

## Energy equity: will the UN Sustainable Energy for All initiative make a difference?

Access to affordable modern energy services may not be a Millennium Development Goal (MDG) but without it, sustainable development, indeed the MDGs themselves, cannot be achieved. Yet energy access remains an area of great global inequity. On one hand, wealthy countries and communities consume vast amounts of often subsidised energy resources every day. On the other hand, 1-in-5 people lives with no access to grid electricity, and around 40 per cent of the world's population (nearly three billion people) lack the technologies to make cooking fuels clean, safe and efficient. Can the UN's Sustainable Energy for All initiative in 2012 redress the balance? Perhaps, but only if it puts improving the lives of the poorest and most vulnerable at the heart of its efforts.

### Policy pointers

- **The UN Sustainable Energy for All initiative** should prioritise improving the lives of the poorest and most vulnerable, by focusing on energy access that reduces poverty and builds resilience to the impacts of climate change.
- **Energy access programmes** must be integrated into wider development policies, with targets focused on development benefits — improved health, education and livelihoods — not the numbers of light bulbs switched on, or efficient cook stoves distributed.
- **Promoting the sustainable use of local resources** can reduce transportation costs and create jobs in energy supply chains.
- **Effective community participation** in planning and decision making is more likely to lead to well-designed energy programmes that are welcomed by the beneficiaries and are sustainable and resilient over the long term.

### Energy equity

The 'energy rich', who include most people in wealthier nations and urban elites in developing countries, enjoy high-consumption lifestyles, with easy access to heating, air conditioning, good quality lighting, personal cars, mechanised agriculture, technological advancement and industrial production. The fossil fuels, rare earth metals and bioenergy resources that support these lifestyles are usually sourced from less developed, if resource-rich, regions of the world.

The 'energy poor' tend to live in these less developed regions, in remote rural areas and the slums of major cities. They make do with poor quality light from fire-prone kerosene lamps or candles, or with sporadic electricity from badly managed grid systems or noisy and expensive household generators. They use inefficient wood-burning stoves for cooking, which leads to indoor air pollution and increases the drudgery of wood gathering, often diminishing local forests.

The energy poor also lack powered machinery to support agriculture and other industries. In many cases these are the populations most vulnerable to climate change, and their resilience is hampered by lack of access to energy services needed for emergency

response, health provision, information technologies, water provision and support for fragile livelihoods.

Inequality in energy access can give rise to a wider range of inequities and environmental damage that impact the poorest, including land-use conflict, insecurity and poor natural resource management. Countries such as Angola and Nigeria are locked into oil and gas export economies that are marred by resource-related conflict and few local benefits. New oil-producing countries, such as Ghana, Mozambique, Tanzania and Uganda risk making the same mistakes. One example of oil exploration undermining efforts to promote new conservation and pro-poor development initiatives such as REDD+ is in the Peruvian Amazon where as much as 70 per cent of forest, including parts of indigenous reserves and protected areas, is now under extractive industries concession.

Large-scale investment in biomass and biofuels in countries such as Ghana, Indonesia and Liberia — mainly to feed energy consumption in the global North — can similarly create land-use conflict and dispossession of the poor. The shift in agriculture from food to fuel also raises concerns about sharp rises in food prices and threatened food security. In countries such as Malawi, flourishing trade in traditional forest

## There is a danger that the SE4ALL goals will fail to protect the interests of the poorest

biomass is also marked by a lack of sustainable management, efficient processing and end use.

Governments often invest heavily in large-scale hydropower dams, notably in China and sub-Saharan

Africa. Increasingly this is being promoted as part of a 'low-carbon' energy strategy. But large-scale hydropower projects can lead to major resettlement or other negative impacts on communities, who often

fail to benefit from the power generated. Large-scale solar farms risk following the same pathways, delivering power to those who can pay (such as European markets), while requiring vast quantities of local water for cleaning and cooling — water that is in short supply in the sunniest places.

