



CANADA NATIONAL INFRASTRUCTURE STUDY SPATIAL MODELLING



Kenex

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Project Scope



**National
infrastructure study
for PDAC**

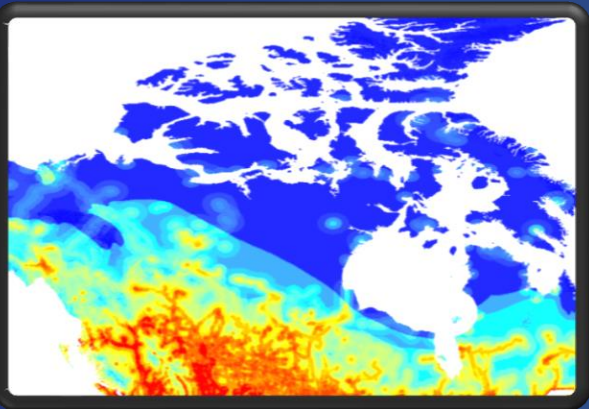
**Identify areas
with
infrastructure
deficit**

**Analyse
relationships
with deposits**

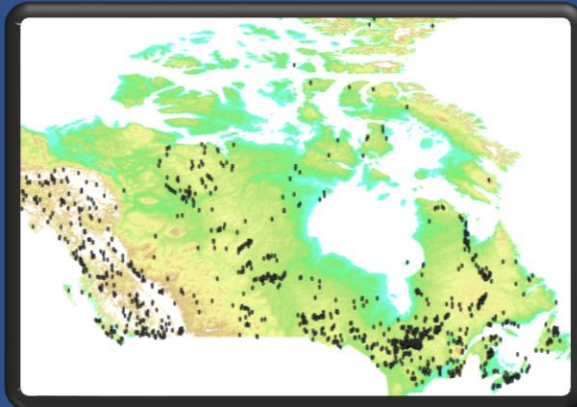
**Unlock
exploration and
mining projects**

