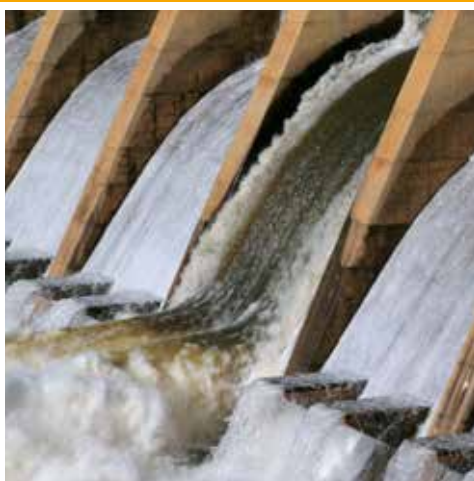


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1

A NEW ERA OF ENERGY ACCESS

Delivering universal energy access has become a global priority as world leaders gather to set new targets on renewable power for all

FOR THREE centuries, the growing use of fossil fuels has given billions of people better heat, light transportation, jobs, prosperity, health, education, security and quality of life. But many are still left out. Today, 2.7 billion people depend on traditional biomass to meet their basic needs. A full 1.3 billion of them have no access to electricity at all, largely in Africa and Asia.

The Africa Progress Panel's 2015 report highlights the scale and impact of the issue. More than half of Africans lack access to electricity and clean cooking fuels. Indeed, more electricity is consumed in Spain and more people are connected in New York City than in all of sub-Saharan Africa. The poorest Africans in remote locations pay up to 80 times more per unit of energy than those in New York City. Furthermore, an estimated 600,000 Africans, half of them children less than five years old, die annually from the household air pollution created by a reliance on dirty biofuels. For those that are connected to the grid, bottlenecks, blackouts and shortages cost Africans 2-4% of the continent's gross domestic product (GDP) each year. At the present pace, only in 2080 will all Africans have access to electricity, and only in the mid 22nd century to clean cooking fuels.

Enhancing energy access for the poor has thus become a central global priority. The United Nations (UN), at its summit in New York in September, launched its Sustainable Development Goals (SDGs), with energy and energy access included for the first time in the global development agenda. The G20 energy ministers will meet in Istanbul in October to progress energy access and other energy principles that their leaders agreed at their Brisbane Summit in 2014. G20 leaders will follow up when they meet, this year and next. Global leaders will assemble again in Paris in December to approve a new, urgently needed regime to control climate change.

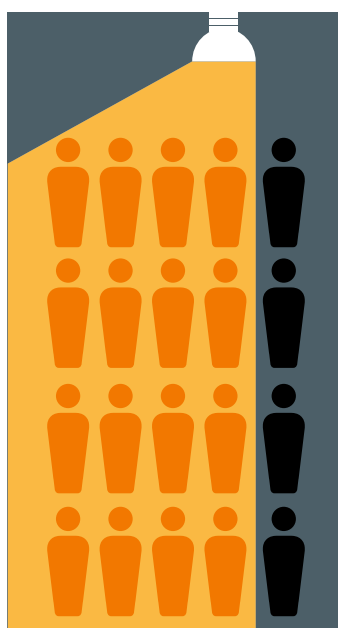
The leaders face the double challenge of delivering energy access to the poor and doing so in an ecologically sustainable way.

Just building more costly mines, electricity grids, pipelines, railways and ports to produce and transport more coal, oil and natural gas will compound the global warming, extreme weather events and local pollution that harm the poor the most.

Delivering reliable universal energy access in an ecologically sustainable way requires leapfrogging into a reliance on solar, wind, wave and geothermal power. This demands new technologies, policies and financing meet the needs of the poor.

1.3 BILLION LEFT IN THE DARK

More than 1.3 billion people have no access to electricity, largely in Africa and Asia



2

THE RENEWABLES REVOLUTION

Fast to install, more cost effective in the long term and a clean, secure source of power: renewables are a practical energy option for many



Renewable energy options are often more practical than fossil fuel infrastructure in poor, remote locations

SUCH A renewables revolution can bring sustainable energy access that is faster, cheaper, steadier, more secure, cleaner and healthier than traditional fossil fuels.

