

## **Prioritizing renewable energy and energy efficiency to accelerate growth in Africa**

**ABB supported a number of pledges signed by world leaders at COP21 in Paris, including a commitment to scale up renewable energy and help emerging economies transition their markets for energy efficient products. At COP22, ABB showed how this commitment translates into solutions and services that enable access to electricity and improve lives. Notable at this year's event was that business and technology providers took the initiative and focused on how the pledges could be implemented.**

It's significant that COP22 took place in Africa where almost 600 million people lack access to electricity. Only seven countries in sub-Saharan Africa – Cameroon, Côte D'Ivoire, Gabon, Ghana, Namibia, Senegal and South Africa – have electricity access rates exceeding 50 percent (McKinsey & Company report).

The rest of the region has an average grid access rate of 20 percent. Moreover, where there is access, outages tend to be common and many homes are not grid connected. If nothing is done to change this, there will be more Africans without power by 2030 than there are now.

### **Prioritizing renewable energy**

Renewable energy with innovative storage solutions and high-voltage direct current (HVDC) connectivity could bring about a paradigm shift in Africa. ABB is helping many developing nations transcend the energy barrier and become mature industrial players.

The IRENA (International Renewable Energy Agency) report 'Africa 2030' suggests that the share of renewables in the generation mix could grow to 50 percent by 2030, if the renewable energy map options in that report are implemented.

Hydropower and wind capacity could contribute 100 gigawatts (GW) of capacity each, followed by a solar capacity of over 90 GW. For the power sector, this would translate into an overall tenfold renewable energy capacity increase from 2013 levels, as well as a reduction of 310 megatons of carbon dioxide (Mt CO<sub>2</sub>) in emissions by 2030, compared with the baseline scenario.

ABB is helping the continent take the first steps by enabling large-scale renewable energy projects as well as smaller-scale hybrid microgrids.

ABB has engineered and built the substation linking turbines of Egypt's first large-scale wind farm with the grid at the Zafarana wind farm, south of Suez on the Red Sea. And at the

Kureimat solar plant south of Cairo, ABB has supplied the distribution control system, medium-voltage switchgear, motors and drives.

Microgrids are being constructed in Nairobi at the logistics center of the International Committee of the Red Cross (ICRC) to ensure a reliable power supply, as well as in the remote town of Marsabit in the north of Kenya.

Being a late bloomer brings with it the major advantage; Africa could, making use of the most advanced products/solutions, leapfrog into a continent that is electrified using clean and energy efficient technologies.

### **Energy Efficiency**

At COP22, it was clear that there is a growing understanding that we can not only reduce emissions with energy efficiency but that we can also bring power to those without access by redirecting the energy that is saved. Also, the need to focus on energy efficiency is only going to increase as Africa develops given the importance of electric power for economic development.

As a key member of the UN Environment's (the United Nations agency previously known as United Nations Environment Programme) action on improving appliance and equipment efficiency, ABB is helping to improve energy efficiency standards for electric motors and transformers, which accelerate energy savings.

The clock is ticking on climate change and continents like Africa are the most vulnerable. To quote the World Bank, "We won't be able to accelerate progress towards universal access without improving the performance of utilities in Africa. Making electricity connections and consumption more affordable while minimizing utilities' financial losses is therefore a priority."

As a pioneering technology leader at the forefront of the Energy and Fourth Industrial Revolutions, ABB is uniquely positioned to help Africa build clean, low-carbon, safe and effective modern energy systems.

We, at ABB, hope to lead from the front in brightening lives of those even in the remote corners of Africa.

### **Notes**

ABB Executive Committee member and President for the region Asia, Middle East and Africa, Frank Duggan took part in a panel discussion 'Energy Efficiency as the most cost-effective way to cut industrial emissions' at COP 22.