

SUSTAINABILITY NEWSLETTER

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NATIONAL

GENERAL

SA HOSTS FIRST MEETING OF THE PLASTICS PACTS NETWORK – The inaugural meeting of international members of the Plastics Pact Network convened in Cape Town on 24 January 2024 and included delegates from UK, USA, India and Canada. The three-day intensive programme was a chance for all members to share experiences and knowledge to accelerate critical work in reducing the global impact of plastic waste and pollution. Pact members include major brands, packaging companies, producers, traders, processors, academia, trade associations, NGOs, and governments who are all working towards a shared vision, with business signatories measured against a series of scientific-based targets, to reduce the impact they have on the environment through their use of plastics. The Network connects those individual national and regional initiatives to better implement solutions towards a circular economy for plastic. More than 800 major businesses are signed up to all thirteen Plastics Pacts with the combined population impacted by their work estimated to be in the region of as many as 2.4 billion people, or 30% of the world's population. The meeting held in Cape Town was the first time the majority had sat down to share their learnings in person. Whilst regulation is critical, public/private partnerships delivered through the Plastics Pact model accelerate action and deliver tangible results. These collaborative partnerships can play a key role as a mechanism for nations to meet mandated obligations under the United Nations Global Treaty to End Plastic Pollution. The meeting also began important preparations for the first global report across the entire Pact Network, which will present the impact achieved by all thirteen Plastics Pacts. This report will be published in preparation for the next round

of INC4 discussions for the Global Plastics Treaty framework, taking place in Ottawa, Canada in April 2024. Source: All Africa dated 26 January 2024

GLOBAL RENEWABLE ENERGY TRANSITION PRESENTS SA INDUSTRIES WITH SIGNIFICANT ECONOMIC OPPORTUNITY – In the second quarter of 2023 nearly 32 billion rands worth of solar panels, inverters and lithium-ion battery systems were imported into South Africa, and this number excludes other components and parts. Additionally, the National Energy Regulator of South Africa registered 4.5 GW of private energy projects in 2023, economic research nonprofit Trade and Industrial Policy Strategies senior economist and South Africa Renewable Energy Masterplan facilitator, Gaylor Montmasson-Clair pointed out during a media discussion on 24 January 2024. The global energy transition, which is well under way, presents a once-in-a-lifetime opportunity to reindustrialise and South Africa should take note of that, concurred manufacturing competitiveness consultancy BMA Analysts battery energy storage research and sector lead, Mbongeni Ndlovu. Small and medium-sized manufacturers in South Africa have adopted alternative power sources, including disel and gas generators, and some solar and battery energy storage to mitigate the impact of loadshedding. However, larger energy-intensive industrial companies have had to conduct one-to-one negotiations with power utility Eskom to continue to operate, said LSF technical consultant Ross Boyd. Additionally, renewable energy and battery storage industries cannot grow if South Africa continues with its stop-start practices of adding renewable energy. For example, after adding wind and solar energy each year from 2013, no wind power at all was added in 2018 and 2019, and almost no solar power was added during 2022, emphasised Montmasson-Clair.

Source: Engineering News dated 25 January 2024

INTERNATIONAL

GENERAL

GENE EDITING – Researchers have long hoped that the relative ease and low cost of CRISPR gene-editing systems would make it possible for scientists in low and middle-income countries to produce crops with traits tailored to the needs of local farmers, rather than relying on seeds developed in foreign countries. Now scientists are overseeing at least a dozen efforts to develop such gene-edited crops. Among those projects is molecular biologist Steven Runo's effort to engineer sorghum to be resistant to *Striga hermonthica*, a species of a parasitic plant known as witchweed. Field trials of the new variety are scheduled for later this year, Runo said at the Plant and Animal Genome Conference in San Diego, California, on 16 January 2024. Sorghum is a hardy crop that is used widely in Africa for food, building materials and feedstock. But more than 60% of African farmland is contaminated with species of *Striga*, a parasitic plant that attaches itself to sorghum roots and siphons away nutrients and water. A witchweed infestation can wipe out an entire crop. Other gene-editing projects are underway to improve African agricultural products including the editing of maize (corn) to make it resistant to maize lethal necrosis disease. African livestock are also being edited. At the Plant and Animal Genome Conference, Dan Carlson, chief scientific officer at Recombinetics in Eagan, Minnesota, described a project in which African breeds of cattle are being edited to improve their milk yields and tolerance to heat and disease. Although gene editing is relatively cheap to perform in the laboratory, there are still significant hurdles to bringing edited crops to the farm, says Klara Fischer, who studies rural development at the Swedish University of Agricultural Sciences in Uppsala. Since the market is unlikely to provide for poor small-scale farmers with limited purchasing power, government involvement would likely still be needed for the gene-edited products to benefit them.

Source: Nature dated 25 January 2024

GLOBAL GROUNDWATER DEPLETION RATE RISES – Groundwater is rapidly declining across the globe, often at accelerating rates. Researchers have presented the largest assessment of groundwater levels around the world, spanning nearly 1,700 aquifers. In addition to raising the alarm over declining water resources, the work offers instructive examples of where things are going well, and how groundwater depletion can be solved. The study is a blessing for scientists, policy makers and resource managers working to understand global groundwater dynamics. "This study was driven by curiosity. We wanted to better understand the state of global groundwater by wrangling millions of groundwater level measurements," said lead author Debra Perrone,

an associate professor in UC Santa Barbara's Environmental Studies Program. The team compiled data from national and subnational records and the work of other agencies. The study took three years, two of which were spent cleaning and sorting 300 million water level measurements from 1.5 million wells over the past 100 years. The work revealed that groundwater is dropping in 71% of the aquifers and this depletion is accelerating in many places. The rates of groundwater decline in the 1980s and 1990s sped up from the year 2000 to the present, highlighting how significant the issue is. The accelerating declines are occurring in nearly three times as many places as they would expect by chance. On the other hand, there are places where levels have stabilized or recovered. Groundwater declines of the 1980s and 1990s reversed in 16% of the aquifer systems the authors had historical data for. However, these cases are only half as common as would be expected. "One of the most likely major driving forces behind rapid and accelerating groundwater decline is the excessive withdrawal of groundwater for irrigated agriculture in dry climates," said Scott Jasechko from the University of California, Santa Barbara, one of the paper's co-authors.

Source: Science Daily dated 24 January 2024

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World Wetlands Day – 2 February 2024:

https://www.worldwetlandsday.org/

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