Renewables are fast. Fossil fuel infrastructure usually has long lead times. Mines, railways, pipelines, ports and generation stations must be built before the electricity or direct energy is distributed through costly, large-scale, fixed grids reaches the many dispersed individual homes, businesses, schools, hospitals, and offices where it is used. In contrast, small-scale solar panels can be quickly installed off the grid in remote rural and urban locations. Wind generators, geothermal facilities and run-of-river hydroelectricity are also comparatively easy and quick to install where the natural environment allows.

Renewables have become cheap over the long term. While ocean and large-scale dams are still expensive, most renewables do not require the comparatively expensive initial infrastructure investment that fossil

fuel projects need, and the attendant risks. Moreover, once they are connected to their users, the sun, wind, earth, oceans, rain and river flows provide free fuel, rather than costly bills for the coal, oil or gas consumed each month. They therefore lift the poorest out of energy poverty more effectively.

Renewables are predictable. People generally know when the night will end, the sun will shine, the wind will blow, the earth heat and cool and the rain fall to fill rivers and lakes, even if climate change and natural phenomena can change the patterns of old. In contrast, fossil fuels are subject to substantial volatility in their price and even physical availability. Large fossil fuel systems also suffer more than small-scale renewables from natural and human-created accidents that can cause blackouts, brownouts, unpredictable outages or leaks.

Renewables are secure. They offer less room for the corruption that fossil fuel subsidies, big-grid infrastructure and procurements processes breed. They are much

less prone to the geopolitical risks arising when countries supplying fuel stop delivering it for political purposes, as Russia has done twice to Ukraine. Fossil fuel infrastructure and its associated components, such as the oil tankers off the coast of East Africa, are increasingly attractive targets for pirates and terrorists, including cyber-terrorists who can target the electricity grid.

Renewables are better for global health.

The coal that fuelled the industrial revolution and is still used heavily in many developed and developing countries today harms health and takes lives throughout its life. The mining of coal causes deadly accidents and black lung disease. Burning it results in soot and particulate matter that is detrimental to health. Even abandoned mines catch fire and collapse, with harmful and deadly effects. In contrast, there is no conclusive evidence that the noise from wind generators or solar stations harm human health.

Renewables are clean. They do not produce smog and local air pollution such as that smothering Beijing and Delhi, nor the acid rain that kills living things in the lakes and forests on which it falls. Renewables do not cause climate change, with its extreme weather events and global warming that harm the poorest far more than the rich.

Renewables are practical. Many of the poor live in remote locations that local solar panels and wind generators can reach far more easily than fossil fuel infrastructure can. Virtually all of the poor have immediate free access to the sun, wind, earth or waves. In contrast, few of the world's poorest

countries have any proven deposits of coal, oil or gas and far fewer the money to exploit what they have at reasonable cost.

To be sure, fossil fuels retain some of the advantages they had when they replaced biomass at the start of the industrial revolution three centuries ago. Some countries have abundant, secure low-cost supplies of coal, oil and natural gas at home, and the carbon pollution they produce

can be reduced through technological advances, if not yet eliminated in a way that is commercially viable.

