MARITIME IRON

Sustainable Ironmaking

Belledune Iron Processing Facility

Presented by:

Rinaldo Stefan, Chief Operating Officer

Elena Mantagaris, VP, Communications and Public Affairs

May 2020

Présentation disponible en français

www.maritimeiron.com

Introduction

Who We Are:
The Premier Iron Development Company

MARITIME IRON
Sustainable Ironmaking

- Advancing a $1.5 Billion project introducing new environmentally responsible iron-making technology to Canada
- Respectful development considering environment, First Nations, and Community
- Developing a World-Class, Low-Cost Merchant Pig Iron Facility
- Pig Iron is a high demand product made from iron ore and enables use of recycled scrap steel by steelmakers
- Partnership with POSCO and Primetals to use their Leading-Edge FINEX Ironmaking Technology
- Proven Management and Execution Team

Présentation disponible en français

Why Belledune & New Brunswick?

Jacquet River Gorge

There is growing market demand for a regional supplier of pig iron - Facility will be first-of-a-kind in North America.

Belledune is an ideal location:

1. It is near shipping points for iron ore mined in Québec and Labrador, a key ingredient for producing pig iron.

2. There is an under-utilized deep-water port with capacity for shipments of inbound materials and outbound product.

3. Key US markets for pig iron are readily accessible.

4. Highly skilled regional labour force with transferable work experience.

Stakeholder Engagement & Support

MARITIME IRON
Sustainable Ironmaking

Commitment to Partnership Approach with First Nations and Municipalities

- Significant interest from local and regional municipalities
  - Positive feedback from Mayors, business leaders, community groups, and public open houses

- Ongoing engagement and relationship-building with potentially affected Indigenous communities
  - On July 17, 2019 agreement signed with 8 First Nations for *Relationship, Capacity and Indigenous Knowledge Study*

Project Location

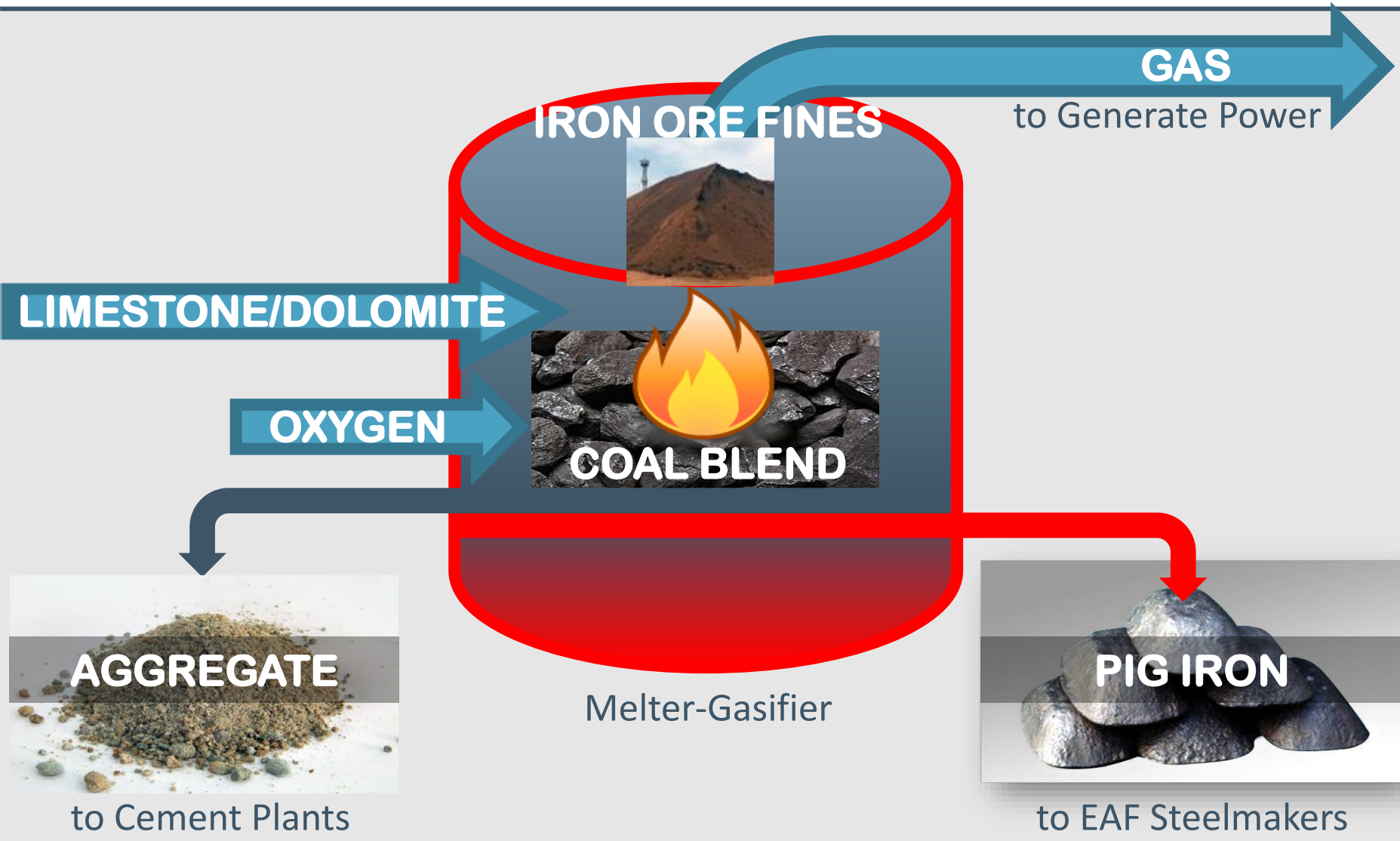
- Industrially-designated land adjacent to the NB Power generating station
- Leverages under-utilized infrastructure at Port of Belledune and NB Power
- Compact project footprint design

