



## **Atrum's Hard Coking Coal and Anthracite Projects**

Max Wang, Managing Director and CEO

### Important Information

#### **Forward Looking Statements**

This presentation includes various forward looking statements which are identified by the use of forward looking words such as "may", "could", "will", "expect", "believes", "intend", "plan", "estimate", "continue", and "guidance", or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Statements other than statements of historical fact may be forward looking statements. Atrum believe that it has reasonable grounds for making all statements relating to future matters attributed to it in this presentation.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation. Investors should note that any reference to past performance is not intended to be, nor should it be, relied upon as a guide to any future performance.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Actual results, values, performance or achievements may differ materially from results, values, performance or implied in any forward looking statement. None of Atrum, its officers or any of its advisors make any representation or warranty (express or implied) as to the accuracy or likelihood of fulfilment of any forward looking statement, or any results, values, performance or achievements expressed or implied in any forward looking statement except to the extent required by law.

Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### **Competent Person Statement**

#### **Exploration Results**

The information in this document that relates to Exploration Results of Elan South project area is based on, and fairly represents, information and supporting documentation prepared by Mr Shaun Tamplin, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Tamplin Resources Pty Ltd. Mr Tamplin has read and understands the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Resources and Ore Reserves (JORC Code, 2012 Edition). Mr. Tamplin is a Competent Person as defined by the JORC Code, 2012 Edition, having twenty years' experience that is relevant to the style of mineralisation and type of deposit described in this document.

Neither Mr. Tamplin nor Tamplin Resources Pty Ltd has any material interest or entitlement, direct or indirect, in the securities of Atrum or any companies associated with Atrum. Fees for the preparation of this report are on a time and materials basis. Mr. Tamplin has not visited the Elan project area while Atrum coal personnel have conducted extensive field mapping over the Elan South Project during the 2017 exploration program. The (CP) was provided with access to the field geologists and the data collected.

This announcement relates to information of 2013 JORC resource statement for Elan Coal was based on reports prepared by Dahrouge Geological Consulting of Alberta Canada, and previously released information in the ASX Announcement made by the Company on 23 Aug 2017: "Kuro Coal to acquire Elan Coal hard coking coal properties" (Previous Announcement). This announcement also relates to information in the ASX Announcement made by the Company on 22 June 2016: "Updated Pre-Feasibility Study – Low Capital Starter Mine for Groundhog North" and 14 August 2015: "Atrum Coal Increases Groundhog North Resource" (Previous Announcements).

The Company confirms that it is not aware of any new information or data that materially affects the Previous Announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the Prior Announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Prior Announcements

#### Coal Resources

The coal resources for Elan South documented in this report were estimated in accordance with the guidelines set out in the JORC Code, 2012. They are based on information compiled and reviewed by Mr Shaun Tamplin, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Tamplin Resources Pty Ltd.

With more than 20 years of experience in open cut and underground coal mining, Mr Tamplin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify him as a Competent Person as defined in the JORC Code, 2012 Edition.

Neither Mr. Tamplin nor Tamplin Resources Pty Ltd has any material interest or entitlement, direct or indirect, in the securities of Atrum or any companies associated with Atrum.

Mr Tamplin consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.



## Hard Coking Coal & Anthracite Projects in Western Canada

#### Large Scale World Class Met Coal Assets in Canada

#### Elan Hard Coking Coal Project (100% Owned)

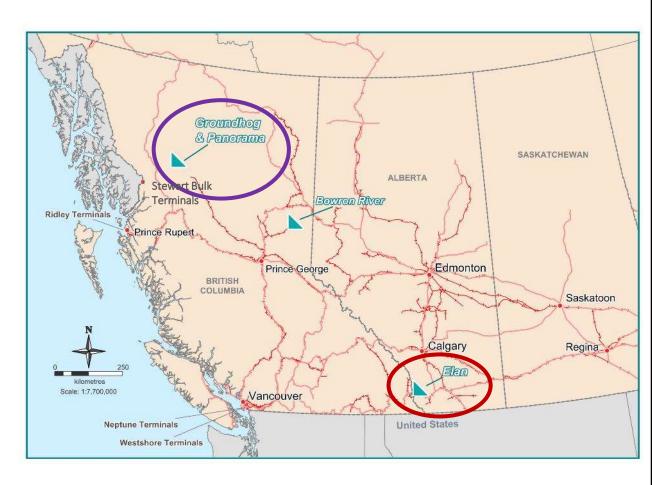
- A large, high quality hard coking-coal deposit in Southern Alberta
- Bordering Riversdale's Grassy Mountain Project
- A major field exploration program at Elan South is under way

