2015 AFRICAN UTILITY WEEK

Africa is "open for business"

The 2015 African Utility Week successfully drew over 6000 attendees from 68 countries to witness the latest energy market trends and technologies and to discuss their practical application across Africa's utilities and large power users. While a large portion of the conference focused on municipal utilities delivery, it also delivered some key insights and lessons for energy recovery and usage applicable to the pulp and paper industry.

AFRICA'S 'NEW DEAL': AFRICA FOR THE AFRICANS FIRST?

With less than 2% of the population in Chad, Ethiopia, Malawi and Niger having access to electricity and approximately US $450 billion of investment still needed to halve the continent's existing power shortages, Africa is certainly open for international investment. But is it 'open for business'? What action will be required to improve Africa's dismal utilities infrastructure and ensure the required economic growth?

Both international and local solutions were offered to this key question that themed the 2015 African Utility Week Conference. Zethembe Khosa (Eskom Board of Directors) pledged a 'New Deal' for South Africa – referencing US President Franklin D. Roosevelt's domestic programmes that he implemented within the first 100 days of holding office in 1933, as a dramatic and fast-paced response to the Great Depression. Roosevelt's New Deal viewed government as an organ of organised 'self-help' for all groups in society, by providing relief of the poor, recovery of the economy and reform of the financial system to prevent future economic distress.

Likewise, Khosa called for relief of poverty in Africa, quoting that 75% of the poorest countries are located in Africa and that "poverty is the antithesis of freedom [...] the antithesis of equality". Despite Ernst & Young predicting an economic growth rate of 6% for 2013-2023, Khosa explained, the lack of infrastructure remains the biggest hurdle to overcoming poverty.

So to whom does Africa look, to recover and reform its utilities and energy infrastructure? Just as Roosevelt's New Deal came under attack from both sides for enabling too much economic intervention by the government or for not providing enough direct government aid, so too will Eskom's strategies continue to be criticised on its balance of public-private investment in the energy sector. Either way, remarked Khosa, the "greatest achievement [of the New Deal] transcended economic statistics" to offer hope and faith to a largely disgruntled population. Will Eskom and other African utilities be able to do the same, or are we still dependent on foreign investment into the continent?

In his own presentation at the African Utility Week opening ceremony, Martin Ganda (associate of investment firm Greylock Capital) suggested that it would not be difficult for foreign investment to solve Africa's energy shortfalls: according to Ganda, not only is Liberia's national daily electricity usage equivalent to the energy used during just one football match in the US, but the US $450 billion investment needed by Africa as a whole is only 3% of the current total global energy investment.

However, Ganda argued that we should "focus less on what the world can do for Africa and focus more on what Africa can do for Africa". He explained that Africa has "trillion dollar opportunities lying in our lands" – in the form of 11% of the world's oil, 6% of its natural gas and 4% of its coal, in addition to enormous potential for wind power, solar energy and geothermal energy. He believes that Africa lacks the resources to translate that untapped potential into wealth – and what wealth is obtained from the continent is predominantly in the hands of non-African investors.

Ganda argues that an important step towards reforming our economies is to ensure that the continent's resources are used for local needs before they are exported. He cautioned that Africa needs to remember that such untapped resources are 'not just for us, but for future generations' and that wisely reinvesting into our utilities could help unlock those

POTENTIAL SAVINGS OF SOLAR AND WIND POWER

South Africa's renewable procurement programme has already procured 4100 MW of renewable energy from independent power producers - 1000MW of which is already available to the grid to assist in peak demand. Since the launch of IRP to expand South Africa's generation capacity, there has also been a significant decline in the costs of wind and photovoltaic technology – some speakers reported as much as 75%. Furthermore, the IRP has also achieved 3.3 million tonnes of CO_2 reduction to date.

