Briefing

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Policy pointers

Using a participatory approach to establish communities' priorities for energy access could contribute significantly to better-targeted local government policy.

Different communities within the same municipality can have very different priorities, meaning that interventions need to be very specifically targeted to local needs, even varying between different areas of one settlement.

Participatory workshops have proved an effective tool for exploring such priorities, suiting different types of community from India to South Africa.

Participation in identifying energy options also builds community 'buy in' for potential investment in those options, thus reducing the risks to investors.

Exploring energy priorities: a community workshop tool

In order to design effective, participatory and sustainable energy access interventions that are in sync with real community priorities, it is necessary to understand and capture nuances of community energy needs and preferences across the target population. In South Africa, the CHOICES community energy project organised 'energy options' workshops to discuss and prioritise local energy needs. The workshops highlighted important variation within and between types of communities (urban, rural and informal) and geographical locations within the target region. Understanding this variation is essential for planning and delivering targeted energy services that people are willing to pay for. Planning that responds to specific community needs is more likely to receive support from local communities, making investments more sustainable in the long term.

Blue Crane Route Municipality

The CHOICES project (see Box 1, overleaf) aimed to empower the local people of Blue Crane Route Municipality (BCRM) in South Africa's Eastern Cape to assess their own energy needs and how these needs might be met.

BCRM includes three main population clusters: Somerset East (population 19,564), Cookhouse (population 6,108) and Pearston (population 4,746). These populations have distinct subtypes termed urban, rural and 'informal' settlements. Informal settlements are those at the edge of urban areas that are not approved by government and do not have access to amenities found in the urban settlements.

Somerset East is the largest and busiest urban centre, and is the administrative centre of the BCRM. It is the most economically diverse and well-off of the three communities and has the lowest unemployment.

Pearston is the smallest and the furthest from major transport links, with extremely high levels of unemployment. However, it has a solar energy project underway, which may bring employment and which will strengthen community understanding of renewable energy options.

The Cookhouse cluster, located closest to the main highway, is substantially poorer than the other two areas. Cookhouse average household income is 68 per cent of the average household income in Pearston and Somerset East. But despite this discrepancy, job opportunities in Cookhouse are greater than in Pearston, partly because of nearby transport routes and partly because of a local dairy business. Cookhouse has a wind power project underway.

Setting priorities

Preliminary survey data from the CHOICES project indicated how economic status and energy access often vary across and within the three population clusters. It's therefore reasonable to assume communities will have different priorities. Project partner TERI has previously used a technique of eliciting household energy priorities to assess

It is important to understand different local needs when prioritising energy services

'willingness to pay' for energy technologies in the Indian state of Uttar Pradesh (see Box 2). The methods used there were adapted for South Africa and this briefing presents the findings.

In order to understand energy needs and their nuances, the CHOICES project convened three community 'energy options' workshops at Pearston, Somerset East and Cookhouse in early 2013, based on the TERI methodology. Community leaders and representatives attended, and in each workshop breakout groups was organised to identify energy needs in urban, rural and informal settlements (with the exception of Pearston, where there is no significant informal settlement so only urban and rural breakout groups were used). When any particular group was too small for a useful discussion, people from different settlements who knew that local context well were asked to join that group.

Moderators proposed that breakout groups consider five broad categories of energy services: cooking, lighting, space heating/cooling, water heating, and communication and entertainment. Within each broad category, they suggested specific product and service needs to consider and prioritise, such as water heating for bathing, fast cooking times and less smoke in the kitchen (prioritising often conflicting needs). Community members were encouraged to discuss other energy needs beyond the moderators' suggestions.

Workshop participants were asked to categorise their needs as 'essential/urgent', 'important' and 'good to have'. The breakout groups were strongly advised not to put more than half of their needs in any one category, and to debate within the group before assigning the priority.

Analysis

In practice, the breakout groups often focused on and prioritised quite different needs. For example, only the rural group in Cookhouse discussed needing energy to pump water, even though rural households in Pearston and Somerset East also lack household water supplies. Some energy needs, such as power for radios, were scored very differently in different settlements. For example, rural communities without access to television depend on radio as one of their main sources of entertainment, unlike urban and informal areas. All this variation demonstrates the importance of understanding different local needs when prioritising energy services for different groups.

The difference within the communities can be analysed at two levels: across settlement types and across locations.