## Groundhog Anthracite Projects (100% Owned, JV with JOGMEC in Panorama North Project)

- The world's largest undeveloped high-grade anthracite deposit
- Huge potential seeking partners to explore and develop
- Panorama North Project is in JV exploration with Japan Oil, Gas and Metals National Corporation (JOGMEC)

#### Bowron River PCI Coal Project (100% Owned)

- 3,821 hectares of land with known coal deposit
- Desk top study to start in 2018



Note: Neskeena tenements were relinquished in 2018

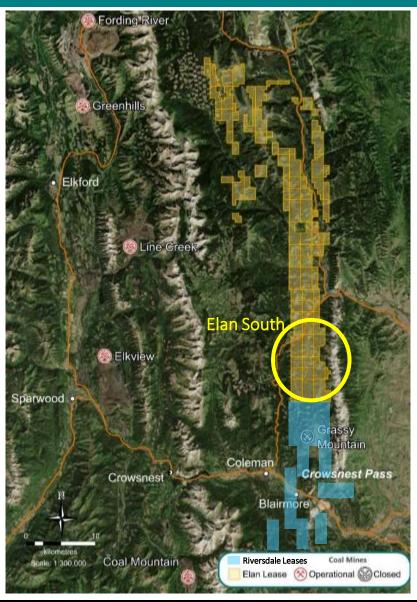


## Elan Hard Coking Coal Project

Immediate focus for development

- Coal friendly community
- Strategically located near rail infrastructure
- The entire Elan Coal site is well connected with an existing highway, roads and trails

#### Elan Coal: Strategically Located in a Mining & Infrastructure Hub



Surrounding mines operated by Teck producing over 25Mtpa - the heart of coking coal production in Canada

- Teck Fording River
- Teck Greenhills
- Teck Line Creek
- Teck Elkview
- Teck Coal Mountain (suspended)
- Riversdale (Grassy Mountain Project), 4.5 Mtpa (progressing towards development), immediately south of Flan South

# Excellent infrastructure and availability to services

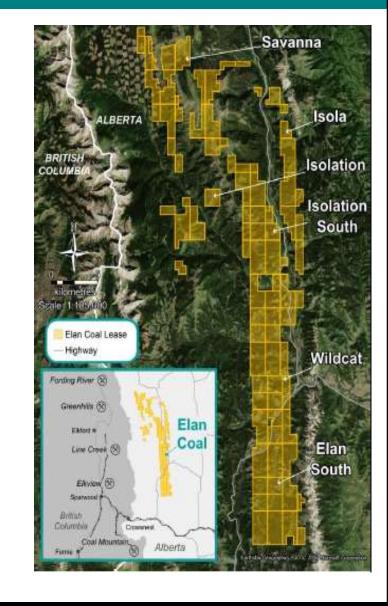
- 150km south of Calgary and
  13km north of Coleman,
- A highway going through the property
- Rail is 13km south, leading to ports west in Vancouver, north at Prince Rupert and east at Thunder Bay
- 138kV powerline nearby

Total 22,951ha (230km²) of prospective tenements located in an established producing hard coking coal mine province

