CALL FOR ACTION ON SUSTAINABLE ENERGY ACCESS DEMANDS RESPONSE

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In thousands of villages and hamlets across Africa and South and East Asia, the only light after sunset is from a kerosene lamp, a candle or a cooking fire. It should disturb us that such a basic requirement of modern life as electricity is still a dream for 1.3 billion people. It is evidence of a failure for which there is no plausible excuse. We have the technology and the financing. In most cases, the potential customers are ready and willing to pay for service.

This energy access crisis is finally getting the attention it deserves. At the World Energy Future Summit in Abu Dhabi in January, discussion focused on the Sustainable Energy for All Initiative launched by the UN Secretary-General last September. This initiative calls for a global collaboration among governments, civil society and the private sector to deliver on three overall goals by 2030: universal access to electricity and clean cooking fuels, doubling the share of the world's energy supplied by renewable sources from 15 to 30 per cent, and doubling the rate of gain in energy efficiency.

AMBITIOUS BUT ACHIEVABLE GOALS

These are ambitious goals. Some suggest that they are too ambitious, that expanding access to electricity and clean cooking fuels, while also simultaneously scaling up renewable energy is taking on too much at once.

This argument is mistaken for two reasons. One, it falsely suggests that there is a contradiction between access and clean energy. Second, it overlooks the fact that climate change has now imposed a requirement to shift to cleaner energy; there is no either/or choice.

The International Energy Agency's (IEA) 2011 *World Energy Outlook* (WEO) concluded that the world is in danger of locking itself into an unsustainable future unless major changes are made by the energy sector to limit the global temperature increase to 2°C above the pre-industrial level.

The IEA laid out three scenarios for the future. Two of them, the 'Current Policies' scenario – that is, business-as-usual – and the 'New Policies' one, that is, governments cautiously implement commitments already made – do not get us where we need to be by 2035. Only one of them does, the third, the so-called '450 Scenario', which sets out an energy path consistent with a 50 per cent chance of holding global temperature rise to 2°C.

The '450 Scenario' is the one farthest from our current course. The *World Energy Outlook* underlines this with its finding that in 2010, global emissions did not decline but grew by 5.3 per cent, a record. The New Policies scenario, what the WEO calls its 'central' scenario — the most likely one, presumably — would see fossil fuels dropping from the current 81 per of the energy mix to 75 per cent in 2035, while renewables would rise from 13 to 18 per cent.

Compare this scenario's outcome with the UN Secretary General's target under the Sustainable Energy for All initiative. It is for 30 per cent renewable energy, to be delivered not in 2035, but five years earlier, in 2030.

As for the Sustainable Energy for All initiative goal of achieving universal energy access by 2030, the *World Energy Outlook* is less than reassuring. It estimates that the cost of achieving universal access to modern energy services by 2030 is US$1 trillion, or US$48 billion a year. That is five times the US$9.1 billion spent on expanding access in 2009.

At the same time, however, other trends augur well for the prospects of the Sustainable Energy goals. Falling costs of renewable energy coinciding with high fossil fuel prices suggest that both expanded access and cleaner energy can be pursued at once. And improving energy efficiency – reducing losses in transmission and distribution, switching to more efficient appliances, and conserving energy – makes modern energy more affordable.

How to build this synergy? It depends on a mutually-reinforcing circle of policy incentives and financing to encourage new clean energy technologies and systems, along with energy efficiency measures that help make the new technologies effective and affordable.

This shift is evident in the changing mix of World Bank Group financing for energy development, which has been on a growth trend since 2007, with US$41 billion committed. Even as the Bank seeks to expand access to modern energy services by the poor, it has also increased its emphasis on renewable energy and energy efficiency improvement.

The World Bank Group's renewable energy portfolio increased from a total of US$3.1 billion between fiscal year 2008-09 to US$4.9 billion in 2010-11. Given the simultaneous expansion of the overall energy portfolio during the same period, the renewable energy proportion rose from 20 to 23 per cent.

