**NEWS ARTICLE**

Zinc supports clean energy technologies from solar to wind

**15 March 2023:** Renewables play a key role in South Africa’s Just Energy Transition (JET) towards a low-carbon, sustainable and socially inclusive future. “R1.5 trillion will be invested in our economy over the next five years in new frontiers such as renewable energy, green hydrogen and electric vehicles,” **President Cyril Ramaphosa** highlighted in his State of the Nation Address on 9 February.

Renewable energy sources such as solar, wind and hydropower have significant potential in South Africa. Hence the Renewable Energy Independent Power Producer Procurement (REIPPP) programme has attracted substantial investment to the tune of 6 000 MW of renewable energy capacity.

“The Northern Cape has already attracted well over R100 billion in investments in renewable energy projects. These and other massive investments in renewable energy will create jobs and stimulate local economies not only in the Northern Cape, but also in the Eastern Cape, Western Cape and Mpumalanga, turning even the most arid desert into a giant energy source,” according to President Ramaphosa.

The focus on renewable energy has also placed the spotlight on the role played by zinc, especially in energy storage, highlights [International Zinc Association (IZA) Africa](http://www.zinc.org) Executive Director **Simon Norton**. The World Economic Forum (WEF) states that the metal plays a critical role in enabling green technologies like solar and wind. “As the world transitions to a low-carbon economy, zinc will continue to play a key role in supporting clean energy technologies,” cites the WEF. Norton showcases the following areas where zinc plays an important role:

**Zinc-air batteries**

These rechargeable batteries use zinc as the anode and oxygen from the air as the cathode. When the battery discharges, zinc oxide forms at the anode. When it charges, the zinc oxide is converted back to zinc. Zinc-air batteries are low cost, have a high energy density and are environment friendly, Hence it is a promising technology for large-scale energy storage.

**Zinc-bromine flow batteries**

Another type of rechargeable battery that use zinc and bromine as the active materials. These batteries pump liquid electrolytes through a cell stack to oxidise the zinc and reduce the bromine. The process is reversed when the battery charges. Zinc-bromine flow batteries have high energy density and are relatively inexpensive.

**Solar panels**

Thin-film photovoltaic cells often contain a layer of zinc oxide that acts as a transparent electrode and assists in collecting the electrons generated.

**Wind turbines**

Zinc rich coatings are applied to the steel used for wind turbine towers so as to protect them against corrosion and increase their lifespan.

“Overall, zinc plays a vital role in renewable energy. It stands to enable the development of low-cost, green energy storage technologies, in addition to its contribution in the area of solar panels and wind turbines,” concludes Norton.

**REFERENCES**

‘State of the Nation Address by President Cyril Ramaphosa 9 February 2023’ <https://bit.ly/3IrT2Aw>

‘Zinc is critical for the low-carbon economy. Here's why’ <https://bit.ly/3jYSF6R>

**Pull quote**

“Zinc stands to enable the development of low-cost, green energy storage technologies.” – **Simon Norton**, Executive Director, International Zinc Association Africa

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Overall, zinc plays a vital role in renewable energy, from solar panels to wind turbines and battery energy storage. #IZAAfrica #Zinc

***Ends***

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**Notes to the Editor**To download hi-res images for this news article, please visit [http://media.ngage.co.za](http://media.ngage.co.za/) and click the International Zinc Association link to view the company’s press office.

**About the International Zinc Association**

The IZA is the only global industry association dedicated exclusively to the interests of zinc and its users. Operating internationally and locally through its regional affiliates, the IZA helps sustain the long-term global demand for zinc and its markets by promoting such key end uses as corrosion protection for steel and zinc as being essential in human health and crop nutrition. IZA’s main programmes are Sustainability & Environment, Technology & Market Development and Communications.

In South Africa, the IZA plays a vital role in establishing the basis for the successful revitalisation of the zinc industry by increasing awareness of zinc and its applications and benefits in key sectors and markets, which will ultimately translate into the increased uptake of zinc.

**International Zinc Association Contact**
Simon Norton
Executive Director

IZA Africa
Phone: (021) 788 9980

Cell: 082 831 2924
Email: zinc@iafrica.com
Web: [www.zinc.org](http://www.zinc.org)

**Media Contact**
Rachel Mekgwe

Senior Account Executive
NGAGE Public Relations
Phone: (011) 867-7763
Cell: 074 212 1422
Email: rachel@ngage.co.za
Web: [www.ngage.co.za](http://www.ngage.co.za/)

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