## Significant Historical Exploration Work at Elan Coal

#### Summary of Elan Coal Historical Explorations Data (Dahrouge 2013)

| Area                           | Operator      | Campaign     | Core<br>holes | Bore<br>holes/<br>Wells | Adits | Trenches | Mapping               | Access<br>Trails<br>(km) |
|--------------------------------|---------------|--------------|---------------|-------------------------|-------|----------|-----------------------|--------------------------|
| OMR<br>(Isolation<br>South)    | Scurry        | 1970         | 19            | -                       | 3     | 24       | -                     | 22.5                     |
| Savanna                        | Bralorne      | 1969-72      | 8             | 57                      | 5     | 15       | 1:4,800 ft            | -                        |
| Savanna                        | CIGOL         | 1971         | 2             | -                       | -     | -        | -                     | -                        |
| Isolation                      | CanPac        | 1969-71      | 76            | 5                       | 6     | 76       | 1:12,000 /<br>1:2,400 | ~117.5                   |
| Isolation                      | Granby        | 1974         | 18            | 9                       |       | 45       | 1:2,400               |                          |
| Regional-OMR                   | W.C.C         | 1949-55      | -             | -                       | -     | 33       | 1:12000               | Extensive                |
| Regional-Isola<br>Regional-OMR | CCL<br>Consol | 1971<br>1976 | 3             | -                       | -     | 15<br>-  | -<br>1:12,000         | -                        |
| Regional                       | CHE & Devon   | 1989         | -             | 1                       | -     | -        | -                     | -                        |
| Regional                       | NEC           | 2001-02      | -             | 20                      | -     | -        | -                     | -                        |
| Total                          |               |              | 126           | 92                      | 14    | 208      |                       |                          |



## Elan Coking Coal Project Resource & Quality Comparables

- Top tier HCC quality expected
- Similar to Teck's mid vol HCC products; also a replacement for the ageing Australian HCC mines
- Low in sulphur & phosphorus, an ideal blending stock with the new Chinese production of high sulphur soft coking coal
- Western Canadian HCC has been favoured by global steelmakers for ranking, ash chemistry & high CSR

|   | Platts Australian<br>HCC 64 | Elan Coal   | Riversdale<br>(Grassy<br>Mountain)    | IHS Australian<br>Prime HCC |
|---|-----------------------------|---|---------------------------------------|-----------------------------|
| Total Resource (R) and Exploration Target (ET) <sup>1</sup> | -                           | R: 183Mt <sup>2</sup><br>ET: 200Mt <sup>3</sup> +<br>ET: 490Mt <sup>4</sup> | R: 200Mt<br>(Grassy Mountain<br>only) | -                           |
| HCC Tier for Pricing  | -                           | 1   | 1                                     | -                           |
| CSR <sup>5</sup>  | 64                          | TBD   | 65                                    | 67 Min                      |
| Coal Rank Ro Max (%)  | -                           | 1.27  | 1.2                                   | 1.15 – 1.55                 |
| Yield <sup>6</sup> (%)                                      | -                           | 55 – 70   | 55                                    | -                           |
| Volatile matter(%)  | 25 – 26                     | 22.5  | 23.5                                  | 26 Max                      |
| Total moisture (%)  | 9-10                        | -   | 10                                    | 10 Max                      |
| Sulfur (%)  | 0.5 – 0.7                   | 0.6   | 0.5                                   | 0.7 Max                     |
| Phosphorus (%)  | 0.05                        | 0.02  | 0.04                                  | 0.05                        |
| Fluidity <sup>5</sup> (ddpm)                                | 1,500 – 1,700               | TBD   | 150                                   | 100 Min                     |

<sup>1.</sup> The Exploration Target potential quantities and grades are conceptual in nature and there has been insufficient exploration to date to define a mineral resource. It is not certain that further exploration will result in the determination of a Mineral Resource under the "Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves, the JORC Code" (JORC 2012). The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve

<sup>2.</sup> Combined Global Elan resources - Elan South by Tamplin Resources Pty Ltd as of 30 September 2017 (36Mt) and the rest by Dahrouge Geotechnical Consulting as of September 2013 (146.5Mt). Coal quality estimates completed by Dahrouge Geotechnical Consulting as of September 2013

<sup>3.</sup> Elan South exploration target by Tamplin Resources Pty Ltd as of 30 September 2017

<sup>4.</sup> Global Elan exploration target as of September 2013 excluding Elan South (Elan South changed from 250Mt to 200 Mt by Tamplin Resources in September 2017)