Across settlement types. The rural groups' needs were found to be the most variable — these groups were not unanimous about any power service being 'essential/urgent'. By contrast, the informal settlements had the most consistent needs — they were unanimous about the need for five 'essential' energy services (light for study, for security, affordable refrigeration, fast cooking, and less smoke in the kitchen). The urban groups were unanimous in rating just two services as essential — light for studying and affordable cooking fuel.

Urban communities with access to basic energy services consider water heating for bathing and washing clothes and utensils as important needs.

No single settlement type (urban, rural, informal) was consistent in rating any of the services as the lowest priority, demonstrating that needs and priorities differed substantially between communities even within the same settlement category.

Box 1. The CHOICES project

The CHOICES project (Community and Household Options In Choosing Energy Services) explored the energy options available to people in South Africa who are not connected to the national electricity grid, or who do not enjoy reliable and affordable power. The project was implemented between 2012 and 2013 in the Blue Crane Route Municipality, Cacadu district in South Africa's Eastern Cape province. The aim was to help households to improve their quality of life, and enable businesses to expand and innovate.

CHOICES is a collaboration between OneWorld Sustainable Investments (South Africa), The Energy and Resources Institute (TERI, India) and IIED. Funded by the Renewable Energy and Energy Efficiency Partnership (REEEP), it has worked in close partnership with the Blue Crane Development Agency.

Box 2: Learning from participatory energy prioritisation in India

Before working with the CHOICES project, experts from The Energy and Resources Institute (TERI) worked with communities in Uttar Pradesh, India, through participatory workshops aimed at eliciting their needs and preferences. The aim was to establish local people's priority needs for energy services and their willingness to pay for an integrated domestic energy system incorporating two basic light points, a fan-based cookstove and a mobile phone charging point. The workshop results showed that communities' existing facilities varied widely even within administrative 'blocks', and that this meant 'willingness to pay' for the integrated system and the priorities people gave to its component parts also varied significantly.

Across locations. When considered across locations, a slightly different pattern emerged. All the settlements in Somerset East classed light for security, refrigeration and power for mobile phones as essential, whereas communities in Cookhouse only agreed on light for study being essential, and communities in Pearston prioritised refrigeration, power for phones, and affordable or free cooking fuel.

Understanding energy choices

There may be many local explanations for varying energy priorities. For example, informal settlements often considered light for security as an urgent need. This could be because the security situation in these settlements may be worse than in other settlements. Light for studying was judged an essential/urgent need by both urban and informal communities in these workshops, but not so by rural communities. This may be because fewer children from rural areas study in the evenings compared with urban and informal settlements.

Further, although not unanimously rated essential, fast cooking is extremely important for rural and informal communities (four out of the five discussion groups representing these communities scoring it essential/urgent). It is likely that women from rural and informal communities work in agriculture and/or have long hours of work/travel, hence the priority they put on saving cooking time. By contrast, the urban community in Pearston categorised fast cooking as 'good to have'. The two other urban groups classified it as important.

The urban group in Pearston did not discuss refrigeration, whereas urban and rural groups in Cookhouse rated it as important. All the other breakout groups rated it as essential/urgent. As the Cookhouse population is relatively poor, the lower ranking they gave refrigeration may be because it is seen as unaffordable, or simply that basic needs such as lighting for study are valued more highly. All discussion groups at the Somerset East and Pearston workshops ranked mobile phone charging as essential/urgent, whereas breakout groups in Cookhouse ranked it as important. As with refrigeration, this may be influenced by affordability of the actual phone rather than the energy supply.

There are some data anomalies that are harder to explain, but may be due to people's natural inclination to prioritise services they still need over services that they already have (but wouldn't want to do without). For example, the urban community in Cookhouse categorised light for general purposes only as 'good to have' whereas all other groups categorised it either as important or essential/urgent. The urban community in Pearston categorised less smoke in kitchens as 'good to have' whereas all other seven groups categorised it either as important or essential/urgent. Further, the rural community in Somerset East categorised free/affordable cooking fuel lowest (as 'good to have') whereas all other seven breakout groups categorised it as important or essential/urgent. Moderators encouraged each group to prioritise according to need irrespective of whether the need had been met, but some bias is likely to remain.

As illustrated above, it is important not only to appreciate the differences in people's priorities and perceptions, but also to have the ability to assess the reasons behind them, which may require further in-depth study.

