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*Homerun  
Resources*

HPQ SILICA SOLUTIONS  
MINING TO MANUFACTURING

BUSINESS PLAN PRESENTATION  
APRIL 2024

[WWW.HOMERUNRESOURCES.COM](http://WWW.HOMERUNRESOURCES.COM)

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# OUR VISION & MISSION

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## VISION

Our vision is to be a leading materials company in the high-purity (HPQ) silica energy and industrial verticals.

## MISSION

Our mission is to provide our customers with the highest quality materials, using sustainable and responsible practices, and to continuously improve our offerings through innovation based on customer feedback, while fostering a culture of safety, teamwork, and social and environmental respect.



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The logo for Homerun Resources is displayed in a white, cursive font against a blue sky background. Below the text is a large, vibrant image of a solar panel array stretching towards a bright sun on the horizon, creating a grid of light rays.

# BUSINESS PLAN ROADMAP

## Phase 1 – HPQ Silica Supply

Homerun has announced multiple agreements to secure a substantial supply of Silica from the Belmonte District in Bahia, Brazil, including our partnership with the Bahian State Government. This exceptionally high-grade raw resource can be efficiently processed to serve the premium end-markets for HPQ Silica. The strategic imperative under Phase 1, was to secure a steady and reliable source of HPQ Silica against a backdrop of increasing global demand in sustainable industrial and green energy applications. The Company will continue in its ongoing plans to control the Belmonte Silica Sand District as well as look for other resources of high-grade silica, globally.

## Phase 3 – Vertical Integration

Homerun is driving toward revenue and at the same time, under Phase 3, executing on engineering and R&D plans to secure competitive advantages in HPQ Silica verticals serving the Energy Transition. Announcements in this area have already been made (NREL) and will be forthcoming over the entirety of 2024 with deliverables expected in 2025 and beyond.

## Phase 2 – Infrastructure and Revenue

The Silica Sand from the Belmonte District can be sold in its natural form to a select few organizations that have their own upgrade processing operations, but this is a very low margin opportunity. The supply into higher-value end-uses requires at least a minimal amount of processing (wash, size, dry and bag).

Under Phase 2, the focus is on obtaining the required infrastructure through partnership, purchase, lease and capital expenditure for the mining, transportation, storage and processing to HPQ Silica. *Announcements in this area will be forthcoming over the first half of 2024 to facilitate first HPQ Silica revenues in the second half of 2024.*



### OUR GOALS

- We will be a top supplier of HPQ Silica and manufactured HPQ Silica products into the Energy Transition.
- We will create jobs for and support the local people of Brazil, while respecting the environment and culture of Brazil.

2023

2024

2025



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**BUSINESS PLAN  
PHASE 1**

**HPQ SILICA  
SUPPLY**

# PHASE 1 – HPQ SILICA SUPPLY

**GOAL:** 100 Million Tonnes of Owned and Permitted  
Raw Silica Sand Resources by End of 2024



SILICA RESOURCES	RESOURCE PERMIT STATUS
<b>CBPM Lease</b>	<b>100 MM Tonnes - MRE to Permit</b>
<b>Aristoteles Chaves da Silva</b>	<b>Tonnes TBD - 69.4 ha</b>
<b>Concessions / 4 Applications</b>	<b>3/4 Applications OK - 7930 ha</b>
<b>SDP (Supply Agreement)</b>	<b>+80 MM Tonnes - Permitted</b>
<b>CURRENT NEGOTIATIONS</b>	
<b>Vendor 1 (CBPM Lease)</b>	<b>40 MM Tonnes - In Permit Process</b>
<b>Vendor 2 (CBPM Lease)</b>	<b>20 MM Tonnes - In Permit Process</b>
<b>Vendor 3 (CBPM Lease)</b>	<b>100 MM Tonnes - Permit</b>