Not yet determined

<sup>6.</sup> The 70% yield was estimated by Dahrouge Geotechnical Consulting as of September 2013 however given the nearology of Atrum's core project, Elan South, to Grassy Mountain which has a yield of 55%, a range has been stated

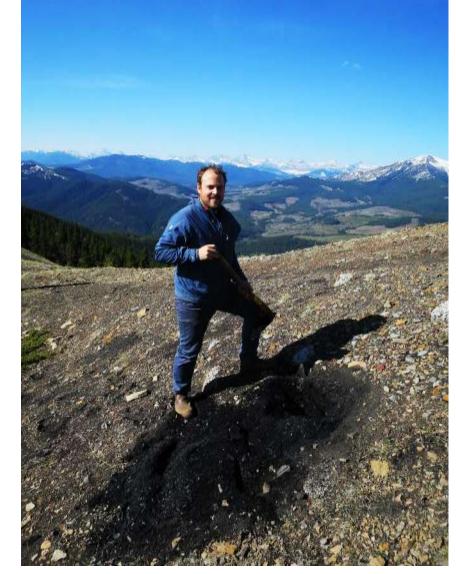
## 2018 Elan Exploration Program

- Field survey, hand trenching and road cutting through coal at Elan South and other areas
- Review of historical exploration data and models
- Drilling in Elan South area RC drill holes, and large diameter cores for further coal quality testing
- Aim to increase the JORC resource estimates and to improve coal quality definition
- Full results to come in the coming months