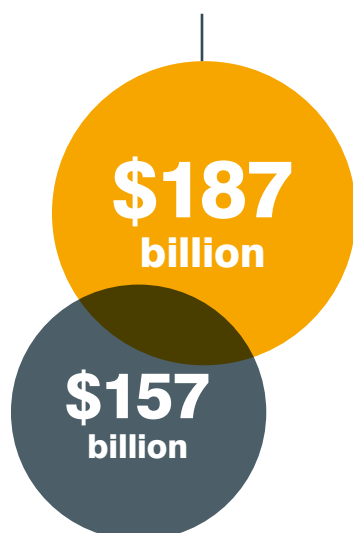
In all, renewables are increasingly recognised and relied on as the fuel for the future. In 2010, for the first time, investment in wind, sun, wave and biomass energy, at \$187 billion globally, exceeded that in coal, oil and natural gas at \$157 billion, according to calculations by Bloomberg New Energy Finance. The International Energy Agency found that if countries just met their existing targets,

renewables could become the leading sources of electricity by 2030. Solar photovoltaic (PV) and solar thermal alone could do so even sooner, as the 2015 study by Oxfam shows.

Giving the poor universal access to electricity from any source would raise global demand by only 10%. Decentralised renewables could meet half this increase, the International Renewable Energy Agency (IRENA) estimates. In eastern and southern Africa, where 80% of electricity now comes from fossil fuels, demand was set to double by 2013. Half could be met by cost-effective, indigenous, clean renewables. This is especially so for the 93% of sub-Saharan Africans, Oxfam estimates, whose own

RISING RENEWABLES INVESTMENT

In 2010, investment in wind, sun, wave and biomass energy outstripped that in coal, oil and natural gas for the first time



3

ACTION TO REDUCE ENERGY POVERTY

Governments and institutions worldwide are committing finance and implementing measures to deliver sustainable energy for all

THE GOVERNANCE structures and policies that could realise the renewables revolution are already being adopted by international and regional institutions and national governments around the world.

United Nations SDG Summit

The United Nations summit in New York in September 2015 authorised a new set of SDGs, including one for energy. Among the 17 goals with 169 targets to be reached by 2030, SDG 7 aims to “ensure access to affordable, reliable, sustainable, and modern

energy for all”. The three associated targets for energy access are:

1. Ensure universal access to affordable, reliable, and modern energy services by 2030;
2. Increase substantially the share of renewable energy in the global energy mix by 2030; and
3. Double the global rate of improvement in energy efficiency by 2030.

It prioritises environmentally sound energy development and the reduction of greenhouse gas emissions as essential to improve the lives of the poor.

The UN has also partnered with the World Bank to mount the Sustainable Energy for All Initiative (SE4All). Launched in 2011, this multi-stakeholder initiative seeks to make access to energy universal by 2030. Its three core objectives, similar to SDG 7, are to: ensure universal energy access, double world renewable energy and improve energy efficiency. This supports the UN General Assembly’s Declaration making 2014-24 the Decade of Sustainable Energy for All. The cost of realising universal energy access is estimated to be less than \$50 billion annually.

Policymakers are invited to support businesses by removing regulatory and legal barriers and encouraging investments in clean energy. The European Union and 106 world leaders have already partnered with SE4All. The primary beneficiaries of the initiative are the 95% of the 1.3 billion people without access to electricity who live in sub-Saharan Africa and Asia.



People living without energy access in sub-Saharan Africa and Asia are the primary beneficiaries of SE4All, which seeks to make energy access universal by 2030

The World Bank

The World Bank has provided more than 25% of total energy financing since 2007 – a contribution of \$12.5 billion (see perspective from xxxxxxxxxxxx, xxxxxxxxxxxx, page x). It no longer lends to projects using coal. It also supports private-sector initiatives to provide energy services to the poor. The World Bank and the Global Partnership on Output-Based Aid (GPOBA) gave \$330 million to Kenya Power for a successful community-based approach, using a subsidy for consumers.

The G7

The Group of Seven major market democracies has sought to reduce energy poverty since its summits started in 1975. In 1976, its leaders promised “...to develop, conserve and use rationally the various energy resources and to assist the energy development objectives of developing countries”. At its most recent summit at Schloss Elmau, Germany in June 2015, the G7 leaders committed to decarbonise the global economy by the end of the century, signalling to all that the age of renewables has arrived.

