**PRESS RELEASE**

Energy: The New Reality

***16 January, 2013:*** *Consulting engineering and project implementation firm Hatch’s Global Managing Director of Energy* ***John Pearson*** *recently highlighted that approximately 1.4-billion people across the globe survive without electricity – 59% of which are located in Africa (according to the International Energy Agency).*

With the global population estimated to grow by more than one billion people between 2010 and 2025, the lack of electricity is set to become one of the key drivers in the creation of what Pearson calls a ‘new energy reality’. Population growth, a changing and ever-expanding global economy, urbanisation, a lack of electricity, as well as a structural shift in commodity demand from Organisation for Economic Co-operation and Development (OECD) affiliated countries to non-OECD countries, have seen new energy source patterns emerge.

**New energy sources and investment**

The demand for coal and oil is expected to drop in OECD countries, while it is anticipated to increase in China and other non-OECD countries. The demand for all other energy sources is expected to increase by between 40% and 50% from 2012 to 2035. Pearson points out that the increased demand from non-OECD countries is expected to be met by new supply from Organisation of the Petroleum Exporting Countries (OPEC) and non-OPEC countries alike from new sources such as bio-fuels and oil sands (the world’s third largest reserve).

Pearson points out that estimated shale gas technically recoverable resources for select basins in 32 countries is equally abundant to natural gas and should last for 136 years at 2009 consumption levels, while hydropower and wind power are expected to be the largest producers of electricity from the renewable energy sector by 2035.

The majority of investments in energy-supply infrastructure are expected to be in OECD countries and China, while significant investments are also expected in Latin America and Africa. Approximately US$38-trillion is expected to be invested in energy-supply infrastructure between 2011 and 2035.

**Africa and South Africa: A diverse energy profile**

Pearson points out that the modernisation of many African economies, as well as the social progress that comes with this modernisation, will result in an unprecedented energy demand increase by an average of 5.7% per annum from between 2011 and 2040. The corresponding generation capacity increase is 6% per year – a five-fold increase over the same time.

South Africa remains heavily dependent on coal, both in terms of power generation and primary energy supply. South Africa is the sixth largest holder of coal in the world with close to 31 billion tonnes of recoverable (anthracite and bituminous) coal reserves, a significant portion of the world’s total coal reserves.

Looking to hydropower, Pearson says that the economic potential in certain parts of Africa is greater than 150 000 MW and is located in four main hydro-electric hubs:

* West Africa on the Niger and Senegal rivers and in Guinea;
* Central Africa on the Congo River, in particular the Inga Scheme;
* Eastern Africa, the Nile River basin development; and
* Southern Africa, involving the Orange, Limpopo and Zambezi rivers.

Pearson points out that only a small fraction of the continent’s hydro potential has been developed, with an installed capacity of 22 000 MW in 2008, compared with a conservatively estimated economic potential seven times this.

What’s more, there is potential for geo-thermal power in parts of East Africa including Eritrea, Ethiopia, Djibouti, Kenya, Uganda and Zambia. The potential could be between 6 500 and 14 500 MW, however less than 200 MW has been developed. Wind power in Africa has mainly been developed in the Northern and Western parts along coasts and mountain ranges where the wind classes are sufficient. An average wind speed of 7 m/s is considered the minimum needed for efficient operation of wind turbines. Pearson points out that few sites in Africa make this benchmark.

Looking to solar power, Pearson points out that the sunlight distribution of solar resources across Africa is fairly uniform, with more than 80% of Africa’s landscape receiving almost 2 000 kWh per square meter per year. This gives solar power the potential to bring energy to most locations in Africa without the need for expensive large-scale grid infrastructure.

Despite the potential held in solar, hydro, wind and geo-thermal, the African continent has a low density transmission system which lacks standardised specifications. The existing African transmission system at a total of 89 731 km is small, corresponding to a density of 3.29 meters of transmission line per square kilometer. Pearson however points out that there are many planned power lines for the African continent.

In conclusion, Pearson points out that an estimated US$44-billion per year in energy infrastructure investment will be needed to meet the forecasted energy demand for Africa to the year 2040. He commented: “Africa has a huge need but also a huge opportunity. The resources available, the talent and the state of technology will allow it to both address its energy needs but also in an environmentally sustainable way…”

***Ends.***

**Notes to the Editor**  
There are numerous photographs specific to this press release. Please visit <http://media.ngage.co.za> and click on the Hatch link.

**About Hatch**   
Hatch supplies process and business consulting, information technology, engineering, and project and construction management to the mining, metallurgical, energy and infrastructure industries.

**Hatch Contact**

Michelle Reinhard

Hatch Marketing and Communications

Phone: 011 239 5300

Email: [MReinhard@hatch.co.za](mailto:MReinhard@hatch.co.za)

Web: [www.hatch.co.za](http://www.hatch.co.za)

**Media Contact**Kelly Farthing NGAGE Public Relations Phone: (011) 867-7763Fax: 086 512 3352Cell: 079 367 7889 Email: Kelly@ngage.co.zaWeb: [www.ngage.co.za](http://www.ngage.co.za)

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