**(Raw Si Grade ABOVE 99.75)**

# VERIFIED HPQ QUALITY

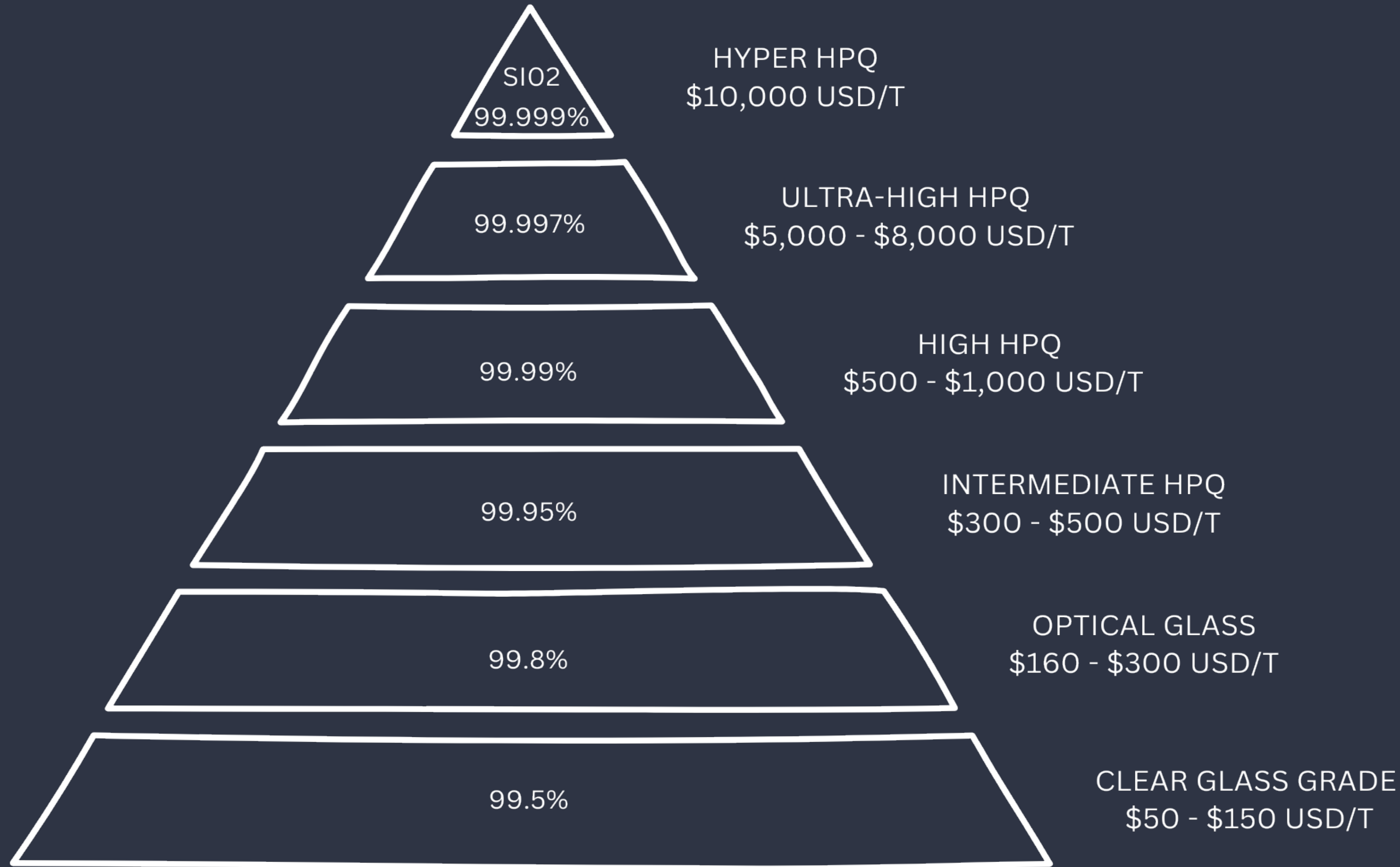
**GOAL:** Thermal Processing Si Grade > 99.99 = US\$500 per Tonne