In the global North and South alike, energy politics and vested interests are hugely influential — from decisions by major powers to invade middle-Eastern countries, to the corrupt practices of diesel generator or charcoal trade networks in sub-Saharan Africa. Even low-carbon development is frequently driven by the goal of technology transfer from wealthier to poorer nations, that is trade benefits for donor nations, rather than benefits to the recipient communities, for whom the technology may not be the most appropriate. Navigating this political terrain is essential to addressing many of these challenges and bringing equity into energy systems.

### UN call to action

In 2012, aiming to close the energy access gap, the UN launched its Sustainable Energy for All initiative (SE4ALL). It includes a high-level group, convened by the UN Secretary General Ban Ki-moon and made up of representatives from the private sector, government, intergovernmental organisations and civil society, to “mobilise global action from all sectors to transform the

world's energy systems, pursue the elimination of energy poverty, and enhance prosperity”.<sup>1</sup>

SE4ALL has set three measurable goals to be attained by 2030:

1. Ensure universal access to modern energy services.
2. Double the rate of improvement in energy efficiency.
3. Double the share of renewable energy in the global energy mix.

SE4All is providing new impetus to energy access, stimulating discussion among ministers in international forums. But there is a real danger that the multiple goals will fail to protect the interests of the poorest.

Trying to promote low carbon development (goals 2 and 3) at the same time as improving energy access for the poorest is not easy because targets, incentives, drivers and operational priorities are so different. For example, emissions reduction programmes are more effective among larger, denser populations, and so do little to forward goal 1 in energy-poor regions, which tend to be sparsely populated. (Most Clean Development Mechanism projects are located in China and India, with very few in Africa.)

A target to improve energy efficiency can similarly be achieved without improving energy access for the poor: some of the case studies in the Global Compact sustainable energy for all report<sup>2</sup> show that, in many cases improving energy efficiency simply means 'better business'.

### Priorities

SE4ALL provides a good starting point to redressing the balance in energy access. But it can only really help eliminate energy poverty if governments, donors, investors, companies, social enterprises, civil society organisations and researchers take the following steps:

**1. Prioritise improving the lives of the poorest and most vulnerable.** This means recognising access to a range of energy services tailored to the needs of the poor is key to reducing poverty and building resilience to the impacts of climate change. As such, the top priority of SE4All should be access to the poorest, ensuring ringfenced funding and using energy delivery models that are specifically targeted to the needs of the poorest.

SE4All should also promote inclusive energy delivery models that identify opportunities for the poor to participate in energy supply chains and the employment benefits of energy sector development, for example solar product distributors or bioenergy producers. A key issue is the ownership of commercial rights to produce energy resources – which are often awarded to formal sector big business. At the same time we must be aware of the risks of promoting new forms of activity — for example, damage to ecosystems due to

### What are modern energy services?

Modern energy services are often defined in contrast to 'traditional' energy services, such as burning wood in open fires for cooking, or using kerosene lamps or candles for lighting. They increasingly include various forms of mechanisation, especially within agricultural production, processing and transportation. A more equity-focused definition identifies modern energy services as those that provide improved conditions for the poor (for example through better quality and safer lighting or improved health services); better development prospects (through mechanisation, education and employment); and the chance to swap drudgery for enterprise and educational opportunities and enhanced social and cultural interaction. Increased access to modern energy services should not undermine quality of life with negative environmental impacts such as pollution or poorly managed waste, or diminished access to land and resources.

intensified agriculture or new waste products such as batteries — without assessing the potential impacts on the ecosystems, health and livelihoods of the poorest and most vulnerable.

In addition, countries importing energy resources from less developed regions should ensure that the way they source and consume energy does not exacerbate resource poverty in the countries of extraction and instead supports local benefit sharing. Some multinationals are already promoting energy access in countries where they extract resources, for example the efforts of Shell and Total in Nigeria through community gas-to-power facilities and support for renewable energy. But business could do a lot more.