Présentation disponible en français

Map data: Google, DigitalGlobe

FINEX Production

MARITIME IRON
Sustainable Ironmaking



to Cement Plants

Melter-Gasifier

to EAF Steelmakers

Employment & Economic Benefits

MARITIME IRON
Sustainable Ironmaking

Showcases Province as Attractive Investment Jurisdiction

- Employment opportunities over 30+ years of project:
  - During construction, approximately **3300 jobs** created in NB
    - Direct Jobs (on-site): 1300 peak annual jobs
    - Indirect Jobs: 860
    - Induced Jobs: 1140
  - During operations, approximately **400 jobs** created in NB, plus 120 jobs saved at Belledune Generating Station
    - Direct Jobs (on-site): 185 annual jobs
    - Indirect Jobs: 105
    - Induced Jobs: 125
- High demand and export potential resulting in significant GDP impact
  - **$14.4 Billion added to Canadian GDP** over 30 years of Maritime Iron Project, generating:
    - $2.5 Billion in incomes + $0.4 Billion for NB Power's Generating Station
      - NB will receive almost $1.4B in labour incomes and profits, including $750M in direct income
    - $1.5 Billion in New Brunswick taxes

FINEX Technology: Environmental Benefits

CONVENTIONAL IRON AND STEELMAKING

FINEX IRONMAKING & EAF STEELMAKING

Iron Ore Mining

Iron Ore Lumps

Blast Furnace / Basic Oxygen Furnace Steelmaking / Coking / Sintering

New Steel to Consumers

CIRCULAR ECONOMY

Result: ~ 40% fewer global GHGs

Electric Arc Furnace (EAF) Steelmaking

70% Recycled Steel

30% Pig Iron

Scrapyard

Pig Iron

Iron Ore Fines

Maritime Iron Process

By-product Gas

~ 50% Less Coal

For Electricity Production at NB Power Belledune Generating Station

Cement Making

Displaces 0.8t GHGs/t aggregate

Aggregate

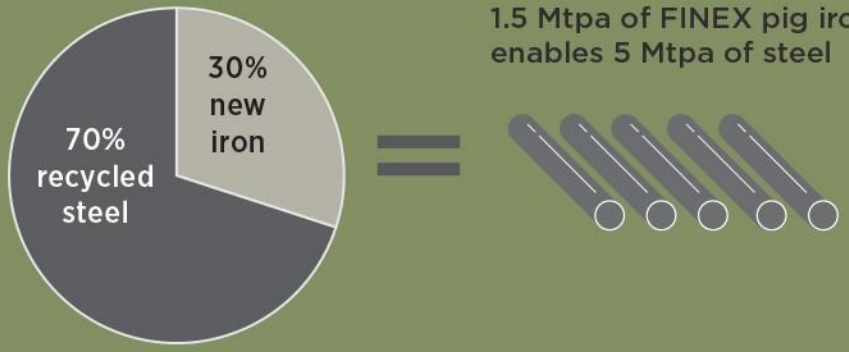
LOWER GLOBAL GHGs

40%
LOWER GLOBAL GHGs
–
Reduction of 4.5 Mtpa of GHGs

INNOVATIVE FINEX IRON TECHNOLOGY AND ELECTRIC ARC FURNACE (EAF) STEELMAKING

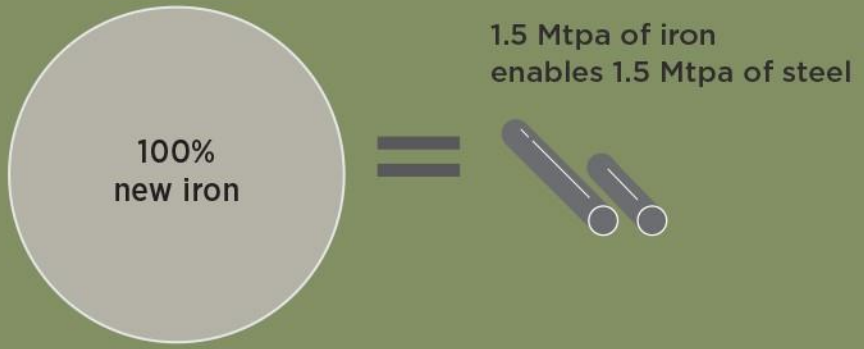
Innovative FINEX iron technology enables EAF steelmakers to use at least 70% recycled steel resulting in:

- 40% lower global GHGs
- Reduced steel scrapyards
- Higher yield of steel



CONVENTIONAL IRONMAKING AND STEELMAKING

Typically uses 100% new iron to make steel and produces a lower yield of steel



IMPROVED AIR QUALITY

CONVENTIONAL IRONMAKING AND STEELMAKING

Conventional ironmaking and steelmaking includes coking and sintering plants resulting in:

Higher Nitrogen Oxide Levels:
1032g/t-pig iron

Higher Sulphur Oxide Levels:
565g/t-pig iron

Higher Coal Dust Emissions:
20,000g/t-pig iron in China

Higher GHGs From Iron Ore Mining:
Generates 0.2t GHG/t steel

INNOVATIVE FINEX IRON TECHNOLOGY AND EAF STEELMAKING

No coking and sintering facilities for ironmaking resulting in:

Lower Nitrogen Oxide Levels:
94g/t-pig iron

91% lower

Lower Sulphur Oxide Levels:
32g/t-pig iron

94% lower

Lower Coal Dust Emissions:
58g/t-pig iron

99.7% lower

No new mining required – uses existing piles of iron fines:

Displaces 0.2t GHG/t steel

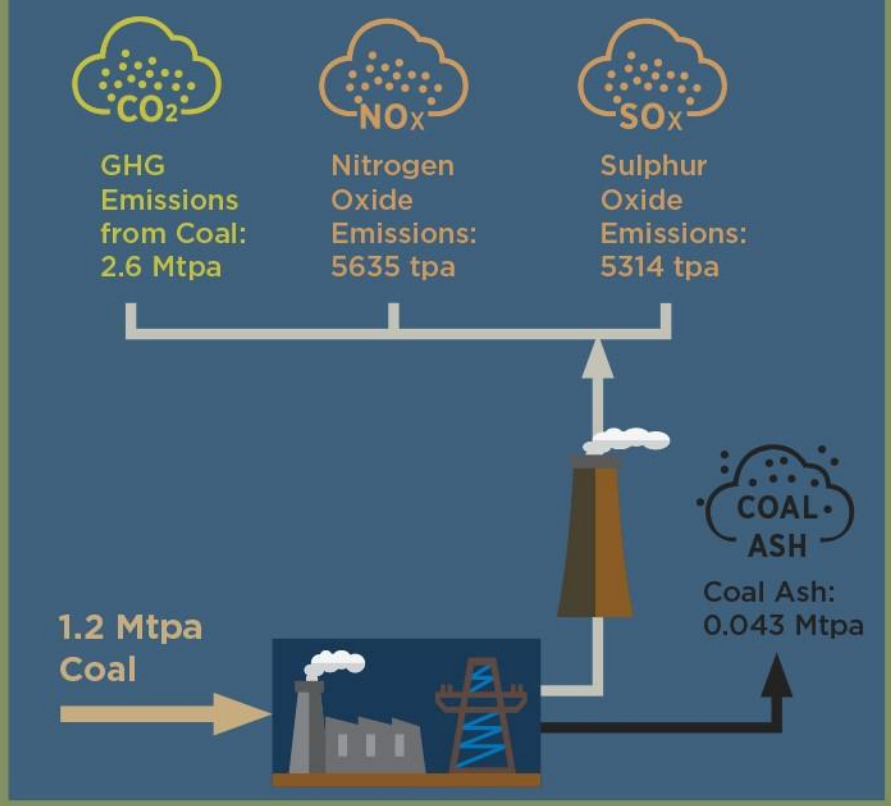
CLEANER ENERGY LOCALLY

Federal regulations mandate the phase-out of coal-fired electricity generation by 2030.

As Stand-alone Operations, GHG Emissions = 6.4 Mtpa

PROPOSED FINEX PLANT