The G20

The leaders of the Group of 20 systemically significant states first addressed energy access for the poor at their third summit in Pittsburgh in September 2009. They declared: “We will increase, on a voluntary basis, funding for programs to bring clean affordable energy to the poorest, such as the Scaling Up Renewable Energy Program.” They further committed “To phase out and rationalise over the medium-term inefficient fossil fuel subsidies while providing targeted support for the poorest. Inefficient fossil fuel subsidies encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change.” They have reaffirmed the

last commitment at every summit since, but are still struggling to comply with it as the deadline for its fulfilment arrives.

African Development Bank

Regional organisations in Africa are also acting where the the African Development Bank (AfDB) has led. From 1998 to 2014, it approved 40 energy projects through its public-private-sector financing windows, totalling \$1.45 billion. The Bank has energy diversification as a top priority, along with power supply decentralisation, higher renewable energy production and providing support to SE4ALL. The AfDB continues to support coal as an energy source. It argues that this is the cheapest way to get the energy that Africa needs for its growth in countries such as the Comoros, where 80% of the people have no electricity access.

ECOWAS

The Economic Community of West Africa States (ECOWAS) has agreed to achieve sustainable energy access for all. On 24 February 2015, together with the AfDB, it also created an energy policy on women.

National governments in Africa

National governments in Africa are also acting. The Africa Progress Panel highlights Ethiopia, Ghana, Nigeria and South Africa as pioneers, with Djibouti, Tanzania, Rwanda and others innovating as well.

Ethiopia’s five-year growth and transformation plan focuses on diversifying its renewable energy mix to boost growth and reduce the climate-induced droughts and floods that harm its hydro plants. Its Climate Resilient Green Strategy seeks to ‘green’ Ethiopia’s economy by 2025 through renewables. The country’s direct focus on energy access, efficient energy use, collaboration and trade, and investment rather than aid, is attracting investors.

Nigeria has a three-tier national plan. Its Renewable Energy Master Plan (REMP) will increase its renewable energy share by 13% by the end of 2015 and another 23% by 2025. Private firms are participating, such as HQMC Korea Company Ltd and Canada's Sky Power.

Djibouti is on track to meet its goal of having 100% of its energy demand sourced

from geothermal, wind and solar. The Africa Clean Energy Corridor, an initiative put forward by IRENA, has finished a project along the Ethiopia-Djibouti line that will reduce dependence on fuel imports. Djibouti's renewable energy industry already produces more jobs per megawatt-hour than the traditional energy suppliers.

4

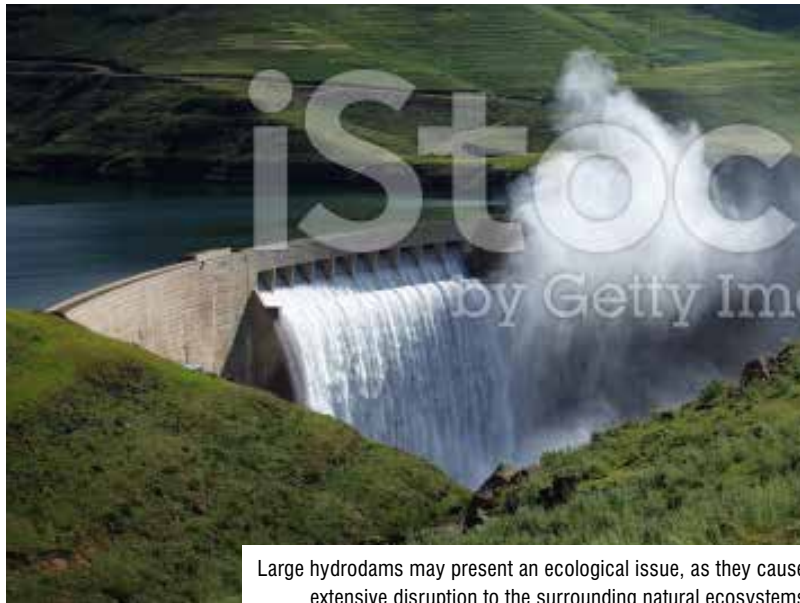
THE CONSTRAINTS ON RAPID RENEWABLES DEPLOYMENT

Access to finance and technology, as well as ecological concerns are common barriers to installing renewable-energy infrastructure

THE PIONEERS in the renewables revolution are encountering several significant constraints.