In his presentation at African Utility Week, Dr Tobias Bischof-Niemz (CSIR) outlined that electricity generated from wind and PV replaced 1.12 TWh and 1.05 TWh of coal and diesel in 2014. In 2014, renewables generated a R0.8 billion nett benefit to the economy. Furthermore, wind and PV avoided 19.2 GWh of unserved energy in 2014, which saved the economy R1.67 billion – or 0.76 R/kWh of renewables.

resources – to be specific, reinvesting just 5% of revenue from resource trade back into utilities will achieve the billions needed to gain universal energy access by 2030.

FROM AFRICA TO YOUR MILL: HOW TO UNLOCK YOUR OWN PLANT'S RESOURCE POTENTIAL

While these discussions give us an insight into how Africa can unlock its potential across the continent, how can the pulp and paper industry maximise its efficiency and unlock potential at a much smaller scale? Conference speakers in the 'Large Power Users' session provided the following possible solutions:

1. Change your behaviour before you change your technology. Success in energy efficiency in industry is predominantly achieved through changes in how the energy is managed, rather than through installation of new technologies. Implementing energy management systems are a large contributing factor towards this, with the most savings available in motors, drives and operational changes.

2. Build credibility through picking low-hanging fruit first. Energy projects often fail because of a disinterest or lack of awareness in the project by top management. Targeting smaller and potentially 'easier' energy efficiency projects first may help to improve buy-in from top management and build credibility for investing in larger energy efficiency projects.

3. Improve operator awareness and knowledge. Consider that your most expensive equipment in your plant may be managed by operators and foremen that have a limited awareness of or interest in the cost implications of mismanaging that same equipment.

4. Adopt a diesel-photovoltaic (PV) hybrid solution to overcome loadshedding. With an expected national shortfall of approximately 40 000 MW by 2025, there is no doubt that loadshedding – and tariff increases – are unavoidable. One solution proposed was to invest in solar technology not as a stand-alone solution to trade during loadshedding, but as more effective supplement to diesel. A generator would allow a reliable source of power with which to trade, while the linked PV system would reduce the cost and also add energy storage – also enabling you to store power in batteries to start up the generator on cloudy days.

Either by improving your behaviour or your technology, Teri Kruger (Synergetics) gave the following compelling arguments for the importance of energy investments in your facility:

- Rapidly increasing price of electricity
- Rapidly decreasing price of renewable energy technology
- Rapidly approaching convergence of prices
- Supports the green economy agenda (job creation, low carbon points, moral prerogative)
- Supports the profitability and therefore sustainability of the organisation
- Incentives exist
- Availability of technical support and expertise ■

Top turnout as TAPPI turns 100!

More than 2500 people attended TAPPI's Centennial Celebration and PaperCon2015 held in Atlanta, Georgia in April, surpassing last year's attendance by a wide margin. Here are some of the highlights:

This year's executive panel included James Hannan, President and CEO of Georgia-Pacific; David Scheible, Chairman and CEO of Graphic Packaging; Steven Voorhees, CEO of RockTenn; and John Panichella, CEO and President of Solenis.

James Hannan, President and CEO of Georgia-Pacific, receives PIMA's Executive of the Year award.

Ahead of the official PaperCon event, eight individuals were named TAPPI Fellows, an honourary title bestowed upon a select few for extraordinary technical or service contributions. Pictured from left are Todd Popson, Technidyne; Junyong Zhu, US Forest Products Laboratory; Gary Nyman and Kerry Figiel, International Paper; Carl Houtman, US Forest Products Laboratory; Seyhan Nuyan, Valmet; Clayton Teague, retiring TAPPI board of directors. (Not pictured: Michael Exner, retiring TAPPI board of directors)

At 15 years of age, Ameya D. Chavda, a 9th grader from The Hockaday School in Dallas, Texas, is possibly the youngest poster presenter at a TAPPI event as she presented research conducted under the supervision of Dr. Seshadri Ramkumar and Dr. Vinitkumar Singh at The Texas Tech University, Lubbock Texas.