Figure 1. Services rated unanimously as 'essential' by settlement types

Service	Informal communities	Urban communities	Rural communities
Light for studying	Essential	Essential	
Light for security	Essential		
Affordable refrigeration	Essential		
Power to charge phones			
Affordable/free cooking fuel		Essential	
Fast cooking	Essential		
Less kitchen smoke	Essential		
General purpose lighting			
Hot water for baths and washing			
Room heating			
Hot water for cooking			
Power for a radio			

Figure 2. Services rated unanimously as 'essential' across locations

Service	Somerset East	Cookhouse	Pearston
Light for studying		Essential	
Light for security	Essential		
Affordable refrigeration	Essential		Essential
Power to charge phones	Essential		Essential
Affordable/free cooking fuel			Essential
Fast cooking			
Less kitchen smoke			
General purpose lighting			
Hot water for baths and washing			
Room heating			
Hot water for cooking			
Power for a radio			

Relevance to planning

The workshops clearly illustrated how energy priorities vary between settlements within an administrative block (municipality) responsible for planning. This also underscores the need to decentralise and democratise planning — where the lowest democratic institution (for example, gram panchayats of rural India and municipalities of urban South Africa) are in a position to

influence the planning process and where the opinion of target groups (that is, future customers of planned energy services) receives due attention during the planning stage.

Understanding which needs are the most important to people — and why — has clear policy implications for choosing which technical solutions to pursue, particularly when there are constraints such as affordability. For example, subsidising cooking fuels (such as gas or paraffin) for rural communities in Somerset East might not bring as much benefit as intended, simply because free or affordable cooking fuel is not those communities' most urgent priority. Alternatively, looking at how priorities 'cluster' across locations could help choose one technical option over another — providing a more economically efficient approach to providing energy services.

It is also worth noting that the participatory process of discussing and prioritising needs generated a strong sense of local ownership and interest in identifying and delivering appropriate energy services. The workshops were a valuable platform for raising decision makers' awareness on community energy needs and raising community awareness of energy options. This helps close the gap between decision makers (including planners and investors) and the end users and community groups.

The findings from this piece of work demonstrate that community-generated information about the diverse socioeconomic and access conditions across settlement types and locations can inform the planning process. The diversity of preferences and priorities presents a strong case for greater micro-planning for energy access and other development interventions (that is, more 'bottom up' and less 'top down' decision making).

Building on this approach could significantly contribute to local government energy policy and also act as market intelligence for investors. For example, policies aiming to increase community 'buy in' to renewable energy solutions can benefit by linking the schemes to needs identified by the communities themselves. Communities are more likely to adopt solutions that meet their priority needs, are more likely to be willing to pay for these, and are more likely to support new or untested solutions if they have been involved in an inclusive process that explores and explains how the solution and their needs connect.

Prior to these 'energy options' workshops, the CHOICES project organised two preliminary workshops: (i) knowledge sharing and technology exchange, and (ii) energy access training, to build the capacities and awareness of community members to engage in the energy options discussions. These workshops led to reflection and a greater understanding of some of the challenges, for example that the rising cost of supplying grid electricity is a particular challenge for rural communities — so renewable energy micro-grid solutions are increasingly seen as a viable option. Urban groups have also seen the potential for savings, for example by using solar thermal energy rather than grid electricity to heat water.

Certainly, energy services will be more efficient and effective if they take a holistic approach to meeting peoples' multiple needs. For example, rural communities may already have solar electricity for lighting and other uses, but may especially value refrigeration, so planners should encourage the supply of affordable and appropriate low-powered appliances for solar-powered refrigeration.

A community that understands its energy priorities can influence the local government energy planning process and build 'ownership' in the policy dialogue. Too often government and indeed investor views of desired outcomes do not match those of communities, and planners make assumptions about community priorities that do not stand up to scrutiny.

Finally, the benefits to business of building community cohesion and social capital through this type of participatory survey should be recognised. Social cohesion and strong community-investor relationships bode well for ensuring energy investments are financially sustainable, which is good for business and will provide incentives for further investment and hopefully better development prospects more broadly.

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See IIED's other briefings about the CHOICES project:

Petrie, B (2013) Green jobs: access to clean energy can create employment in South Africa. IIED http://pubs.iied.org/17184IIED

Croxton, S (2013) Driving new technology adoption in South Africa's energy sector. IIED http://pubs.iied.org/17178IIED

Petrie, B and Macqueen, D (2013) South African biomass energy: little heeded but much needed. http://pubs.iied.org/17165IIED

Knowledge Products

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