Cox's Bazar camps in Bangladesh, Oxfam's market assessment found that whilst solar lamps are available in local marketplaces, there are constraints in terms of quantity and quality that result in demand being low; in turn, there are too few incentives for solar firms to improve their underperforming supply chains. This problem is exacerbated in poor and vulnerable communities. To address this, Oxfam adopted a market strengthening approach and linked the Rohingya refugee population (consumers) and local vendors (energy suppliers) with national suppliers, bringing together host communities and refugees, consumers and suppliers, to improve relationships and facilitate information flow between market actors on issues of product choice and price¹³.

Working with communities to counterbalance power dynamics. The provision of electricity inside refugee camps can map closely onto the camp's social organization, which is largely along the lines of national and ethnic identity¹⁴. In Kakuma refugee camp, electricity access is dominated by micro-grid operators running diesel microgrids and selling power — controlling who has access, at what price and for how long. They are often highly territorial, with each supplying a specific area of the camp and protecting their share of the market. Such operators are part of the fabric of life in Kakuma and tend to function as friends, patrons, bosses and beneficiaries¹⁴. Their presence — and the absence of counterbalancing mechanisms — demonstrates how power can affect those who have and those who have not. Therefore, energy projects in Kakuma must be aware of such power dynamics (and those who will be threatened by changes to them) when planning projects and interventions in the future. The German development agency (GIZ) and the Smart Communities Coalition are considering this as part of their work in Kakuma⁹.

Outlook

The nature of crises is changing. The demand for energy is increasing. These changing needs can be addressed through market systems to deliver energy sustainably and effectively. Better energy access through markets for the poor, marginalized, vulnerable and displaced brings the aid sector up to date into a new way of working that leaves the paradigm of the past behind. In the long run, market-based and market system solutions can provide more self-sustaining energy solutions that are not dependent on aid. □

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