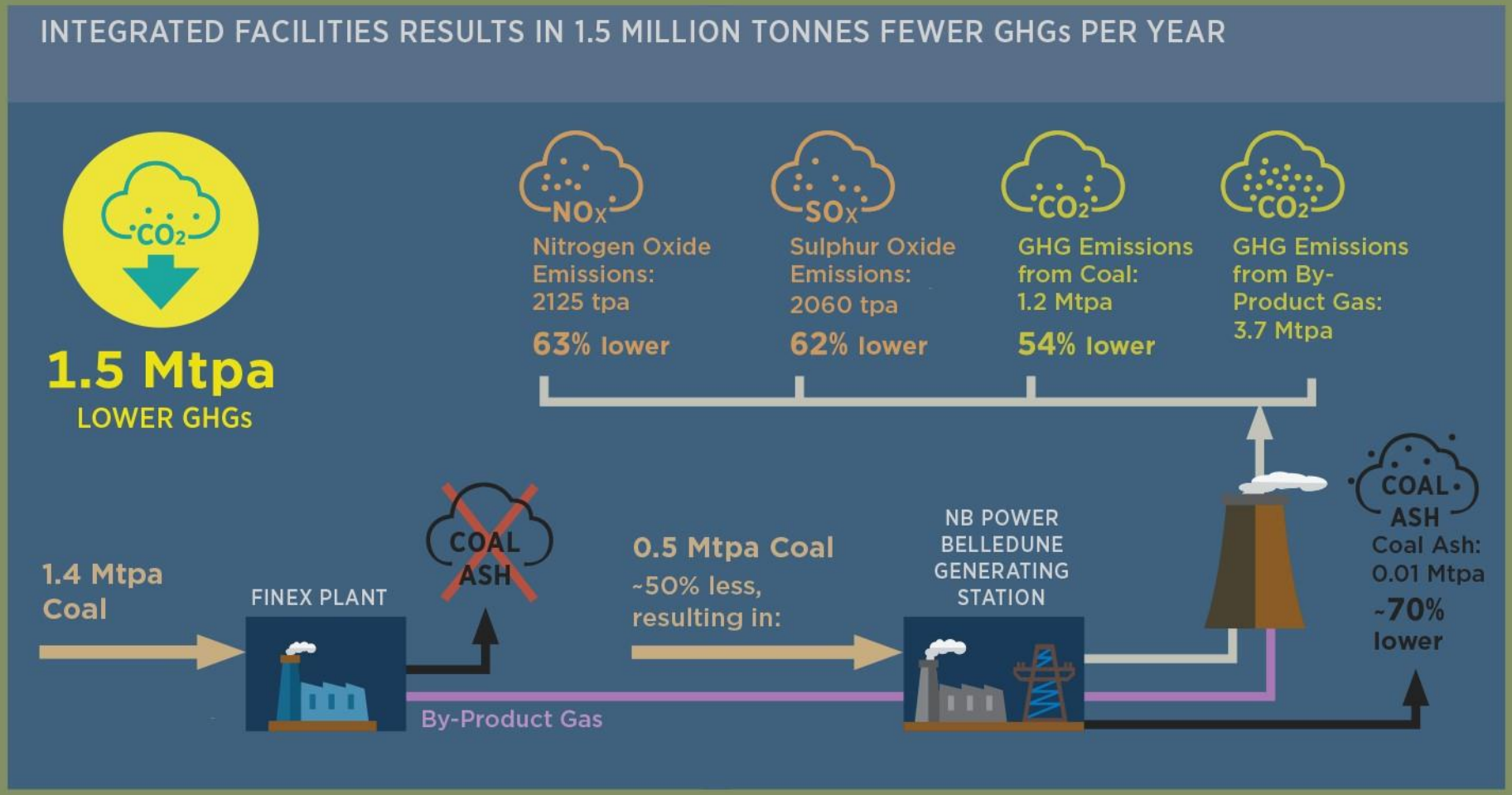
NB POWER BELLEDUNE GENERATING STATION TODAY



CLEANER ENERGY LOCALLY

The FINEX process generates a by-product gas that will be used by NB Power for electricity generation, allowing it to meet regulatory emission levels.

