



# DUNDEE SUSTAINABLE TECHNOLOGIES

TECHNOLOGY INTRODUCTION, DEVELOPMENT &  
BUSINESS MODEL

**CLEVR**PROCESS™

**GLASSLOCK**PROCESS™

# Forward Looking Statements

This presentation contains forward-looking statements that address future events and conditions, which are subject to various risks and uncertainties. Actual results could differ materially from those anticipated in such forward-looking statements as a result of numerous factors, some of which may be beyond the Corporation's control. These factors include: general market and industry conditions, risks related to continuous operations and to commercialization of a new technology and other risks disclosed in the Corporation's filings with Canadian Securities Regulators.

Forward-looking statements are based on the expectations and opinions of the Corporation's management on the date the statements are made. The assumptions used in the preparation of such statements, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. The Corporation expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

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# Company Introduction



DUNDEE RESOURCES

# DST Overview

Dundee Sustainable Technologies (DST) is engaged in the development and commercialization of environment-friendly technologies for the treatment of materials in the mining industry.

Invested \$45 million developing its processes

Technologies successfully demonstrated and ready for commercialization

54 patents in 18 countries





# Industry Challenges

## Environmental

- **Cyanide**
  - Jurisdictions have banned or restricted cyanide
- **Arsenic**
  - Industry is turning to deposits with greater concentration of arsenic
  - Few facilities currently treat high arsenic material
  - Industry requires a permanent arsenic disposal process

## Metallurgical

- Gold recovery from refractory ores
- Base metals, tellurium or organic carbon in gold ores



## DST Solutions

### **CLEVR**PROCESS™

- Cyanide-free gold extraction
- No liquid effluents
- Refractory ores

### **GLASSLOCK**PROCESS™

- Arsenic stabilisation
- Allows access to complex ores
- Permanent disposal solution