Similarly, the cost of reducing carbon emissions should not be borne by the poorest. The onus should be on wealthy countries to cut their own energy use, while investing in renewable energy. Efficient solutions for the poorest are essential, and off-grid renewable energy technologies can be flexible and practical solutions, and are increasingly affordable.

But, as nongovernmental organisation Practical Action argues, using fossil-fuel based grid-power alone to provide electricity for all those in energy poverty would only cause a 1.6 per cent increase in global emissions.<sup>3</sup> Gas emits much less carbon dioxide than coal when it burns, for example, and is considered a transition fuel — and in some cases it offers the cheapest option for generating electricity. Some fossil-fuel options may thus be the best option for reaching the poorest, as long as they don't lead to unsustainable dependency on the fuel in question.

## 2. Measure success in terms of development

**benefits.** Access to energy does not guarantee poverty reduction or climate resilience on its own — hence the need to tailor and integrate the models that deliver energy services into other development priorities and programmes, as international organisations such as the UN Food and Agriculture Organisation and World Health Organisation have already noted. SE4ALL, like other international initiatives, evaluate their success by setting measurable targets and monitoring key indicators.

If the poorest are to gain, these targets must be focused on development benefits — such as improved health, education and livelihoods — and not the numbers of light bulbs switched on, or efficient cook stoves distributed. There are many examples to learn from: the Policy Innovation Systems for Clean Energy Security (PISCES) project, for instance, has used the livelihoods framework to assess impacts of decentralised energy access programmes.<sup>4</sup>

**3. Support sustainable use of local resources.** Using local resources not only cuts transport costs but can also open up job opportunities in energy supply chains. Biomass energy, derived from wood or agricultural

waste, is seen as a fuel of the future in Europe, but not in some of the poorest countries where charcoal production, for example, is often illegal. Sustainably and efficiently produced biomass energy should be central to energy access strategies in poorer countries.

Similarly, despite abundant potential in many of the poorer regions of the world, solar energy is frequently undervalued. In part this is because the technology is largely unsubsidised and so remains relatively expensive. But growth in solar energy is also hampered by a history of failed projects alongside corruption, lack of technical capacity or lobbying in favour of diesel generators.

In oil-producing countries, supporting the use of local resources to improve energy access can mean encouraging the local use of gas, including gas that is currently burned off during oil extraction. This is one option that oil companies could explore further, as demonstrated by initiatives such as the Bonny Utility Company and the SUNGAS project in the Niger Delta.<sup>5</sup>

## 4. Promote effective community participation in

**planning and decision making.** Improving energy access relies on designing resilient local energy systems in partnership with communities — something that has thus far proved a major challenge.

As 2012 is also the International Year of Co-operatives, there is a chance to promote energy co-operatives and other models of local ownership that can enhance local buy-in and deliver greater sustainability. Co-operatives may not always be a viable solution (for example, in conflict situations) and so we also need to consider what the alternatives might be. Even minimal levels of community involvement can lead to well-designed programmes that are welcomed by the beneficiaries — for example, community representation on regional energy project planning boards. Although the success of energy projects invariably depends on understanding local cultural preferences for products and practices, and assessing, or stimulating, local ability and willingness to pay for energy services.

## A role for the private sector?

According to the International Energy Agency (IEA), universal energy access could be achieved by 2030 by increasing global investment in energy infrastructure by just three per cent. SE4ALL is hoping that the private sector will fill the gaps in finance and skills needed to meet the initiative's goals.

But much of this private investment is likely to go to large-scale infrastructure projects. Even if it goes to 'base of the pyramid' business models, which serve poor markets, it may not improve energy access for the poorest communities because these models are known to work better when aimed at the 'relatively poor', who can still afford to pay enough to make a business

investment worthwhile. Although the private sector can make a big contribution to increasing energy access, reaching the poorest will require a combination of innovative business models, subsidies, grants, capacity building, and the involvement of a mix of stakeholders including donors, governments, nongovernmental organisations and social enterprises, as well as local community leaders, activists and entrepreneurs.