As Integrated Operations, GHG Emissions = 4.9 Mtpa



TRANSPORT BENEFITS

98%
LOWER GLOBAL GHGs
-
GHG reduction of 0.6 Mtpa

REDUCED TRANSPORTATION DISTANCES = LOWER GLOBAL GHGs

Most iron ore shipments go from Sept-Îles, Québec to China for processing. By establishing the facility in Belledune, transportation distances are greatly reduced.

63%
LOWER GLOBAL GHGs
-
GHG reduction of 0.1 Mtpa

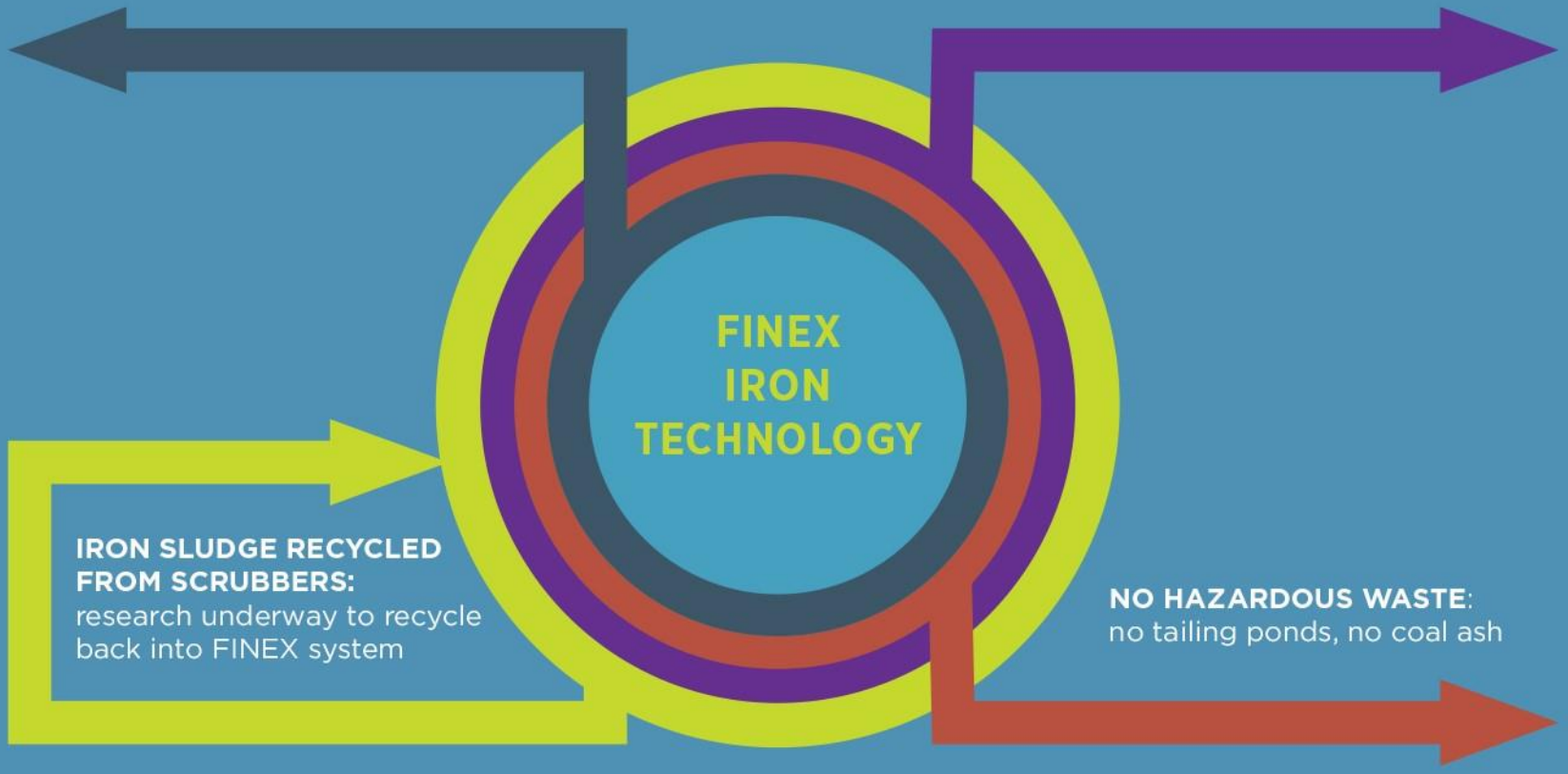
Currently, Ukraine and Russia are a key source of pig iron for US steelmakers. The Belledune facility can meet up to 30% of US market demand for pig iron and displace transportation from elsewhere.