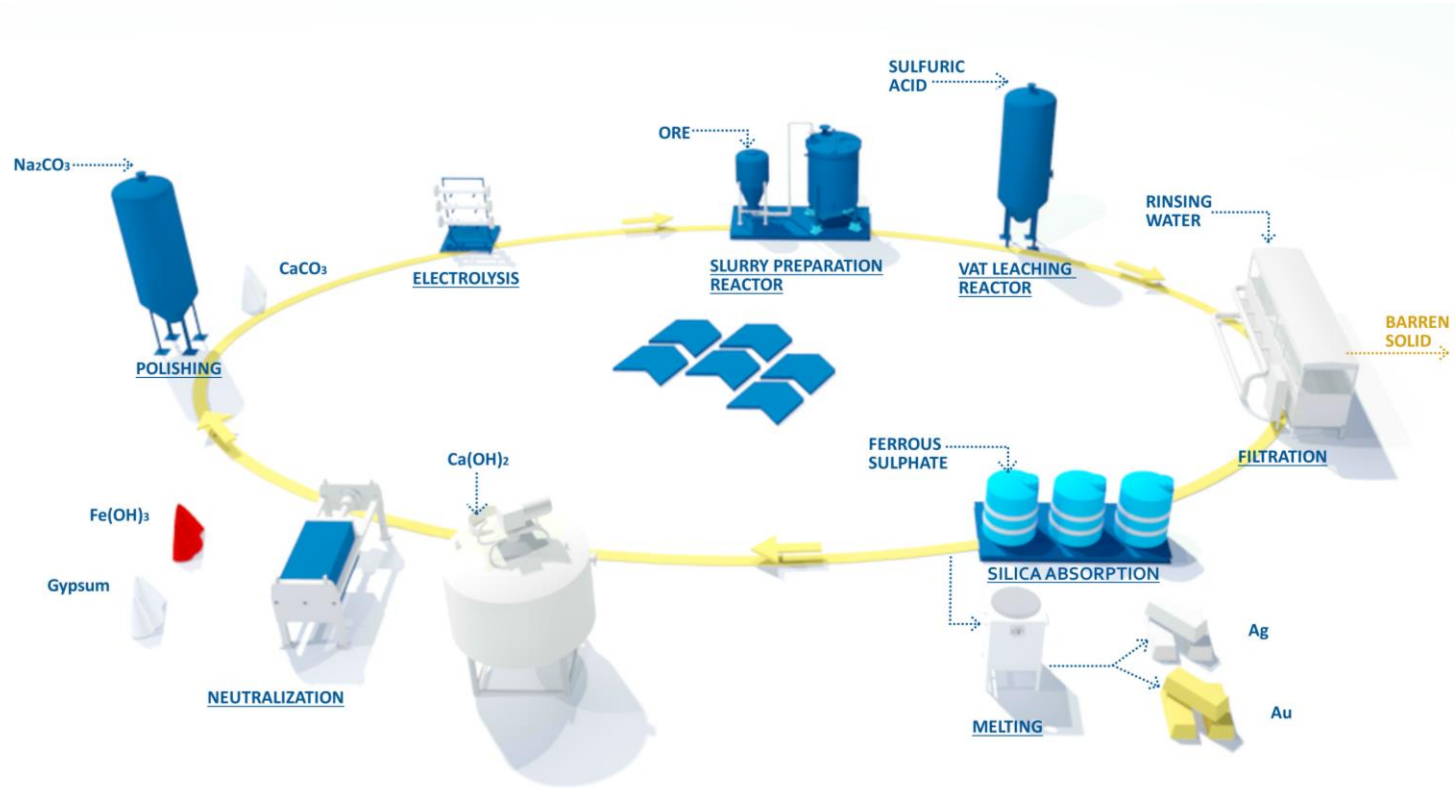




# CLEVR<sup>®</sup>PROCESS<sup>™</sup>

DST's Industrial Plant  
Thetford Mines, QC

# CLEVR Process - Closed Loop Circuit



**ISO 14034:2016**  
Environmental Management —  
Environmental Technology Verification (ETV)

Canada 



# CLEVR Process – Technology License & Acceptance

 Newmont™

CLEVR<sup>™</sup> PROCESS<sup>™</sup>

## ***“ DST Announces Licensing Agreement with Newmont Corporation “***

*MONTREAL, QUEBEC, December 17, 2020 – Dundee Sustainable Technologies Inc. (“DST” or the “Corporation”) (CSE: DST) is pleased to announce that it has entered into a Technology Transfer Licensing Agreement (the “Agreement”) with Newmont Corporation (NYSE: NEM, TSX: NGT) (“Newmont”) for the utilization of DST’s cyanide free gold extraction, known as the CLEVR Process™ (“CLEVR” or the “Technology”). “*

# CLEVR Process – Commercial Drivers

- Increased **Gold Recovery**
- Chemistry, **Cyanide-free** gold extraction
- Efficiency, **2-hour** Reaction time

## PROCESS COSTS

- 150 tpd up to **15,000 tpd** ROM Plant Designs
- Competitive OPEX ~**US\$10-15** per tonne
- Competitive CAPEX, **Reduced Plant Footprint**

**CLEVR**  **PROCESS**™



# GLASSLOCK PROCESS™

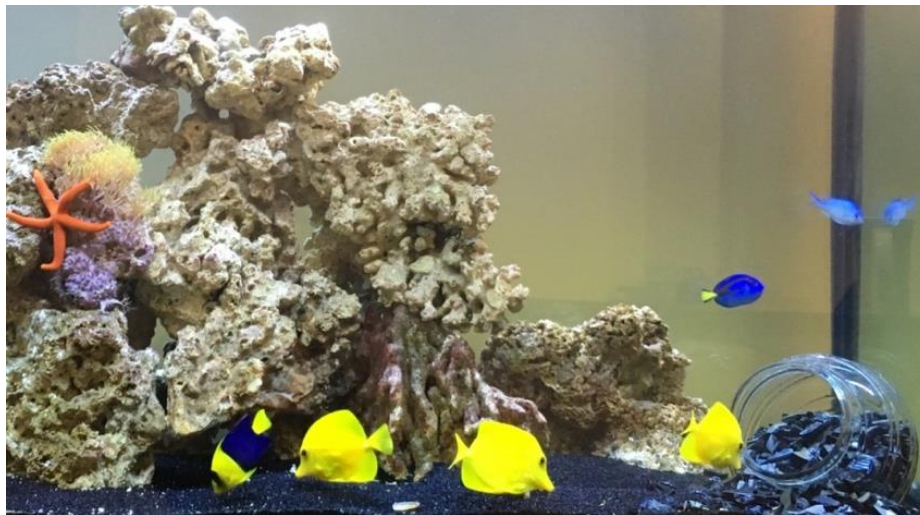
## DST's Industrial Plant Namibia, Africa