	Al [ppm]	Fe [ppm]	Na [ppm]	K [ppm]	Li [ppm]	Ti [ppm]	Zr [ppm]	Ca [ppm]	Mg [ppm]	Cr [ppm]	Mn [ppm]	Cu [ppm]	Sum [ppm]
<b>Chemical analyses of raw quartz sand</b>													
Raw quartz sand	17.5	5.5	2.7	1.3	0.08	150	5.2	90	33	0.13	0.12	<0.05	306
<b>Physical processing</b>													
Fraction 0.1 - 0.5 mm	10.6	3.3	1.5	0.9	0.12	23.5	8.7	98	35.1	<0.05	<0.05	<0.05	182
After scrubbing	12.4	2.4	1.7	1.3	0.08	21.5	0.59	98	36.1	<0.05	<0.05	<0.05	174
Flotation F1	12.2	1.7	2.2	1.4	0.17	16.4	0.44	97	35.7	<0.05	<0.05	0.12	167
NonMag 3	11.0	1.8	1.6	1.7	0.08	25.8	0.52	94	34.6	0.05	<0.05	<0.05	172
NonMag 4	13.1	1.7	1.6	1.6	0.29	19.4	0.51	91	34.5	0.05	0.08	0.4	164
NonMag 5	11.0	1.6	1.7	1.6	0.10	17.5	0.74	88	33.1	0.05	<0.05	<0.05	155
Flotation F2 of NonMag 5	12.7	1.6	2.1	1.2	0.19	18.8	0.62	85	33.9	<0.05	<0.05	<0.05	156
<b>Chemical processing after scrubbing</b>													
Acid washing AW1 (HF std.)	10.3	1.3	1.7	0.86	<0.1	13.5	0.30	86	34.8	<0.05	<0.05	<0.05	149
Acid washing AW 2 (HCl)	10.4	1.6	1.6	1.1	<0.1	21.3	0.45	89	35.4	<0.05	<0.05	<0.05	161
<b>Typical products</b>													
Optical glass Type I		<1								<0.005	<0.005	<0.005	
Optical glass Type II		<5								<0.1	<0.1	<0.1	

**Standard Physical Processing: Si Grade > 99.985 = US\$225 per Tonne**  
**Extremely low Iron (Fe) Content Suitable For Glass Products**

# AVERAGE USD PRICES FOR HPQ SILICA GRADES



- HMR Raw (In Ground) Material Grades AVG **+99.75% SiO2**

- Standard Physical Processing Achieves Grade **+99.985% SiO2**

- GOAL (Testing Underway) Thermal Processing Grade of **+99.99% SiO2**

- Pyramid is representation of market size per use case.



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**BUSINESS PLAN  
PHASE 2**

**INFRASTRUCTURE  
& REVENUE**

# PHASE 2 – INFRASTRUCTURE & REVENUE

GOAL: Production of Processed Silica in 2024



- Immediate plan is to move the extracted silica sand from Santa Maria Eterna (the mine) to tide water through Belmonte.
- From Belmonte the silica sand will be transported by large ocean barge to storage at the port of Ilheus.
- Advanced processing will take place at the port of Aratu in Salvador.
- Significant cost reductions with infrastructure in place.



## BELMONTE DISTRICT

- Mine Infrastructure
- Road Infrastructure
- Power Infrastructure
- Nat Gas Infrastructure
- Barge Loading Facility
- Single Barge capacity of 10,000t
- Multi Barge use capabilities

The mine will require extraction, first phase processing, loading facilities and double haul trucks.

# PHASE 2 – INFRASTRUCTURE & REVENUE

GOAL: Production of Processed Silica in 2024

## PORT OF ILHEUS

- Storage Facility
- Processing Facility
- Loading Facility
- Shipping Facility
- Energy Infrastructure
- Recent Significant Government Funded Port Upgrades
- Physical Upgrading of HPQ Silica



PORT OF ILHEUS HAS IMMEDIATE SHIPPING CAPACITY

# PHASE 2 – INFRASTRUCTURE & REVENUE

GOAL: Production of Processed Silica in 2024

## PORT OF ARATU

- Storage Facility
- Loading Facility
- Shipping Facility
- Energy Infrastructure
- Advanced/Thermal Processing Will Take Place at Port of Aratu
- Nearby Major City Camacari
- BYD Opening Facility in Camacari where production set to begin early 2025
- Mass Tonnage Capabilities at Aratu