ZERO WASTE TARGET

The Belledune Iron Processing Facility helps realize a circular economy anchored in a commitment to reduce, reuse, and recycle with the aim of minimizing the use of resources and reducing waste.

GRANULATED AGGREGATE RECYCLED FOR CEMENT MAKING: reduction of 0.8t GHG/t aggregate produced

BY-PRODUCT GAS RECYCLED: generates ~50% of electricity at NB Power Belledune Generating Station



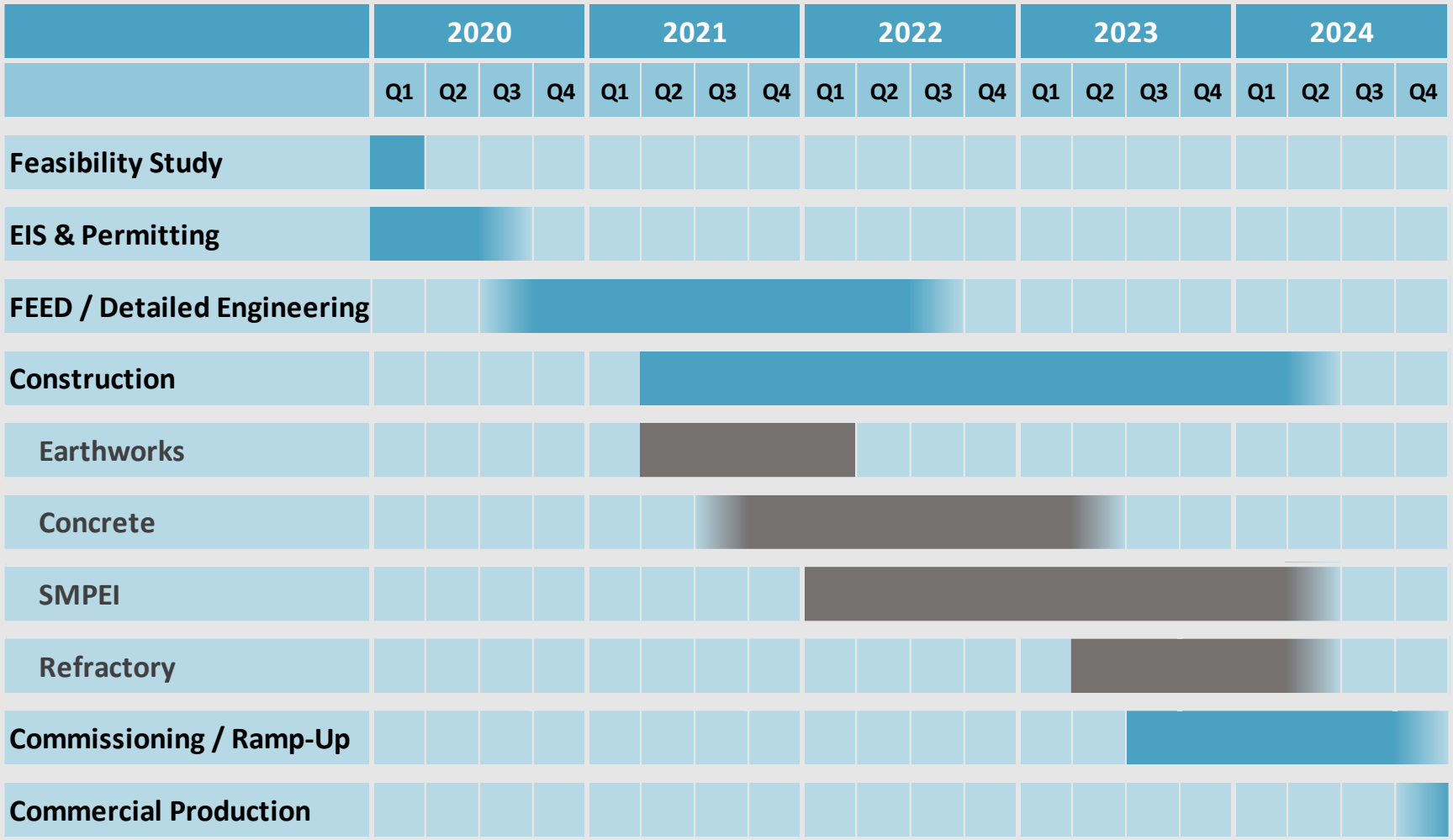
IRON SLUDGE RECYCLED FROM SCRUBBERS: research underway to recycle back into FINEX system