Finance

Building the start-up systems – such as the wind farms and solar arrays – is often the most expensive part of deploying new renewables. It continues to be costly to do so before the mass production of appropriate solar panels and wind turbines can bring lower costs from economies of scale. The solar panels needed to survive the heat and dust in Saudi Arabia have not yet reached that point. At present, many individuals can hook up to an existing fossil fuel grid for free and pay only a fixed monthly bill. Renewables require the reverse – steep upfront costs for the hardware followed by free fuels forever. Some poor people cannot overcome that initial barrier without help. Moreover, just as wind and solar power are becoming competitive with traditional fossil fuels, the costs of coal, oil and gas is falling fast. Renewables thus depend on the profitable



Large hydrodams may present an ecological issue, as they cause extensive disruption to the surrounding natural ecosystems

long-term fixed-price contracts they have and the recognition that volatile fossil fuel prices could well soar again.

Technology

Because sun, wind and tidal power are intermittent, their power must be stored for use during dark, calm periods. Despite recent advances in lithium ion batteries, and the Tesla Powerwall, battery storage is still expensive and of limited capacity.

Most programmes therefore look to the integrated solutions that combine intermittent renewable sources with continuously available fossil fuel generation that can be switched when the need appears. Even then, technological advances are needed in computer-based controls systems and physical grids to blend and balance the varying load at all times. As the share of renewables increases, especially from dispersed, distributed sources fed into the grid, the challenge of integration and balance to protect the integrity of the overall system becomes greater too.

Ecology

Stored hydropower can help solve the intermittency constraint, by putting water in a reservoir to be released to generate electricity when needed. Yet this works only where water is abundantly available and the local terrain and ecology suitable. Solar systems can produce glare. Wind generators can create noise pollution and kill birds.

And large hydrodams can mean extensive disruption to the living things and natural ecosystems that surround them.

Society

In some poor communities, gathering firewood is entrenched in local custom and gender role definitions, and large windmills can disturb the aesthetic sense of those living in the area who prefer the natural landscape that was there before.

Politics

The large, established, fossil-fuel grids and those that own and operate them are often well-connected politically compared with their smaller, newer renewables competitors. Behind the incumbents lie their partners in the networks that produce, deliver, sell and finance the fossil fuel. The incumbents that built, operate and maintain the electricity grids may resist being ordered by governments to allow newer renewables competitors access to it, at low or even no cost.

5

PROJECTS LEADING THE WAY

Ambitious projects to meet energy demands, particularly in poor and rural locations, are receiving international support

MANY RENEWABLES projects are nonetheless proving that these constraints can be overcome.

Africa Clean Energy Corridor 2014

The Africa Clean Energy Corridor (CEC) is one of the most ambitious. It was launched in January 2014 by IRENA and endorsed by the Ministers of the Eastern African Power Pool (EAPP) and Southern African Power Pool (SAPP). It recognises that Africa's vast

renewable energy resources can meet most of the continent's energy demands by 2050. It wants to reduce fossil fuel sources by half by 2030 by using clean, indigenous, cost-effective renewable power instead, in a network running from Egypt to South Africa.

Four-fifths of electricity in eastern and southern Africa is currently generated from coal, oil, and natural gas. The constraints of existing market and regulatory frameworks, high capital costs for financing renewable



The Adama wind farm in Ethiopia is sub-Saharan Africa's largest, and is due to be operational by June 2016

power plants, and differing national policies and priorities stand in the way of change. To reduce the costs of upfront financing, IRENA will partner with multilateral and bilateral organisations to establish mechanisms to reduce risk and increase private-sector involvement. It will collaborate with participating countries to strengthen existing institutional frameworks to optimise the renewable energy mix. According to Adnan Amin, Director-General of IRENA, the right combination of policy, investment and rapid development can help decarbonise the energy mix and generate growth and jobs too.

