SOR Generating Electricity From Moisture Update

Perth, Australia – 20 February 2023 – Strategic Elements Ltd (ASX: SOR) is pleased to re-confirm the development focus and schedule for the Energy Ink™, a revolutionary power source that generates electrical energy from moisture in the air. Development remains focused on power management for skin patch devices and the investigation of potential R&D pathways for larger-scale energy ink systems. As previously forecast, results are expected to be available in Q1, 2023[1,2].

Skin Patch Devices - Power Management

A successful demonstration compared the power output of an Energy Ink battery, powered solely by moisture, to the baseline power consumed by a leading glucose-monitoring skin patch. The extremely thin, flexible, environmentally friendly Energy Ink battery generated over 200% more power than required[1].

- Millions of people worldwide use these types of devices to reduce the frequency of daily finger prick blood glucose checks and better manage glucose levels. They are generally used for 7-14 days before being disposed of and over 38 countries globally already provide reimbursement. The ACC is concerned with child safety of the button/coin cell batteries used in these types of devices and in 2022 ordered manufacturers/retailers to comply with strict new Australian mandatory safety and information standards.

- With the use of these devices expected to surge globally, the clear goal for manufacturers is to make devices as inconspicuous as possible, provide more advanced sensing, keep costs low, and be friendlier to the environment. The advantages of the Energy Ink technology align with these goals and include flexibility, thinness, and the ability to print various sizes whilst using environmentally friendly materials.

A significant escalation in power per square centimetre was achieved from a rudimentary, very simple power management system during Q4, 2022[1]. Power management systems were proven to have the potential to dramatically increase the performance of an Energy Ink power solution.

Due to the value being unlocked through load simulators and power management, the team is expanding on this work with the goal of further significant increases in the performance of the Energy Ink. As previously announced, results are expected to be available in Q1, 2023[1,2].

Electronic Skin Patches are currently a large USD 10 billion market and remain the Company's near-term focus. These products provide sports, health and other information from devices attached to the human body and currently use rigid alkaline batteries or those with lithium materials. The market for skin patches is forecast to grow to USD 27 billion by 2033[3].

Larger Scale Energy Ink Systems

It is accepted that the imperative for more innovative, renewable energy creation and power sources will continue to grow. Printed graphene-oxide-based cells that generate energy from airborne water molecules could potentially directly power a device, complement a battery by extending device life or providing energy for battery storage. The Energy Ink™ is still in early development, and the fundamental upper limit of aspects such as maximum power output, duration and energy density remains unknown. Significantly, the team continues to identify multiple avenues that increase performance.

Development success has opened a potential R&D pathway for larger-scale Energy Ink systems. The Company is investigating the potential R&D pathway for larger-scale systems through Energy Ink packs with multiple cells or significantly larger cell sizes. As previously announced, further information is expected in Q1, 2023[1,2].

Competitive Grant Programs

100% owned Australian Advanced Materials and The University of New South Wales (UNSW) have entered into a collaborative agreement under a $1,600,000 federal government funded Project to develop a power source for wearable electronics[4]. To further escalate the development of the Energy Ink™, AAM and UNSW have also applied for an Australian Research Council Fellowship grant. ***As previously announced, successful applicants are expected to be notified in Q3 2023[2].***

Additional funding awarded through competitive Federal Government Grants enables the research and development team to be expanded and explore opportunities in different battery/power applications. These projects will involve further fundamental work to investigate the upper limits of the Energy Ink technology, in areas such as maximum power output, duration and energy density.

Strategic Elements – Pooled Development Fund

The Australian Federal Government has registered Strategic Elements as a Pooled Development Fund with a mandate to back Australian innovation. The Company supports leading Australian scientists and innovators in high-risk-high reward ventures. SOR majority funds the initial development of each venture whilst seeking a major strategic investor/partner able to assist commercialisation. The Company is backing projects across robotics, artificial intelligence, printable technologies (battery, storage) and strategic technology metals.

Investors in SOR potentially pay no tax on capital gains as the Company operates under the Pooled Development Program. More information should be read on this program on the Company's website.

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This announcement was authorised for release by the Strategic Elements' Board of Directors.

[1] ASX Announcement 29/12/2022
[2] ASX Announcement 31/01/2023
[3] https://www.idtechex.com/en/research-report/electronic-skin-patches-2021-2031/821
[4] ASX Announcement 13/12/2022