# PHASE 2 – INFRASTRUCTURE & REVENUE

GOAL: Production of Processed Silica in 2024



## FACILITY / EQUIPMENT

### PRE-CASH-FLOW

Mine Extraction

Service Provider -> Internal

Mine Processing

Wash, General Sort, Dry, Bag

Mine Transport

Service Provider -> Internal

### POST-CASH-FLOW

Stage 2 - Processing

Physical upgrade @ Ilheus

Stage 3 - Processing

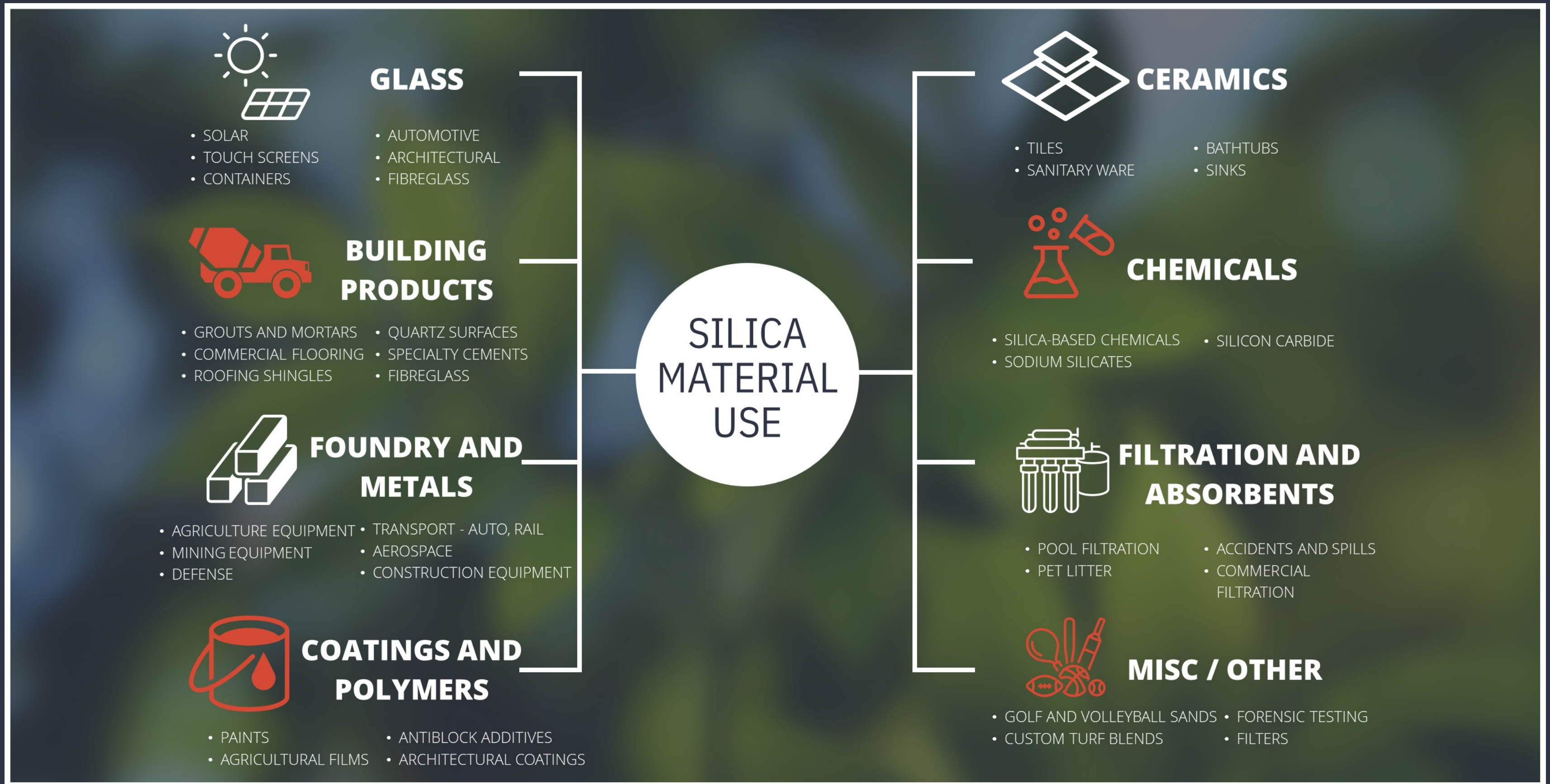
Thermal upgrade @ Aratu

NREL - Processing

Enduring Energy Storage

System

# HPQ SILICA MARKETS



# HPQ SILICA **MARKETS**



“Our entire society is built on sand. Sand is the primary substance used in the construction of roads, bridges, highspeed trains and even land regeneration projects. Sand, gravel and rock crushed together are melted down to make the glass used in every window, computer screen and smart phone. Even the production of silicon chips uses sand.”