# 2018 Elan Field Survey & Trenching



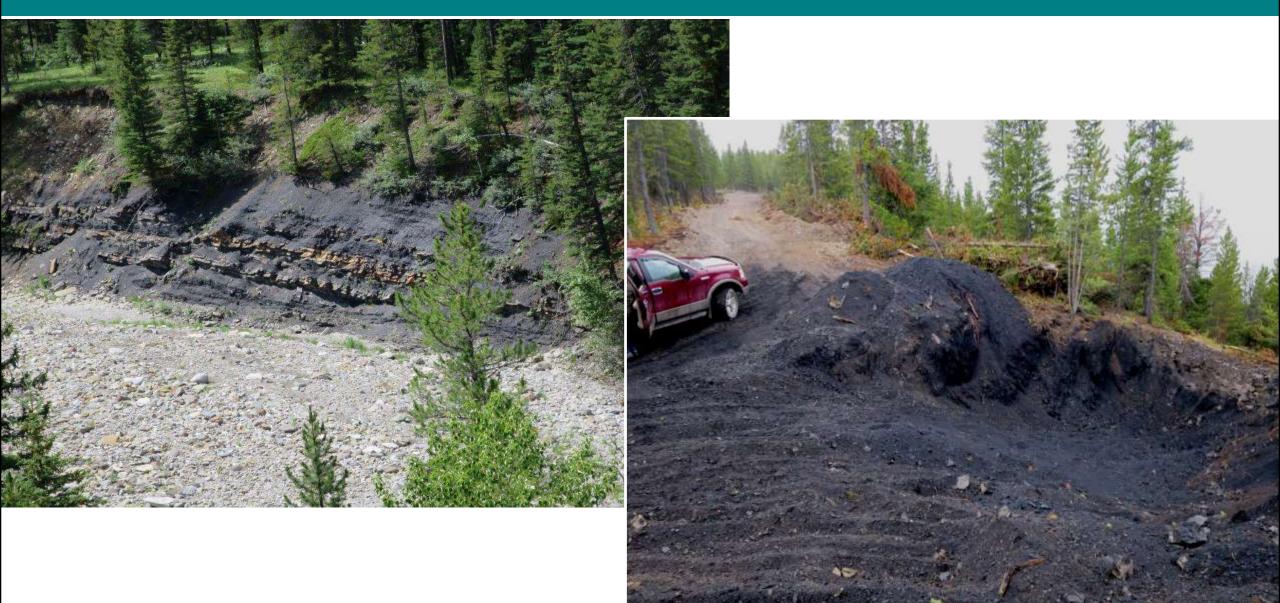






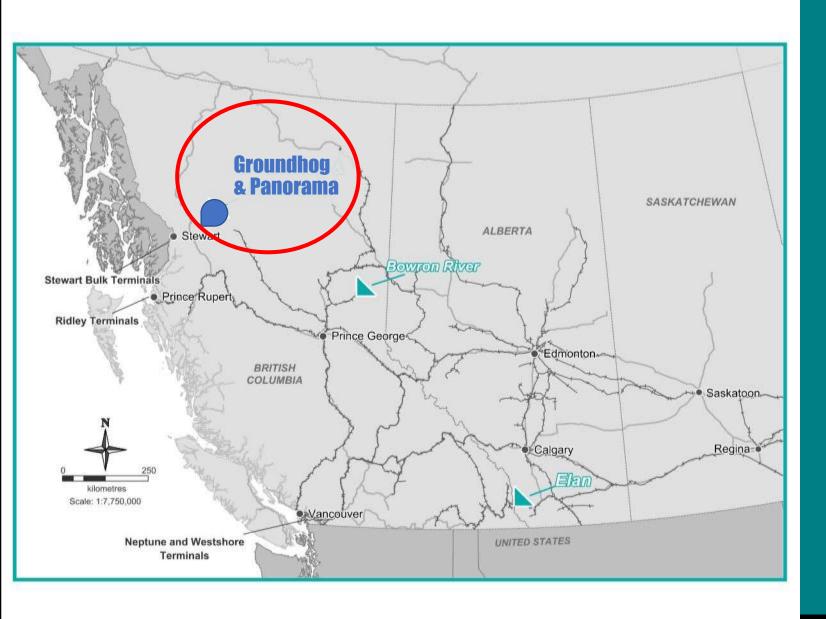




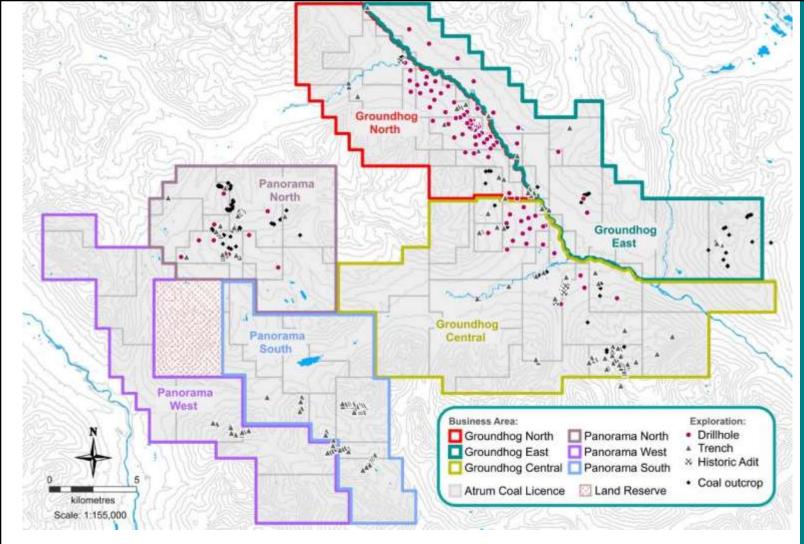








# Groundhog and Panorama Anthracite Projects



#### JORC Resources for Groundhog North & East Areas only

| Area           | Measured | Indicated | Inferred | Total |
|----------------|----------|-----------|----------|-------|
| Western Domain | 156      | 193       | 260      | 609   |
| Eastern Domain | -        | 260       | 147      | 407   |
| Total          | 156      | 453       | 407      | 1,016 |

# Groundhog and Panorama Projects

- ✓ Massive Groundhog coalfield with more than 1Bt of JORC resources
- ✓ High grade anthracite
- ✓ Series of historical exploration work dated back many decades
- ✓ Several large project areas suitable for multiple JV development opportunities

**Note:** JORC resources and coal quality for Groundhog areas were completed by Gordon Geotechniques of Queensland, Australia, 2015