Rwanda Electricity Access Scale-up and Sector Wide Approach (SWAp) Development Project

The Rwanda Electricity Access Scale-up and Sector Wide Approach (SWAp) Development Project covers the rural provinces of Northern and Western Rwanda. It seeks to distribute and install electric sockets, lamp holders and compact fluorescent lamp (CFL) bulbs in households newly connected to the national

grid. It reduces the initial costs by using the existing grid, and aims to complement the Kivu-Watt Methane as Power Generation Project from Rwanda's Lake Kivu.

Ethiopia: Adama II Wind Farm

Ethiopia's Adama wind farm, the largest in sub-Saharan Africa, is supported by two Chinese companies. It is on track to be operational by June 2016. It has already created jobs for 900 Ethiopians, who have learned new computer and software skills. It also adds long-term benefits and lowers costs by technology transfer, as 22 Ethiopians have already been trained in Beijing.

Kenya Lake Turkana Wind Power Project

Kenya's Lake Turkana Wind Power Project is the country's largest single private-investment project ever. Started in late October 2014, it is scheduled to operate by spring 2017. Located in one of Kenya's poorest areas, its construction has created 560 jobs, thereby reducing the political constraints.

DELIVERING SUSTAINABLE ENERGY ACCESS

To overcome financial barriers and reduce dependency on a single external donor, it is financed by the AfDB, the European Investment Bank, Finnish development agencies, other European countries, and the Standard Bank. Kenya’s government agreed to assume liability for any costs incurred as a result of political disruptions.

Bangladesh Solar

In Bangladesh, with World Bank financing, installing 3.5 million solar home systems in rural communities has created 70,000 installation jobs and benefitted 15 million people, thereby overcoming the financing and political constraints. It helps the country meet its target of achieving 10% renewables generation by 2021. The solar panels are subsidised, which overcomes the financing constraint. The aim is to double the number of beneficiaries by 2017.

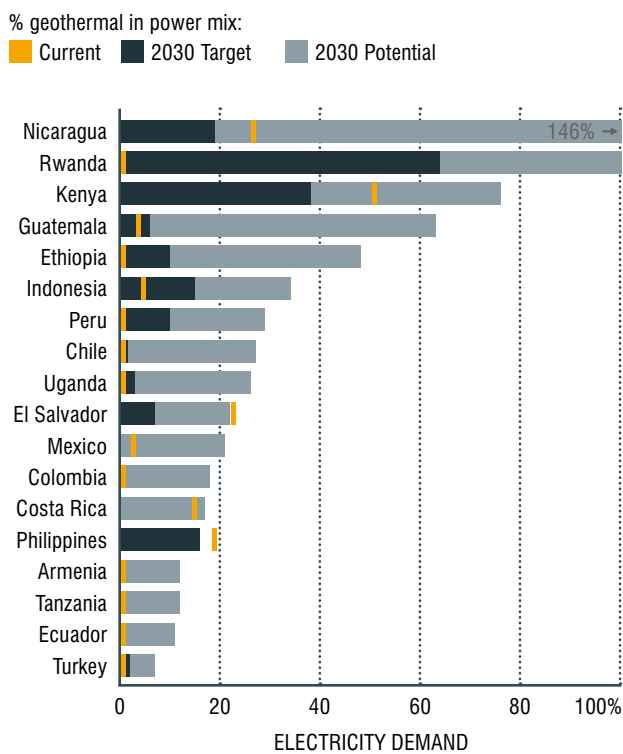
Tanzania Geothermal Project: Lake Ngozi in Mbeya

In Tanzania, a geothermal power project at Lake Ngozi is being built with the help of the AfDB’s Scaling-Up Renewable Energy Program-Grant, and prospectively the Icelandic International Development Agency, the Nordic Development Fund, Britain’s Department for International Development, and the Japan International Cooperation Agency. It aims to have 100MW of geothermal power by 2016, to mitigate regular power outages and climate-change-induced droughts. It directly overcomes the ecological constraint that the intermittency of the other renewables contain.