“Yet, the world is facing a shortage...”  
CNBC - 2021



★ BELMONTE SILICA SAND DISTRICT (BAHIA, BRAZIL)



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**BUSINESS PLAN  
PHASE 3**

**VERTICAL  
INTEGRATION**



# PHASE 3 – VERTICAL INTEGRATION

## RESEARCH & DEVELOPMENT - 2024

### INTERNAL R&D (CTO - Dr. Mauro)

#### BATTERY ANODES

- Silicon Anodes and Hybrids

#### NEXT GENERATION SOLAR

- Perovskite Portfolio of NREL

### NREL (Dept of Energy - USA)

#### PROCESSING

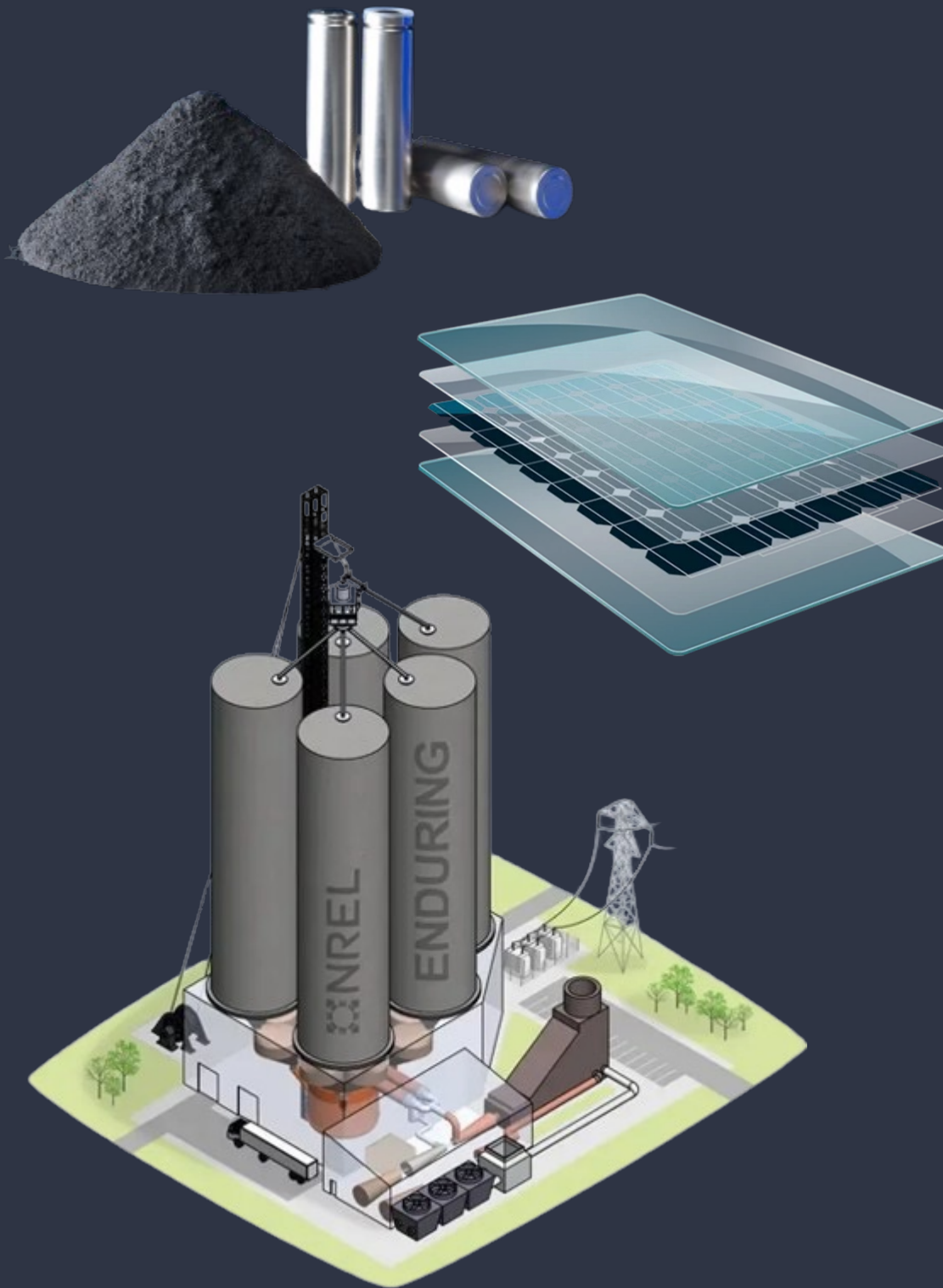
- Upgrade processing of silica within the Enduring Energy Storage System
- COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT WITH U.S. DEPARTMENT OF ENERGY'S NATIONAL RENEWABLE ENERGY LABORATORY

