

Issues/Opportunity Paper for Mineral Development Taskforce of NT – August 2022.

## Exporting sand is the biggest opportunity available to the Northern Territory in the foreseeable future.

### Introduction

Sand is the most mined commodity in the world with the United Nations estimating that about 40 billion tonnes is mined each year, well above the 3.5 billion tonnes of coal<sup>1</sup>. It is the most volumous product used by humans, other than water. Australia prides itself in mining and exporting volumous materials e.g., coal, iron ore, grain and yet doesn't materially participate in this, the largest volume market of all.

### The situation

The need for sand continues to increase. The total global market for all sand is estimated to be US\$70B<sup>2</sup>. Currently, Australia's sand, rock and gravel market has a value of approximately US\$0.5B<sup>3</sup> with exports of sand around two million tonnes. Globally the subsegment of silica sand is estimated to be 350 MMT<sup>4</sup> worth US\$21B (2021) and predicted to grow to US\$31B by 2027<sup>5</sup>. Key drivers for this growth are.

- The glass market, using approximately a third of the volume, is experiencing high growth due to increased demand from the construction market, rising automotive production and sales, mounting per capita income, and technological advancements. Besides this, emerging trends such as increasing usage of hybrid guide plate, solar control glazing for automotive and building glasses, lightweight glazing glass, and advanced nanotechnology in flat glass are also contributing towards the growth of the glass industry, consequently, boosting the demand for silica sand.
- Several countries worldwide are preferring naturally available shale gas in order to reduce their dependence on crude oil. Shale gas is extracted using hydraulic fracturing process, wherein silica sand is used as a proppant. As a result, the growth in the shale gas production is expected to increase the demand for silica sand.
- Upcoming infrastructural projects in various countries are envisaged to stimulate the construction industry, thereby mounting the demand for silica sand across different sectors<sup>6</sup>.

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<sup>1</sup> [Cauldron takes a punt on the 12bn tonne construction sand market - Stockhead](#)

<sup>2</sup> [The world is running out of sand - and there's a black market for it now \(afr.com\)](#)

<sup>3</sup> [Gravel and Sand Quarrying in Australia - Industry Data, Trends, Stats | IBISWorld](#)

<sup>4</sup> [Silica Sand Market Size, Share, Price Trends and Report 2022-2027 \(expertmarketresearch.com\)](#)

<sup>5</sup> [Silica Sand Market Size, Price Trends & Analysis 2022-2027 \(imarcgroup.com\)](#)

<sup>6</sup> [Global Silica Sand Market \(2021 to 2026\) - Industry Trends, Share, Size, Growth, Opportunity and Forecasts \(prnewswire.com\)](#)

Alongside this ever-increasing need for sand “The world is running out of sand,”<sup>7</sup> we are using more each year than is being created by nature, which is increasing pressure to irresponsibly source sand<sup>89</sup>.

Sourcing sand responsibly fits with Australia’s and the Northern Territory’s values. The Northern Territory has billions of tonnes of sand<sup>10</sup> to various and desired specifications, available to be mined in environmentally friendly places and ways, in line with the UN’s, 2022, Sand and Sustainability: 10 strategic recommendations to avert a crisis<sup>11</sup>.

A 5% share of the global silica sand market would be worth US\$1.5B to the Northern Territory in 2027.

If we don’t act

A number of eco systems globally will be even further degraded due to the increasing demand for sand and the dwindling available resource<sup>12</sup>.

Development opportunities will be missed or delayed. Many of the proposed developments in the Northern Territory require sand. The most obvious is gas extraction in the Beetaloo basin<sup>13</sup>. Sand for the fracturing process is critical and transport the most expensive part of providing the material. A local supply will improve the competitive nature of the resource.

Wealth creation (\$A40B by 2030 vision) for Northern Territory will be delayed and/or missed, potentially captured by other jurisdictions, other states are already progressing similar opportunities<sup>14</sup> if Northern Territory doesn’t harvest its own sand resource.

The issues

Australia and the Northern Territory specifically is not participating in a significant global market, one in which it has extensive experience and expertise. (Primary resources<sup>15</sup>, e.g., mining and grain, bulk product extraction and management) Why not?

Others, less well position geographically e.g., The USA is the largest exporter<sup>16</sup> and yet possibly the furthest from the growth market of the Asia Pacific region which accounted for 47% of global demand for silica sand in 2021 make it work<sup>17</sup>. Why and more importantly how?

Interestingly, sands, silica, fill or construction don’t even rate a mention on NTG Resourcing the Territory website<sup>18</sup>. Yet, we have enormous amounts of material that meets various and

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<sup>7</sup> [The world is running out of sand - and there's a black market for it now \(afr.com\)](https://www.afr.com)

<sup>8</sup> [Sand mining a boon for illegal industry at expense of Bangladesh's environment \(mongabay.com\)](https://www.mongabay.com)

<sup>9</sup> [Illegal Offshore Sand Mining Around Taiwan Destroys Ocean Habitats - The Oxygen Project](https://www.oxygenproject.org)

<sup>10</sup> Territory Sands, AGES 2022 presentation

<sup>11</sup> [Sand and Sustainability: 10 Strategic Recommendations to Avert a Crisis | UNEP - UN Environment Programme](https://www.unep.org)

<sup>12</sup> [Sand Mining is Destroying Asia's Rivers - Humanosity](https://www.humanosity.com)

<sup>13</sup> [Unlocking the Beetaloo: The Beetaloo Strategic Basin Plan | Department of Industry, Science and Resources](https://www.dipr.nt.gov.au)

<sup>14</sup> [Responsibly sourcing silica sand to meet global demand \(innovationnewsnetwork.com\)](https://www.innovationnewsnetwork.com)

<sup>15</sup> [The Australian resources sector - significance and opportunities | Department of Industry, Science and Resources](https://www.dipr.nt.gov.au)

<sup>16</sup> [Sand export share by leading countries 2020 | Statista](https://www.statista.com)

<sup>17</sup> [Australia the 'lucky country' in the silica sand race \(smallcaps.com.au\)](https://www.smallcaps.com.au)

<sup>18</sup> [Exploration grants | Resourcing the Territory](https://www.ntg.gov.au)

required specification but doesn't get to customers supposedly due to price or the value proposition not being met, why not?

Possible solutions

Continuing to approach this market as individual businesses hasn't and is unlikely to succeed soon. Several EIA's members have tried and continue to court this opportunity however as yet have not gained the momentum needed to prosecute success.

Probable solutions are

- Government and Industry jointly and quickly gain an understanding of how other countries make exporting of sand practical and profitable.
  - o Potentially develop "common user" infrastructure for a whole of NT approach.
  - o Use of advanced thinking and technology will likely be critical in making the logistics efficient enough to be competitive on a global scale.
  - o Reducing development time frames, including granting of leases and land access.

Opposition is likely to come from those already benefiting from the use of sand making them comfortable in their own situation. Those generally anti-development and/or Not In My Back Yard fraternity will likely be opposed.

Conclusion

There is an opportunity for the Northern Territory to share immediately in a very significant global market. The Northern Territory has several natural advantages in this market over other jurisdictions and there is a need for the Northern Territory to participate to improve the world. To capitalise on these inherent advantages, we need to address a number of issues. This can be done quickly through a joint focus on the issues by the Northern Territory Government and Industry (EIA).

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