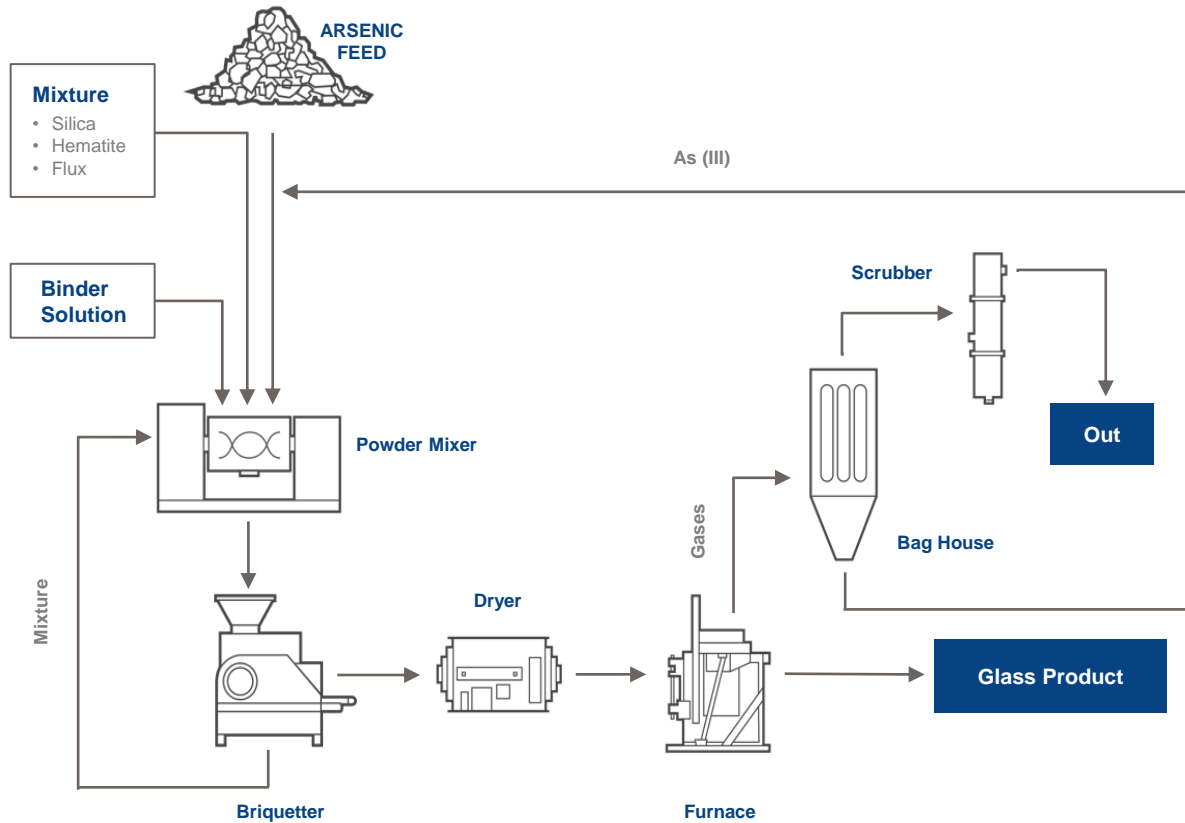
# GlassLock Process™ - Arsenic Stabilization

- Stabilization by vitrification
- Intermediate compound that can sustain vitrification temperature
- Produces glass with up to 20% As
- Comply with EPA's TCLP and EN12457-1 guidelines
- Widely available reagents / equipment