#### METALLURGY / MATERIALS

- Metallurgy / Processing to HPQ for Quartz Crucible, PV Silicon and Battery Anode
- Enduring Energy Storage processing integration

#### NEXT GENERATION SOLAR

- Perovskite Portfolio of NREL



# PHASE 3 – VERTICAL INTEGRATION

## RESEARCH & DEVELOPMENT - 2024

The National Renewable Energy Laboratory (NREL) is in the late stages of prototype testing a new thermal energy storage technology that uses inexpensive silica sand as a storage medium. Economic Long-Duration Electricity Storage by Using Low-Cost Thermal Energy Storage and High-Efficiency Power Cycle (ENDURING) is billed as a reliable, cost-effective, and scalable solution that can be sited **ANYWHERE!**

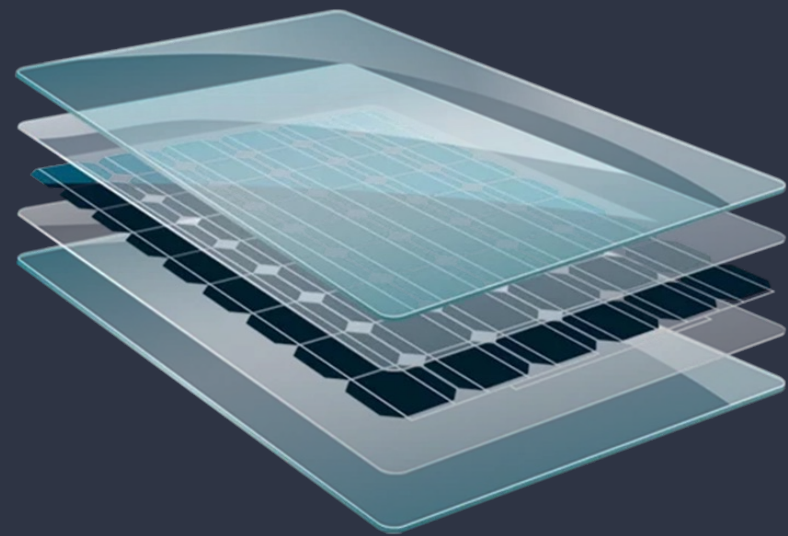
**ENDURING** heats a thermal storage medium — **silica sand** — with excess solar or wind energy. Particles are heated to 1,200°C by passing them through an array of electric resistive heating devices. The heated particles are then gravity-fed into insulated concrete silos to be stored for thermal energy. One of the most attractive features of the ENDURING system is its ability to be installed as part of the grid network. Furthermore, this system could help phase out traditional coal and natural gas plants and could even be placed on existing infrastructure on decommissioned sites respectively. NREL believes that a single baseline, ENDURING system can store up to 26,000 MWh of thermal energy; equivalent to the annual energy consumption of more than 400 households. Furthermore, the technology could be rolled out at costs ranging between 2 to 4 USD per kWh, making it a low-cost thermal energy storage solution.

The Parties will analyze the economic benefits of using Homerun's silica sand for energy storage, including energy arbitrage from energy storage and grid service, processing of the silica sand by using low-cost electricity in energy storage, and generating potential income from processed materials after its use for energy storage



# PHASE 3 – VERTICAL INTEGRATION

## RESEARCH & DEVELOPMENT - 2024



HPQ Silica sand is used to make the solar glass for both silicon and perovskite solar cells. HPQ Silica is also a raw material for silicon wafers that are the primary component of solar cells. These wafers are then processed and assembled into solar cells, which are combined into modules with solar glass to create a solar panel.

HPQ silica sand is used in multiple capacities in the production of lithium-ion batteries, which are commonly used in portable electronic devices, electric vehicles, and energy storage systems. Specifically, silica is used as a coating material for the electrodes in the battery. The silica coating helps improve the stability and performance of the battery, leading to increased efficiency and longer lifespan.