Geothermal power also has high potential in Rwanda, Kenya, Ethiopia, Uganda and Tanzania. A recent study by the Climate Policy Initiative estimated this potential can



THE POTENTIAL ROLE OF GEOTHERMAL ENERGY



Source: Climate Policy Initiative. Current shares may be more than projected shares due to increases in overall electricity demand

be mobilised if public finance is increased seven or 10 times for an additional \$133 billion in loans or equity. By involving the private sector, governments can reduce their share to 15-35% of the costs and focus it on the project’s earlier, riskier stages.

6

INNOVATIVE FUNDING MECHANISMS

Financial resources for sustainable development are being made available to developing countries, from both public and private sources

SUCH SUCCESSES can be scaled up and out through innovative funding mechanisms.

The APP's 2015 Report estimates that today, poor Africans could all be given access to electricity for an investment of about \$55 billion a year until 2030 – the target date for the realisation of the SDGs. Those without access now represent an energy market of \$10 billion a year. Public-sector financing comes from the traditional multilateral development banks and bilateral donors, and newer sources have arisen, such as the Green Climate Fund, which was created in 2010 at the 16th Conference of the Parties (COP) of the UNFCCC to enhance the financial resources of developing countries for sustainable development. It features flexibility, scalability, transparency and accountability.

Domestic resource mobilisation

In Africa, beyond such public-sector sources, much of the money can come from Africans themselves – almost half through improved tax collection and \$21 billion from ending fossil fuel subsidies and purchases of kerosene, according to the APP. Stopping tax evasion, focusing international aid, and responsibly borrowing from bond markets would help fill the gap.

A major source of finance is subsidy shifting, from the old fossil fuels to the new renewable ones. The International Monetary Fund estimates that fossil fuel subsidies globally cost \$5.3 trillion each year, when all of the direct costs and externalities are taken into account. Subsidised fossil fuels

are responsible for a full 20% of carbon emissions that cause climate change. They also foster income inequality, corruption and poor maternal and child health. Subsidies in various forms from national governments in developed countries have been critical in fostering the renewables revolution there.

Crowdfunding

Crowdfunding through social media allows the public to contribute to the renewables revolution. It enables people anywhere to invest in a project, lowers barriers to entry and serves as a marketing tool. It can be rewards based, lending based, or equity based. Some predict crowd-based lending will surpass venture capital by 2016. They estimate that within five years, the solar rooftop sector will receive \$5 billion in crowd-sourced investments.

SunFunder is a US and Tanzanian platform that has partnered with Power Africa's Beyond the Grid initiative to bring renewable energy to off-grid rural areas in Africa and Asia and to secure capital for solar energy in emerging markets (see perspective from xxxxxx, xxxxxxxxx, page x). To date, \$2 million worth of solar projects have been financed.

Skynotch Energy Africa has, since 2012, partnered with KIVA and the World Bank Infodev Programme. It provides solar lanterns to those in rural areas. In May 2015, Skynotch Energy joined the Green Pioneer Accelerator, as one of 11 businesses chosen to participate in SE4ALL's programme to boost environmentally innovative start-ups.

7

PUBLIC-PRIVATE COOPERATION: STRATEGIES FOR ENGAGEMENT

Public-private partnerships have a key role in bridging the financing gap and enabling the delivery of power to energy-poor locations

TO OVERCOME the financing gap, innovative public-private partnerships are emerging.