*DST aquarium containing arsenic glass*

# GlassLock™ Process – Circuit



# GlassLock Process – Technology Acceptance



## ***DST Received US\$ 2,000,000 Moratorium Payment for GlassLock***

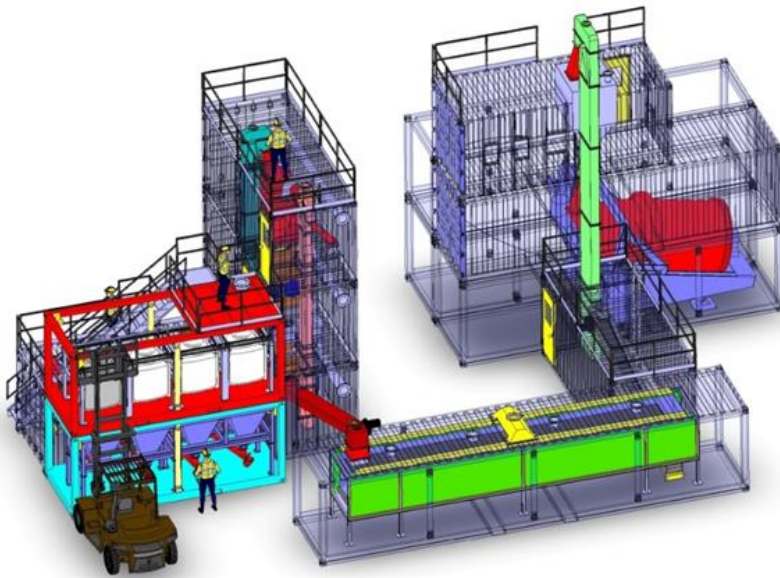
*“ MONTREAL, QUEBEC, **April 15<sup>th</sup>, 2020** – Dundee Sustainable Technologies Inc. (“DST” or the “Corporation”) (CSE: DST) is pleased to announce that it has entered into a commercial agreement (the “Agreement”) with a gold and copper producer (the “Client”) for the utilisation of its GlassLock Process™ (“GlassLock” or the “Technology”). As part of the Agreement, DST received a **US\$ 1,000,000 cash payment** in return for a one (1) year exclusivity period for the application of its GlassLock Process™ on copper smelting operations... “*

*“ MONTREAL, QUEBEC, **March 30, 2021** – Dundee Sustainable Technologies Inc. (“DST” or the “Corporation”) (CSE: DST) is pleased to announce that it has received, from a client (the “Client”), a **cash payment of US One Million Dollars (US\$1,000,000)** representing the second-year moratorium payment for the exclusive application of DST’s GlassLock Process™ (“GlassLock” or the “Technology”) on copper smelting operations...”*



# Industrial Demonstration Plant – African Smelter

Plant constructed by DST and shipped to an operating base metal smelting facility. Designed to stabilise up to **1,600 tonnes per year of arsenical dusts** and produce **4,000 per year of glass product**.



***... "Various options were investigated – Vitrification was the most viable option"***

***- owner***

# GlassLock Process – Commercial Drivers

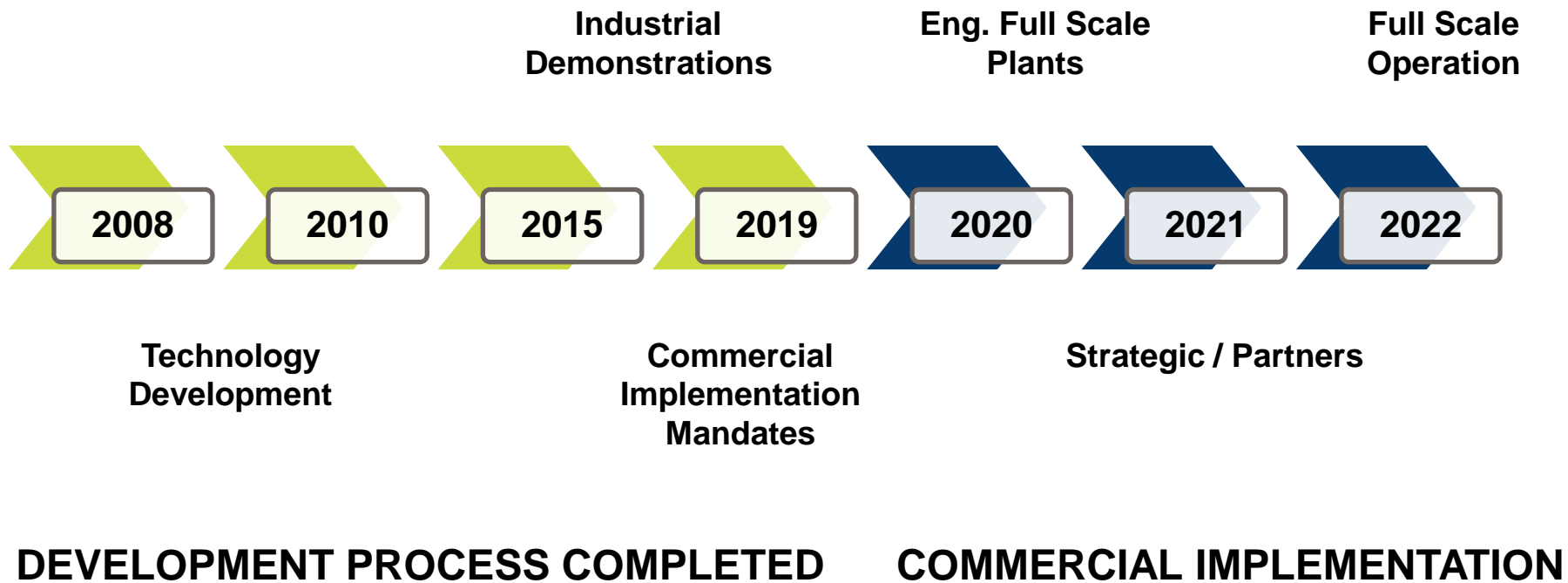
- Product **Stability**, Quality Arsenic Glass Product
- Process **Flexibility**, Adapts to Feed and Operation
- **Arsenic Removal**, Unlocks Operations & Opportunities