In addition to the electrode coating, silica is also used as a separator material in lithium-ion batteries. Silica to silicon is now being utilized in hybrid and pure silicon anodes.



# PHASE 3 – VERTICAL INTEGRATION

## GLASS PLANT PLANNING - 2024



### GLASS PLANT

Location  
Engineering and Construction  
Solar Glass Line  
Container Glass Line  
Float Glass Line  
Alt Power Opportunities  
Hydrogen Opportunities

### DETAILS

Port of Aratu in Camacari  
**RFP**  
Homerun Utilization  
First Major Offtake Partner in H1  
First Major Offtake Partner in H2  
Brazil Alt Energy Producer  
Babcock & Wilcox

RFP for Engineering for a Solar Glass and Container Glass Plant with 1000 t/day capacity in Bahia, Brazil

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# SHARE STRUCTURE

As of April 16, 2023

<b>Exchange</b>	<b>TSXV</b>	
<b>Common shares</b>	<b>52,586,825</b>	
<b>Stock options - amount &amp; avg price</b>	<b>9,200,000</b>	<b>\$ 0.37</b>
<b>Warrants - amount and avg price</b>	<b>7,794,300</b>	<b>\$ 0.34</b>
<b>Fully Diluted</b>	<b>69,581,125</b>	
<b>FD Market Cap</b>	<b>\$ 34,790,563</b>	<b>\$ 0.50</b>
<b>FD Insider Ownership %</b>	<b>20%</b>	

Note: Ongoing CAPEX Finance discussions with Investment, Private and Development Banks in Canada and Brazil.

# MANAGEMENT

## **BRIAN LEENERS – CEO/DIRECTOR**

Brian Leeners received both his B.Comm. and LL.B. degrees from the University of British Columbia in 1992 and since that time has been focused on the management of private and public venture companies. In 2002, he founded Nexvu Capital Corp. which is a venture capital firm focused on developing companies in the Materials and Technology Sectors. Nexvu provides hands-on business development strategy and expertise for start-up and growth phase companies. Focused on both private and public companies, Nexvu also insulates the operational management from the public company process and provides economies of scale in the regulatory/legal, accounting/audit and investor relations areas. Since formation in 2002, Nexvu has been directly responsible for raising in excess of US\$100 million for Nexvu transactions (not including any public market buy-side volumes).

## **ANTONIO VITOR – COUNTRY MANAGER BRAZIL**

Antonio has vast experience in project management at large corporations, including Transpetro, PwC, Shell, along with 10 years of experience in mining. He was involved in the mining projects Zumbi Mineração Grafite de veio, AMA Gold, Hawking Graphite, 3 S Rare Earths and Copper, Palmeres Rare Earths. He graduated in Business Administration and holds an MBA. He is a Member of IBGC.

## **DR. MAURO CESAR TERENCE - CTO**

Dr. Mauro Cesar Terence - Graduation in Chemistry from Universidade Presbiteriana Mackenzie (1994), Masters in Nuclear Engineering from Universidade de São Paulo (1996), Doctorate in Nuclear Engineering from Universidade de São Paulo (2002). Experienced in Material and Metallurgical Engineering, in the following subjects: Advanced Materials, Nano Materials, Biomaterials, Ceramics, Blends and Polymers.

## **ALASTAIR NEIL – BUSINESS DEV / MATERIALS CONSULTANT**

Alastair is the President of Trinity Management, a consulting firm with more than 25 years of experience, specializing in business development and commercialization of technologies and specialty materials. He brings valuable expertise in international markets and business relations in Asia, North America and Europe, particularly in strategic metals and critical materials. He graduated in Materials Science Engineering from the University of Western Ontario and holds an MBA from the York University.

## **ED LOWE - CFO**

Mr. Low has provided accounting services to public companies for the past 18 years and has been the CFO for several companies traded on the TSX Venture exchange. Previously, Mr. Low was the Controller for Nevada Geothermal Power Inc., an alternative energy company with an operating geothermal power plant in northern Nevada which had revenues of US\$20-million annually and raised over \$280 million over an 8-year period 2003-2012.

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# CONTACT US FOR MORE INFORMATION



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## Business Development

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**Thank You**

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