This is aligned with growing evidence that countries investing in renewable energy and energy efficiency will emerge as winners. Their investments can help expand access, and in the case of manufacturing of renewable energy technologies, also create jobs that lay the foundation for sustained prosperity.

VAST RENEWABLE ENERGY POTENTIAL IN AFRICA

Expanding access – while a critical goal in those countries where it is low – is not the only force driving investments in renewable energy. Ethiopia, for example, is developing its vast hydro potential to meet booming demand from its own cities and industries, and to export hydroelectricity to neighbouring Kenya.

Africa's economically feasible hydropower potential is estimated at 45 gigawatts, nearly one-tenth of the world's total. Less than 10 per cent of this potential is being used at present. The countries of the Gulf of Guinea share 8 per cent of the world's proven natural gas reserves. The geothermal potential in the Rift Valley, which covers over a dozen countries from Ethiopia to Mozambique, can provide enough power to electrify 150 million homes.

Developing renewable energy calls for large-scale projects. Over 60 per cent of Africa's hydropower potential is in the Democratic Republic of Congo (DRC) and Ethiopia. But alone, these countries cannot afford the billions needed to unlock it.

Some 20 other countries are simply too small to generate power at a reasonable cost. Regional power pools are the essential framework needed to deliver access to millions while also replacing thermal power with hydro and natural gas at the needed scale. This would power up Africa for a new era of economic growth and development.

Work is underway to realise this vision. The DRC and its neighbours plan a sustainable end to chronic electricity deficits by investing in Inga 3, a 3,500-megawatt power plant at DRC's Inga complex. After that, the Grand Inga Dam, with 39,000 megawatts of capacity, may become a reality. The World Bank is strongly supporting African countries in their efforts to realise this potential.

In Morocco, the Ouarzazate Concentrated Solar Power Project – for which the World Bank approved a major financing package in November – aims to produce 500 megawatts. It will deliver power and jobs for Moroccans, while producing long-term revenue by exporting clean energy to Europe.

These countries are joining middle-income countries making a strategic choice for renewable energy. Developing and middle-income countries led by China, Brazil and India, attracted financial new investment in renewable energy totaling US$72 billion in 2010, outpacing developed countries in which new financial investment in renewables was just over US$70 billion. Africa had the largest percentage increase in renewable energy investment among the developing regions, excluding the big three economies, reaching US$3.6 billion, a 380 per cent increase over the US$750 million invested in 2009.

While private sector engagement on this front is reassuring, it needs to be supported by policy incentives for renewable energy and energy efficiency. These need to be tailored to local conditions and the nature of energy resource endowments. Again, the World Bank Group is complementing its lending with financial instruments and incentives to leverage private sector financing for renewable energy.

One programme in which the World Bank and International Finance Corporation have partnered effectively with local private sector players is Lighting Africa, which builds markets for household lighting across the continent. In rural Kenya, Lighting Africa is supporting *Zonga Mble na Solar* (Stay ahead with solar), a campaign targeting 13.5 million people, both households and small businesses, which shows how by switching from kerosene to solar lighting, rural people can improve their health, and increase their savings. Households that typically spend about 10 per cent of their income on kerosene can now benefit from better lighting and more productive time in their homes, schools and businesses.

There is compelling evidence that efforts like this succeed. A good example is how the World Bank worked in partnership with Vietnam to expand access and do it sustainably. In 1993, only 14 per cent of Vietnam's rural population had access to electricity. Today that proportion has shot up to 95 per cent. A third of the power comes from hydro, 40 per cent from natural gas, and just 19 per cent from coal – a proportion in decline. Although annual carbon emissions have grown from 0.4 to 1.3 kg per capita, this is not due to household electricity, which accounts for just 20 per cent of power usage. The World Bank supported this sustained rural electrification drive with technical assistance and zero-interest IDA credits.

With sustained commitment and partnership among governments, the private sector and civil society, international organisations such as the World Bank can help countries replicate Vietnam's example. And with the Sustainable Energy for All Initiative, the UN Secretary-General has launched an unprecedented appeal for action. It is time to respond. ■