## Target Seams

- More than 140 holes have been drilled since 2012 in Groundhog area
- Identified three economically viable seams
- Primary initial target seam is Duke E for low-ash, high-yield (>75%), highgrade anthracite
- Plan for PCI mining economics and market as both PCI and anthracites

**Note:** JORC resources and coal quality for Groundhog areas were completed by Gordon Geotechniques of Queensland, Australia, 2015

| Duke E Seam General Product<br>(washed at maximum density with 60%-75% Yield) |       |  |  |  |
|---|-------|--|--|--|
| Inherent Moisture (ad)  | 1.5%  |  |  |  |
| Ash (ad)  | 10%   |  |  |  |
| Volatile Matter (ad)  | 5%    |  |  |  |
| Fixed Carbon (ad)   | 83.5% |  |  |  |
| Sulphur (ad)  | 0.6%  |  |  |  |
| SE kcal/kg (gad)  | 7,300 |  |  |  |
| SE kcal/kg (gar)  | 6,820 |  |  |  |
| HGI   | 55    |  |  |  |

#### JORC (2014) Resources of the Duke E seams in the Groundhog areas

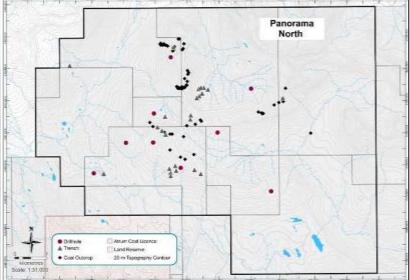
| Area              | Measured | Indicated | Inferred | Total |
|-------------------|----------|-----------|----------|-------|
| Duke E: West Side | 34       | 40        | 50       | 124   |
| Duke E: East Side | -        | 64        | 30       | 94    |
| Total             | 34       | 104       | 80       | 218   |

#### JV Exploration with JOGMEC









## Panorama North 2018 Exploration

- JV Exploration continued with Japan Oil, Gas and Metals National Corporation (JOGMEC) in 2018
- Significant coal seams intercepted in drill holes
- 2018 drilling program under way with positive results.
- Aimed to generate a JORC Resource report

# 2017 & 2018 Field Exploration



## The Canadian Advantage

Low sovereign risk

Government and regulatory environment encourages mine development

- Mine exploration expenditure rebate program in British Columbia
- CAPEX amortization incentives
- Low coal royalty payment

Extensive and regulated infrastructure:

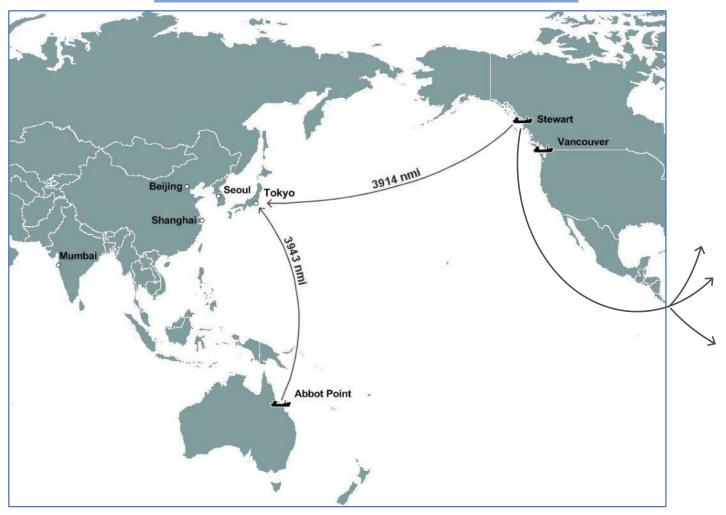
- Direct rail access to ample port capacities
- Low-electricity and natural gas costs

Comparable shipping distance to Asia as Australia

Australia-to-Japan and BC-to-Japan are equidistant

Less major weather disruption

Western Canada has significant advantages for metallurgical coal production







**Max Wang** 

Managing Director & CEO +1 403 973 3137 mwang@atrumcoal.com Justyn Stedwell

Company Secretary +61 3 9191 0135 jstedwell@atrumcoal.com