

# News Bulletin

Tuesday 6<sup>th</sup> October 2015



## Opening

The final day of the conference opened with an address from the South African IPP office: South Africa would like to work with African countries and its other partners to assist in implementing the IPP model. The Deputy Minister of Mines and Energy from Namibia thanked the SADC states for choosing Namibia to be the host country for the SADC Regional Centre for Renewable Energy and Energy Efficiency (SACREE). This platform will provide leadership to enhance energy security while diversifying energy options. Namibia looks forward to the unwavering support of the SADC states in making SACREE fully operational and sustainable in the long term.

## Parallel Sessions

After the opening, parallel sessions provided a range of topics for the delegates to engage on:

### Smart Cities

Smart cities require integrated planning to enable the implementation of hybrid energy systems for improved energy distribution and reliability, while meeting the need for inclusive cities that provide energy access for all. Linking knowledge silos within cities to share information and skills is the key to success. It's not the grid that is smart, but rather the skills and knowledge that shape its design.

### Transport and Eco-mobility

Transport should play a bigger role in the RE discussion as the transport sector is important for economic growth and development and cuts across many of the Sustainable Development Goals. 93 % of vehicles remain oil-based and CO<sub>2</sub> emissions from the sector are projected to increase by 60% by 2050. Electric vehicles have low to no direct emissions and their carbon footprint depends on the source of electricity. Biogas-fuelled vehicles compare favourably with petrol and diesel in terms of direct emissions and carbon footprint. Transport infrastructure investments are expensive and require long term planning. Thus eco-mobility goes beyond fuel-switching to prioritise walking, cycling, public transport, vehicle sharing and urban spatial planning that interconnects these modes.

### Cooking Energy

Perhaps nowhere is the question of access to safe and affordable energy more important than in how the energy poor cook their food. It's not just a matter of energy efficiency, or the health issues created by indoor air pollution, but also one of eradicating poverty. Charcoal as a domestic fuel source is driving deforestation. Africa urgently



Minister Tina Joemat-Pettersson gave an inspiring closing address

needs to leap frog technologies, skipping fossil fuels and moving straight to low cost, environmentally-friendly fuels. Sustainable biomass alternatives exist, such as fuel briquettes made from fast-growing grasses and biogas.

### Rural Electrification

Rural electrification starts with political will. The target market for rural off-grid projects is not just a consumer of electricity - they become consumers of more industrial services or retail products and business owners or service providers. Rural electrification should be coupled with the introduction of energy saving appliances to make energy access sustainable.

### Biomass

Bioenergy holds unique opportunities for job creation and energy independence as it supports multiple products and creates a multiplicity of value-add opportunities. Its advantages include its ability to be applied at both the small and large scale, in households and in mini-grid solutions. Food insecure communities are often also energy insecure and the bioenergy process offer options to address both of these challenges. Bioenergy can kick-start a rural economy and break down barriers hindering other RE technologies.

### Wind

Global installed wind generation capacity is now at 370 GW, equating to about 3% of global capacity. Wind technology is heading towards the design and production of 10 MW turbine by the end of the decade due to improvements in size, efficiency, and design. Grid compatibility and capacity provide challenges for wind, although wind mapping can help to facilitate planned extension and upgrades of the grid. Power storage remains a key problem, but one that can be mitigated by intelligent tariff regimes and improvements in storage technologies.

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## Solar

PV system prices have been divided by three in six years in most markets, while module prices have been divided by five. Germany's flexible power systems demonstrate that high PV penetration levels don't need to have a negative impact on grid stability.

Concentrated Solar Power (CSP) is dispatchable, capable of providing a solution for base load and peaking power. It can stabilise grid and complement intermittent RE sources. CSP creates close to 1 job per MW, comparing favourably with coal, especially when social and environmental externalities such as carbon are taken into account. CSP prices will continue to drop as allocations and competition increase. Regional vision with a long term view is needed to create economies of scale and drive localisation.

## Geothermal

Kenya leads Africa in geothermal energy, with 25% of its total grid capacity derived from geothermal energy. High temperature geothermal sources are required for baseload electricity generation, but there a range of low temperature applications including heat pumps for heating and cooling built infrastructure, heating for greenhouses and aquaculture ponds. The Geothermal Risk Mitigation Facility provides financial support for project development with funding from the EU, KFW, and DFID.

## Integrating RE into Heat Applications

Many fossil-fuel powered industrial heating processes can be replaced by solar thermal or geothermal energy with low or no emissions, reducing reliance on electricity. High temperature applications with future growth potential include embedding solar energy in carbon-based fuels that can be stored and transported. Solar fuels can be created by using sunlight in photocatalytic water splitting to obtain hydrogen, or reusing CO<sub>2</sub> by splitting it to CO as a precursor to carbon-based fuels. These applications require a new way of thinking in relation to reducing carbon emissions from energy.

## Hydro

Hydropower contributes 16.6% of the world's power and can provide a highly flexible source of grid power. South Africa is at the forefront of developing in-line power generation solutions using municipal water infrastructure. Off-shore hydropower is still maturing as a technology and is now attracting significant research and development finance. Approximately 100 GW of untapped potential exists in the Congo. Regional co-operation and development planning is the key enabler of large-scale hydro in Africa.

## Side Events

Greenpeace launched their 100% Renewables scenarios with the release of their 2015 Energy Revolution report, during one of the selection of side events on Tuesday. The Greenpeace scenarios call for emissions to peak in 2020 and then decline, with use of all lignite phased out by 2035, coal by 2045, oil and gas by 2050, and nuclear by 2050. Access the report at: [www.greenpeace.org](http://www.greenpeace.org).

## Exhibition

The renewable energy demonstrations and products proved a popular aspect of the exhibition. The company Total showcased a number of different solar PV products, including an all-in-one battery, panel and light. The University of Stellenbosch's Centre for Renewable and Sustainable Energy Studies had a heliostat model on display. Electric vehicles on display included the University of Johannesburg's long distance solar PV vehicle, the Nissan leaf and an electric scooter.

## Closing Plenary

Ambassador Irene Giner-Reichl, President of the Global Forum for Sustainable Energy, presented the SAIREC Declaration for adoption by the conference, representing 3600 participants from 82 different countries. The declaration provides a solutions-driven agenda for the upcoming UNFCCC climate negotiations at COP21, positioning renewable energy as central to improving global energy access and energy security while mitigating GHG emissions and driving sustainable development.

South Africa's Minister of Energy, Tina Joemat-Pettersson, gave a rousing closing address to the conference, committing herself to acting as a champion for renewable energy. She committed to South Africa adding 1500 MW to the Northern Cape as a SAIREC legacy project. This allocation is over and above existing allocations. In her address, the Minister stressed the role of renewable energy in eradicating poverty. She also drew attention to the important role that renewable energy has to play in the lives of African women, by providing safe and sustainable fuel for cooking and entrepreneurship opportunities. The declaration is available at [www.sairec.org.za](http://www.sairec.org.za)

## Site Visits

On Wednesday the 7<sup>th</sup>, conference participants went on site visits to 15 different renewable energy projects. The site visits provided an opportunity for delegates to see many of the technologies discussed at the conference in action. Immensely popular, the site visits were fully booked within 48 hours of online registration opening.