## How governments can help

Some of the major barriers to successful energy access relate to the detail of the delivery models used, a key aspect being financial sustainability and payment arrangements. While the poor currently pay for kerosene, candles and sometimes firewood, they frequently can't afford standard electricity tariffs, so tariff models need to be designed to accommodate them — for example, with graded tariffs starting with a low basic tariff that is subsidised by higher-use tariffs. The biggest problem for many energy suppliers is getting the public sector to pay. Governments should start providing leadership on paying their bills and thus supporting poorer customers, incentivised perhaps by a measured and monitored SE4ALL target.

Nothing will happen unless the policy framework provides a level playing field for all energy suppliers. The IEA estimates that governments of the world spent half a trillion dollars on fossil fuel subsidies in 2010. This puts into perspective the 50 million euros allocated by the European Commission to a new technical assistance fund, 'Energising Development', to support preparation of bankable investment proposals for large-scale infrastructure projects. On the other hand, Nigeria's recent efforts to abolish fuel subsidies — which have sparked popular protests — emphasise the need to do this both gradually and sensitively, and with alternative support for poor fuel users in place.

## Bottom-up results

Energy access does need the attention of ministers and policymakers, but, with the right support, it can

also be addressed effectively at the grassroots. Several initiatives across the world are responding to a local desire to innovate and are helping to show how a small amount of targeted finance can create major change from the ground up. One example is the Small Scale Sustainable Infrastructure Development Fund,<sup>6</sup> which provides business support, technological know-how and co-financing for small-scale energy enterprises in India. In the decade or so since the initiative began it has impacted more than 100,000 people: creating jobs, increasing incomes, improving energy access and efficiency, and reducing pressure on local environments.

All the SE4ALL areas deserve the attention of policymakers, researchers and civil society alike. But there is already a reasonable business case for large-scale renewables and energy efficiency. Some say these will happen with or without SE4ALL. Meaningful energy access for the poorest may not. If SE4ALL is to 'pursue the elimination of energy poverty' it must tackle energy equity issues head on.

That ultimately means providing a dedicated focus on access for the poorest with significant ring-fenced funds. Evidence-based research has an important role in underpinning valid solutions and monitoring the effectiveness of interventions. We need to think beyond 2012. This year definitions will be ironed out and commitments made. The real work on SE4ALL will then begin in earnest.

### ■ IIED ENERGY FORUM

*Dr Emma Wilson (lead author) is IIED's Energy Team leader and coordinates the IIED Energy Forum, which is made up of researchers from across the institute who collaborated on this briefing. The forum works to promote: access to sustainable energy for the poorest; equitable consumption of energy resources; and responsible practice in large-scale energy projects. We use evidence-based research to catalyse change in policy, practice and mind-sets, and to build dialogue and problem-solving capacities among stakeholders. By promoting good practice — and learning from failure — the aim is to stimulate replication and 'scaling up' of effective technologies and approaches.*

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## Notes

- <sup>1</sup> See [www.sustainableenergyforall.org](http://www.sustainableenergyforall.org) ■ <sup>2</sup> UN Global Compact. 2011. *A global compact for sustainable energy: A framework for business action*. UN Global Compact. See [www.unglobalcompact.org/docs/publications/A\\_Global\\_Compact\\_for\\_Sustainable\\_Energy.pdf](http://www.unglobalcompact.org/docs/publications/A_Global_Compact_for_Sustainable_Energy.pdf)
- <sup>3</sup> Sanchez, T. 2010. *The hidden energy crisis: How policies are failing the world's poor*. Practical Action Publishing, Rugby.
- <sup>4</sup> See [www.pisces.or.ke](http://www.pisces.or.ke) ■ <sup>5</sup> See [www.sungas-nigeria.org](http://www.sungas-nigeria.org) ■ <sup>6</sup> See <http://s3idf.org/>