

**Natural Pozzolan Association Symposium**

Sunrise Resources plc (AIM: SRES) is pleased to provide feedback to shareholders from the Chairman’s attendance at the 2<sup>nd</sup> Symposium of the Natural Pozzolan Association (NPA)<sup>1</sup> held in Wickenburg, Arizona, USA on 17-18 May 2023.

**SUMMARY:**

- The main theme of the symposium was the role of Natural Pozzolan (“NP”) in decarbonisation of the cement and concrete industries.
- Symposium was attended by over 100 delegates (the capacity of the venue) and opened with a significant waiting list. This is nearly three times the attendance level of the first NPA symposium held three years ago and highlights the growing interest in NP.
- Attendees included representatives, and in some cases teams, from US and multinational cement companies, ready-mix companies, fly ash supply and distribution companies and NP mining companies.
- Around 30 papers were presented at the Symposium discussing different ways in which NP can help cement companies towards net zero carbon emissions whilst improving long-term strength and durability of concrete made with NP, consistent with results obtained in the Company’s testwork on its own CS and Hazen NP deposits (see detailed information below).
- The symposium provided an excellent networking opportunity for the Company to both continue and renew its discussion with various parties looking for NP and to initiate discussions with new entrants looking for opportunities to become involved in the supply of NP.

The Chairman is currently travelling in Nevada and California to continue discussions with interested parties on the Company’s CS and Hazen natural pozzolan projects.

**Commenting today, Executive Chairman Patrick Cheetham said:**

*“Sunrise Resources was one of the earliest members to join the NPA and so it was gratifying to see the growing momentum building behind the use of Natural Pozzolan and an industry-wide recognition that the days of fly ash are numbered. As one of the first movers in this new era for NP we are well positioned to take advantage of the growing interest in NP which seems to be accelerating in 2023.”*

**Further information**

<b>Sunrise Resources plc</b> Patrick Cheetham, Executive Chairman	<b>Tel: +44 (0)1625 838 884</b>
<b>Beaumont Cornish Limited</b> <i>Nominated Adviser</i> James Biddle/Roland Cornish	<b>Tel: +44 (0)20 7628 3396</b>
<b>Peterhouse Capital Limited</b> <i>Broker</i> Lucy Williams/Duncan Vasey	<b>Tel: +44 (0)207 469 0930</b>

## Detailed Information

A symposium presentation by the Executive Director of the NPA described how we are now at the start of a third era for Natural Pozzolan ("NP"). The first era was the Roman era when NP was the main cementitious material used in major buildings and Roman roads. The second era was in the 20<sup>th</sup> century, pre 1970s, when huge volumes of NP were used in major dam structures in the USA. The second and third eras were separated by a period from 1970s when readily available and cheap coal-fired power station fly ash pozzolan became widely used at the expense of NP. An overarching theme at the meeting was an acceptance that the days of fly ash production in the USA are now numbered.

Various papers and discussions during the symposium highlighted what is now becoming a more established direction of travel for the cement companies in their effort to decarbonise cement. This revolves around reducing the percentage of cement clinker used to make cement. Clinker is the intermediate product in the manufacturing of finished cement. It is the lumpy product of burning limestone and other raw materials and the source of the "embodied carbon" in Ordinary Portland cement.

A fairly easy win for the cement companies has been the production of so called 1L cements where up to 15% (unburned) limestone (readily available on or near site) is inter-ground with clinker. These 1L cements are being widely adopted by the cement companies.

A number of cement companies are already producing 1P cements where up to 30% NP is inter-ground with ordinary Portland clinker. An extension of this is the production of so called 1T (Ternary) cement blends where clinker is inter-ground with up to 15% limestone and up to 30% NP and/or fly ash. 1T cements can result in total clinker replacement levels of nearly 50% and a concomitant reduction in the amount of embodied carbon in each ton of cement. These blends can be reproduced at the ready-mix level using 1L cements and NP.

A number of papers presented at the NPA symposium addressed the need to change various US cement and concrete testing methods which have built up around the use of fly ash and which are square pegs in round holes when testing and evaluating natural pozzolan. These papers and the NPA generally are promoting performance-based testing criteria rather than the prescriptive criteria currently used today. The NPA is having success in lobbying national and state departments of transport and these endeavours will undoubtedly smooth and speed the way for the wide adoption of NP throughout the US.

*1. The NPA is a network of Natural Pozzolan producers working to improve the performance and durability of concrete infrastructure through the increased understanding and use of naturally-occurring high quality supplementary cementitious pozzolanic materials (natural pozzolan, "NP"). To this end work the NPA works closely with testing consultants, researchers in the civil engineering departments of various universities and various national and states department of transport responsible for infrastructure spending and regulation. The NPA will hold a symposium bi-annually going forward.*