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Silica sand is a bulk commodity that has only recently starting breaking into the collective consciousness of Australian investors as awareness grows about strong Asian demand and dwindling supplies.

Renowned investor Tolga Kumova has also **twigged on to its potential**, noting that the sector is starting to emerge in Western Australia and that it would grow much larger over the next couple of years.

Silica sand is one of the most mined commodities in the world thanks to its angular particles that are capable of interlocking and providing greater load bearing capacity, which makes it valuable for land reclamation and the manufacture of concrete.

Higher purity sands are also used for a wide range of applications in the foundry and glass industries.

Speaking to Stockhead, <u>VRX Silica (ASX:VRX)</u> managing director Bruce Maluish highlighted some of these specialised uses, one of which is especially relevant as the world continues to grapple with the COVID-19 pandemic.

"There's a current shortage of vials for vaccines. They require a high-quality glass, which needs high-quality sand," he noted, adding that people are surrounded by silica sand products without even realising it.

Maluish added that glass manufacturers such as Corning and China Southern Glass, invest in a lot of research and development into new glass products.

He highlighted Corning's Gorilla Glass, which is typically used for smartphone screens, as an example.

"They are developing Gorilla Glass that can be moulded and curved to replace windscreens, particularly for electric vehicles.

"They can get it down to a thickness of 3mm, which will make electric cars lighter."

# Sand demand

The United Nations has reported that along with sand, crushed rock and gravel collectively

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account for the largest volume of solid material resources extracted with between 40bn and 50bn tonnes extracted each year.

This large volume accounts for the Hoffman Centre's estimate in 2019 that the international sand and aggregate market could grow from \$US4.5bn in 2017 to a whopping \$US60bn in 2030.

The single largest user of sand is the tiny island state of Singapore, which has used enormous quantities for land reclamation work that has expanding its total land area by 25 per cent since its independence in 1965 to about 730sqkm to accommodate its growing population.

This is expected to continue for some time to come with plans to increase its total land area to about 1,000sqkm.

China is another major user of sand while glass-making and foundry uses make both South Korea major consumers of sand.

"And then there are others in the Philippines, Thailand and Malaysia. They tend to be smaller (glass) producers but there are quite a number of them, so collectively there's quite a bit of interest there," Maluish noted.

VRX had previously noted that Asian glass-making production is growing by 5-6 per cent per

Glass-making and foundry use represents about 65 per cent of the sand market in the Asian Pacific

Other uses include ceramics, electronics and hydraulic fracture stimulation in the oil and gas industry.

Ultra-high quality silica sand is also used by solar panels, a rapidly growing sector that IHSMarkit analyst Josefin Berg projected would see a 34% year-on-year growth in 2021.

#### Australian silica sands players

With the growing demand for sand, it is little wonder that more Australian companies are leveraging the continent's abundant sand resources.

In July last year, Perth-based Australasian Sands International secured a contract to supply 1.1 million tonnes per annum of construction sand to Singapore.

Australian Silica Quartz Group (ASX:ASQ) recently defined a maiden resource of 11.6Mt grading 99.9 per cent silica dioxide (SiO2) for its Albany White Hill project.

Preliminary metallurgical test work has confirmed that this sand is suitable for the production of solar panel cover glass and other specialty industrial applications.

It has also indicated that the sand can be easily processed using low capital and operational cost washing, screening and gravity technology.

Albany White Hill is just 70km east-northeast of Albany along the Albany to Esperance South West Coastal Highway that provides it with road train access to Albany Port.

Cauldron Energy (ASX:CXU) is one of the more recent entrants, acquiring in December 2020 a number of river sand leases covering about 286sqkm at the mouths of the Carnarvon, Onslow and Derby rivers, three of the largest river systems in Western Australia.

These leases are prospective for sand that can be used for the construction industry and the company is already in the process of securing port capacity for initial export operations of up to 500,000tpa.

Like Australasian Sands, Cauldron is eyeing the big Singapore market with chief executive Jess Oram saying that initial discussions have been held with key sand market groups in the island state.

Meanwhile, Diatreme Resources (ASX:DRX) has flagged that it will further expand resources at its Galalar silica project in North Queensland.

It plans to explore two high priority areas near Cape Flattery which previous regional exploration indicated could host significant volumes of high purity silica sand in large sand dune systems.

The company is finalising detailed planning and site access programs to mobilise this program at the end of the first quarter of 2021.

Galalar currently has a resource of 47.5Mt including a high confidence measured resource of 30.9Mt at 99.28 per cent SiO2.



ASX: SUV Suvo Strategic Minerals







ASX: DRX Diatreme Resources



ASX: PEC Perpetual Resources



ASX: VRX **VRX Silica** 



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Cauldron Energy



ASX: MLM Metallica Minerals

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**Metallica Minerals (ASX:MLM)** is currently waiting on assay results from the 22 hole program it completed at the Cape Flattery silica sands project late last year.

The results are expected to allow the company to increase and upgrade the current resource of 12.85Mt at 99.28 per cent SiO2.

Planning is underway for initial environmental studies and water monitoring bores while IHC Robbins has been commissioned to undertake initial metallurgical studies.

The company also plans to resume discussions with traditional land owners to complete cultural heritage and other Native Title agreements.

Over in Western Australia, <u>Perpetual Resources (ASX:PEC)</u> has released three product technical data sheets for its Beharra silica sands that show their suitability to supply the Asia Pacific glass-making and foundry industries.

Bulk samples have been collected that can be shipped to potential customers while metallurgical test work is ongoing to delineate a suite of products that could target higher specification applications that will increase returns.

A detailed pre-feasibility study is also expected to be completed by the end of this month.

Perpetual's Beharra project is just 96km south of Geraldton, putting it close to the port of Geraldton, which is well-established for bulk materials handling.

Suvo Strategic Minerals (ASX:SUV) continues to progress its Nova silica sands project near Eneabba, Western Australia, with the recent completion of a resource definition drilling campaign.

Detailed metallurgical beneficiation test work is now being conducted by Startum Resources in New South Wales before a final full suite of tests will be conducted by Nagrom in Western Australia with results expected late February or early March.

Sampling carried out in 2019 returned an average grade of more than 98 per cent SiO2 with a number of holes producing better than 99 per cent SiO2.

This meets the specifications for both glass-making and foundry sands.

VRX Silica is arguably the most advanced of the silica sands juniors with the company in discussions to secure offtake agreements for its Muchea and Arrowsmith projects, which have combined resources for more than 100 years of production.

Maluish told Stockhead that the bulk of its discussions were with major glass-making and foundry players in Japan and South Korea.

"They are big companies and they take a while to make a decision but we have been negotiating with them for at least a year," he added.

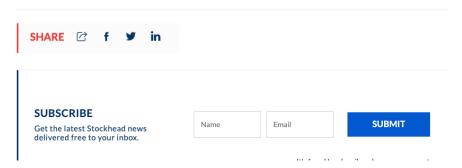
"The feedback we get has been there is a strong demand for all sorts of sand from plate glass quality all the way up to ultra-clear glass quality.

"Those negotiations are going well, we got a short list at the moment and we are trying to get a couple of those across the line right now."

VRX has sent samples to several interested parties including the recent dispatch of samples to eight companies the company has been talking to.

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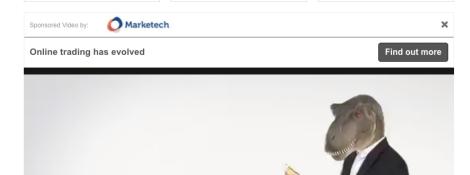
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