NO HAZARDOUS WASTE: no tailing ponds, no coal ash

Procurement

Target Timelines

MARITIME IRON
Sustainable Ironmaking



Procurement Objectives

MARITIME IRON
Sustainable Ironmaking

Provide Opportunities for Local Businesses through Project Life-cycle

- Expectations:
  - Have appropriate health and safety systems to reflect the services being provided.
  - Deliver overall value including: cost competitiveness, timely delivery, top quartile quality.
  - Provide full and fair opportunity for regional and Aboriginal suppliers.

- Business opportunities exist for a wide range of qualified suppliers through:
  - Direct contract and direct supply to Maritime Iron.
  - Subcontractors and suppliers to the FEED (Front-End Engineering Design) / EPC (Engineering, Procurement, Construction) or other major contractors and suppliers.

We encourage companies to consider joint bids on Requests for Proposals

Procurement Process

MARITIME IRON
Sustainable Ironmaking

3-Step Procurement Approach

- **Step 1: List of Interested Contractors and Suppliers (LICS)**
  - Self-register general interest through the Maritime Iron website
  - Create comprehensive source of potential suppliers and contractors to Maritime Iron and main contractors
  - Link available at www.maritimeiron.com/procurement
- **Step 2: Package Specific Expressions of Interest (EOI)**
  - EOIs for large packages will be listed on website if deemed applicable
  - Possible additional details might be requested to assess qualifications against particular criteria e.g., HSE, technical, financial, references, etc.
- **Step 3: Response to a Request for Proposal (RFP)**
  - Define bidders list and issue Request for Proposal (RFP) to bidders
  - Proposals will be assessed against pre-determined evaluation criteria leading to selection of a preferred bidder
  - Following an approval and clarification/negotiation stage, a contract is awarded to the successful bidder

LICS Portal / Information Categories

MARITIME IRON
Sustainable Ironmaking

Basic Information to Populate Potential Provider Database

- Company Name
- Company Head Office Address
  - Company Regional Office Address (if available)
- Contact Person
  - Title of Contact Person
  - Contact Email
  - Contact Phone Number
- Number of Employees
- Annual Revenue (CAD)
- Achievements (100 words Maximum)
- Category of Services (next slide)

Opportunities

MARITIME IRON
Sustainable Ironmaking

Heavy Equipment Services

- Equipment Rental/Purchase
- Equipment Maintenance Services

Health, Safety, Environmental and Training Services

- Environmental Services
- Fire Systems/Extinguisher services
- Medical Service Contractor
- Site Security Contractor
- Supply of Safety Equipment & Consumables
- Occupational Health and Safety Consulting Services
- Training Services

Site Services

- Snow Clearing
- Janitorial and Garbage Disposal Services
- Catering and Accommodation Services
- Forestry Services
- Landscaping
- Logistic and Transportation Services
- Other

Construction and Maintenance Services

- Civil, Structural
- Mechanical, Instrumentation, Refractory, HVAC, Electrical and Instrumentation

Material Supplies

- Concrete Products
- Supply of Fuel, Lubricant, Compressed Gasses
- Building, Maintenance and Office Supplies

Engineering / Technical Services

- Non-Destructive Examination Services
- Laboratory Equipment Service/Repair/Operate/Supplies
- Surveying
- Procurement/Project Management Services
- General Engineering Services

HR + IT Services

- Printing Services and Signage
- Employee and Recruitment Services
- Business Services
- IT Services

Présentation disponible en français