Power Africa

Power Africa is one of the most prominent (see perspective from xxxxxxxxxxxxxxxx, xxxxxxxxxxxxxxxx page x). It is a \$7 billion USAID initiative announced by President Barack Obama in 2013. It seeks to dismantle barriers to the development of sub-Saharan Africa’s renewable energy in order to double accessibility within five years. This requires adding more than 30,000 MW of new and clean energy for 60 million households and small enterprises in Ethiopia, Ghana, Kenya, Liberia, Tanzania and Nigeria, with several other countries added later. Its Beyond the Grid component brings electricity to unconnected rural areas. Seven Nigerian entrepreneurs have received \$100,000 grants

for innovative, sustainable off-grid projects, given in conjunction with the United States African Development Fund and General Electric. With more than 40 partners, it provides more than \$1 billion in investments for off-grid clean energy alternatives.

Solar pumping

In Morocco, the government uses subsidy substitution. It help farmers fund the initial costs of solar pumps for irrigation by using money saved from reducing the subsidy for the liquefied natural gas now used for pumps. The substitution is estimated by SIWI World Water Week to reduce costs to farmers by two-thirds. In Mali, where solar pumping has been promoted for a decade, a new Sunlight water pump, developed in Switzerland and assembled in West Africa, is being introduced. In India, some 20,000 such government-subsidised solar pumps operate, with farmers encouraged to sell the excess energy they produce back to the grid.

Lighten the Energy Bill

The Lighten the Energy Bill, an intelligent light catcher developed by Belgium’s EcoNation, does not rely on any government subsidies. It absorbs all upfront installation costs and allows users to make relatively affordable monthly payments. It also guarantees end users a refund if they do not experience savings. With clients throughout Europe and in Morocco, it had a 300% growth rate in 2013.



Solar technology in rural Africa is enabling students to study after nightfall

8

PROSPECTS FOR CONCRETE ACTION

Under the G20 summit theme of inclusiveness, concentrated global action on delivering sustainable energy access demands commitment from world leaders

WITH THE G20 energy ministers meeting for the first time in 2015, following a high-level conference on energy access in sub-Saharan Africa, the focus is on how to bring affordable, available, accessible, appropriate energy to all. They are seeking to advance the Turkish host's overall summit theme of inclusiveness, as well as the 11 high-level principles on global energy governance approved at the G20 Brisbane Summit in 2014. The G20 energy ministers and leaders also have the opportunity to support the 2015 UN climate change conference.

A global focus

The focus from the ministers will be on the first principle – affordable and reliable energy for all – in keeping with

Turkey's emphasis on low-income developing countries. On climate change more generally, the G20 will be tempted to leave the subject to the UN summit in Paris in December, which is taking place just two weeks after the G20's Antalya Summit.

What can world leaders do?

Yet, there is much the G20 can do, both before and after Paris, to enhance the chances of success. They could set a fixed date in the very near future to eliminate their fossil fuel subsidies and immediately launch an expanded programme to reap more of

the \$5.3 trillion benefit that the IMF has estimated awaits. They could agree to shift these subsidy savings to spend on the poorest, by subsidising the renewables that can bring sustainable energy to all.

They could agree on specific targets and timetables to increase the use of renewables for themselves and others in order to spur action. This could perhaps be a specific percentage, a method they used for overall GDP growth at their Brisbane Summit.

“

ABOVE ALL, LEADERS COULD PUT IN PLACE A CREDIBLE MONITORING MECHANISM TO TRACK IMPLEMENTATION OF THEIR OWN RENEWABLE ENERGY PROMISES

”

The G20 leaders could agree that a substantial and rising percentage of the additional growth measures they promised would be renewable energy ones.

They could also mobilise more finance for

the shift to renewables in the poorest countries in order to get a fast start on the implementation of SDG 7. They could adopt the G7 leaders' commitment to carbonise the global economy by the end of the century.

Ensuring targets are met

Above all, the energy ministers could put in place a credible monitoring mechanism to track implementation of their own renewable energy promises, to ensure that immediate improvements occur to reach the targets when shortfalls appear.

Editorial

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