## PROCESS COSTS

- 1,000 tpa up to **50,000 tpa** treatment Plant Designs
- Improved OPEX **<US\$1,000 per tonne of As**
- Advantageous CAPEX & **Alternative Treatment Flowsheet**

**GLASSLOCK**  
PROCESS™

# DST Development Roadmap to Commercialization





# BUSINESS MODEL



## Technology Provider

To Majors & Operators,  
In Return for **Licensing  
Revenue**



## Owner Operator

Leverage Current Assets  
Targeting Legacy Flue  
Dusts, In Return for **Tolling  
Fee Revenue**



## Equity

Leverage Technology and  
Acquire **Equity Positions** in  
Arsenopyrite Gold Deposits



# DUNDEE SUSTAINABLE TECHNOLOGIES

**CLEVR**PROCESS™

**GLASSLOCK**  
PROCESS™

**Head Office**

860 - 2000 Peel Street  
Montreal, QC, Canada, H3A 2W5

**Plant**

3700 rue du Lac Noir  
Thetford Mines, QC, Canada, G6H 1S9

[www.dundeetechnologies.com](http://www.dundeetechnologies.com)



# Appendix

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# Leadership Team

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**Jean-Philippe Mai**

President & CEO

Mr. Mai has 15 years' experience as a geologist, senior project manager and executive in coal, base metals and gold projects in Canada, Australia and South America, and has been DST's Senior Geologist since January 2013. Mr. Mai is a Professional Geologist and a member, in good standing, of l'Ordre des Géologues du Québec and holds a Bachelor of Science in Geology from the University of Quebec in Montreal.

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**Arved Marin**

CFO & Corporate Secretary

Mr. Marin is a Chartered Professional Accountant (CPA, CMA) with over 10 years' experience in the minerals industry. He has served as corporate controller of several public companies in the minerals industry with operations in Canada and Latin America and has served as interim CFO of Dia Bras Exploration during 2009. Previously, he worked for six years as a financial auditor, Assurance and Advisory Services at PricewaterhouseCoopers. He is a graduate of Concordia University.

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**Jean Tardif**

Chief Operating Officer

Mr. Tardif has more than 15 years' experience in the field of extractive metallurgy and has held various positions as a plant engineer and plant manager. He also participated in the scale-up and implementation of a new metallurgical process on an industrial scale. Mr. Tardif holds a Bachelor of Materials Engineering and Metallurgy from Laval University.

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# Advisory Board

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## Peter Kondos

PhD.

Dr. Kondos is an accomplished professional and holds a PhD on Pressure Leaching in Hydrometallurgical Engineering from McGill University, Montreal, Quebec. Dr. Kondos' career has been devoted in transforming organizations through innovation and delivering highly effective technology solutions within Barrick Gold, Inco (Vale), and Noranda (Glencore). The ability to adjust to working environments and work in teams, while creating long term roadmaps foster value creation in a sustainable way. He is the co-founder of YaKum Innovative Mining Consultants.

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## Richard Howes

P. Eng.

Mr. Howes is a Professional Engineer in the Province of Ontario and holds a Honours Bachelor of Applied Science degree in Mining Engineering from Queen's University in Kingston, Ontario. He has over 40 years' experience in the mining industry in Canada, Europe, Asia and Africa in base and precious metals, and in various capacities including Engineering and Design, Operations and Maintenance supervision, Site and Plant management, Business Unit Management and Executive Global Management. Mr. Howes was Dundee Precious Metals' General Manager and Executive Director of Chelopech Mining EAD from 2009 to 2010, Executive Vice-President and Chief Operating Officer from 2010 to 2013 and President and Chief Executive Officer from 2013 to 2020. He currently sits on the Board of Directors of Hudbay Minerals and Torex Gold Resources.

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