**Calculate the
costs associated
with
remoteness**

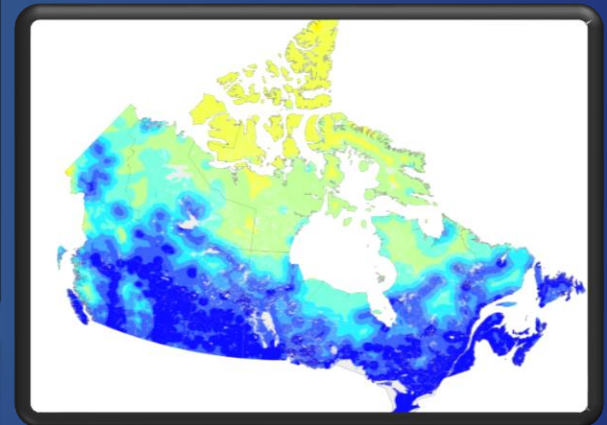
Outcomes



**Remoteness
map**

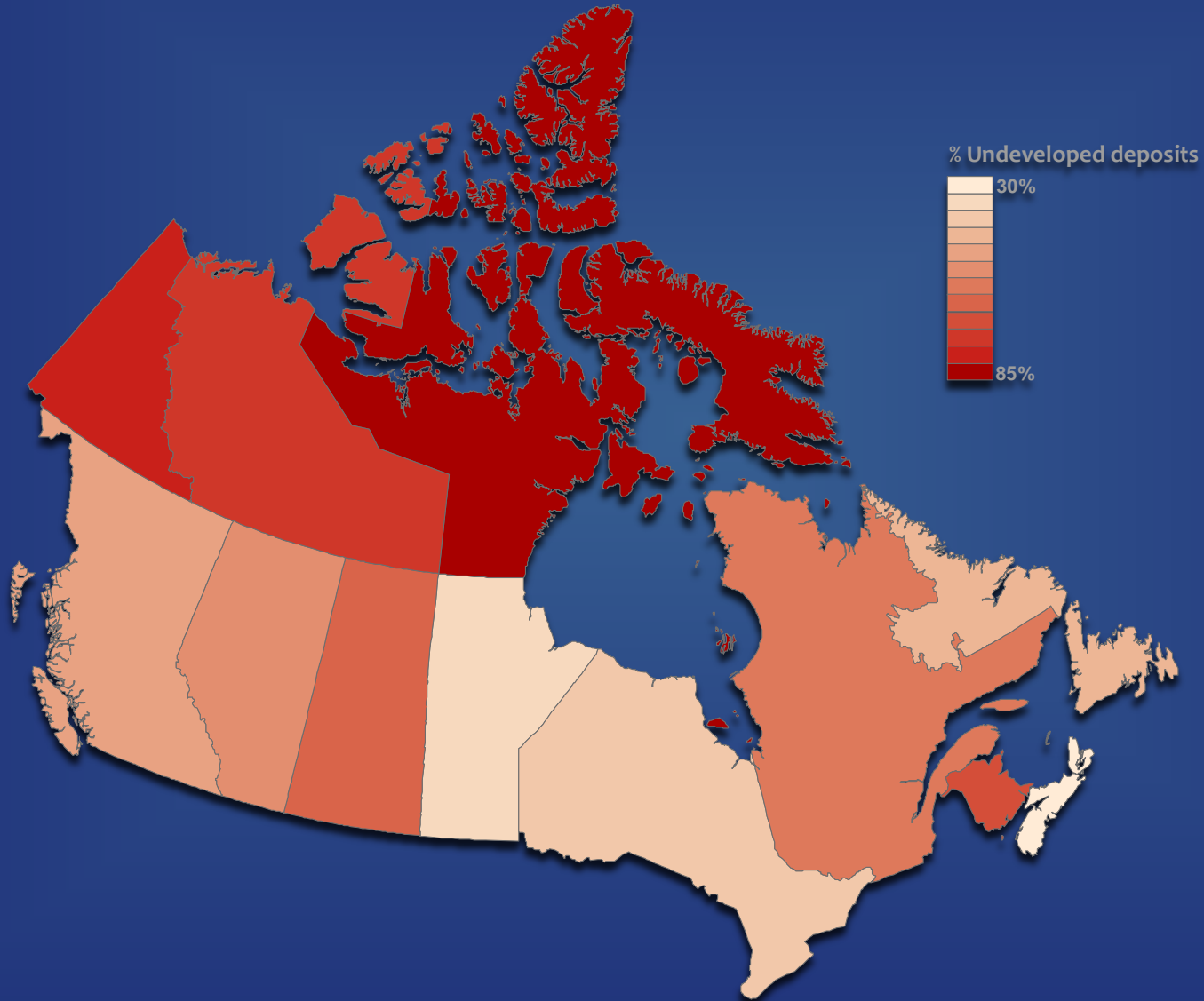


**Database of
mineral
deposits**



**Heat maps of
associated costs**

Undeveloped deposits



Infrastructure

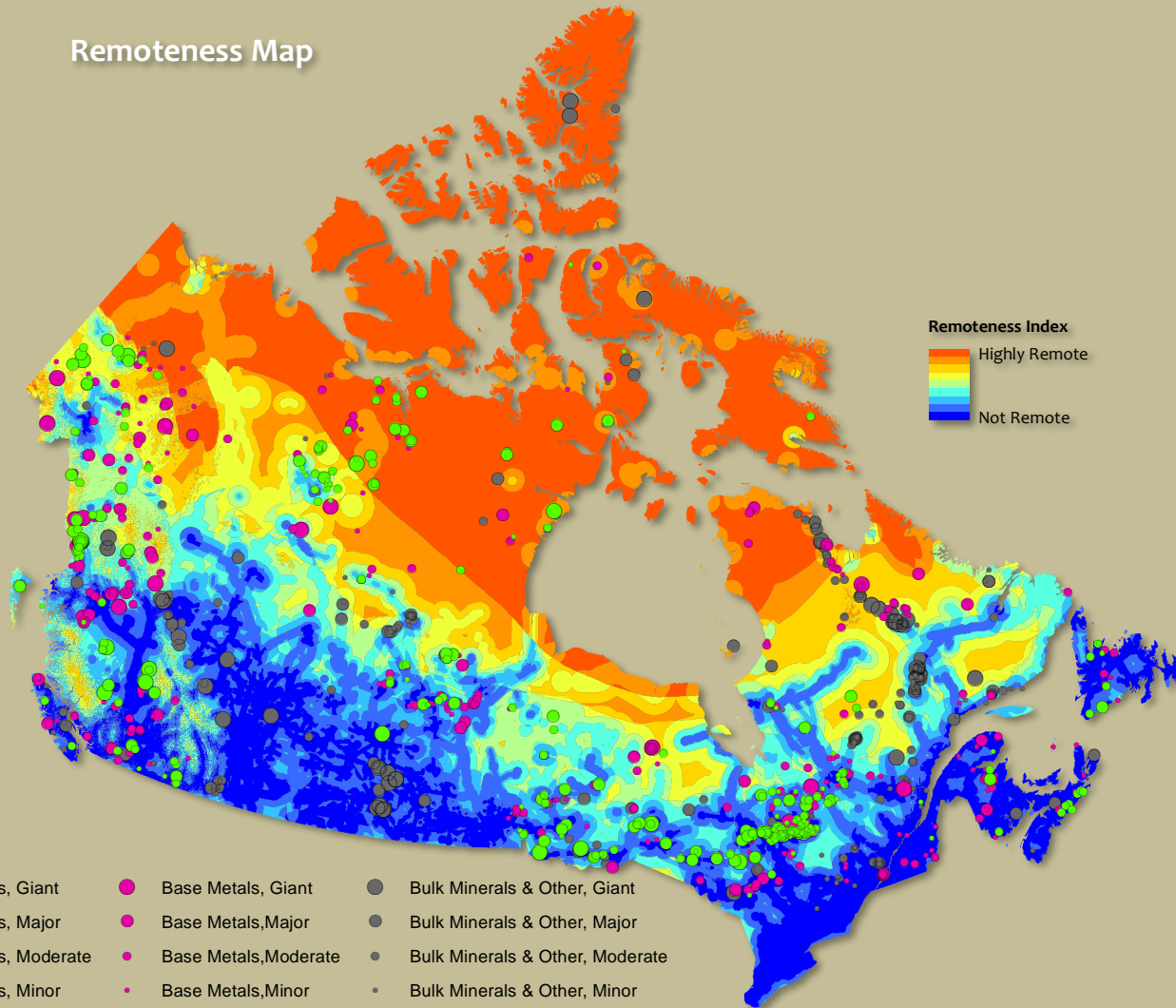
Ports & Airports

Permafrost

Elevation & Terrain

Population Density

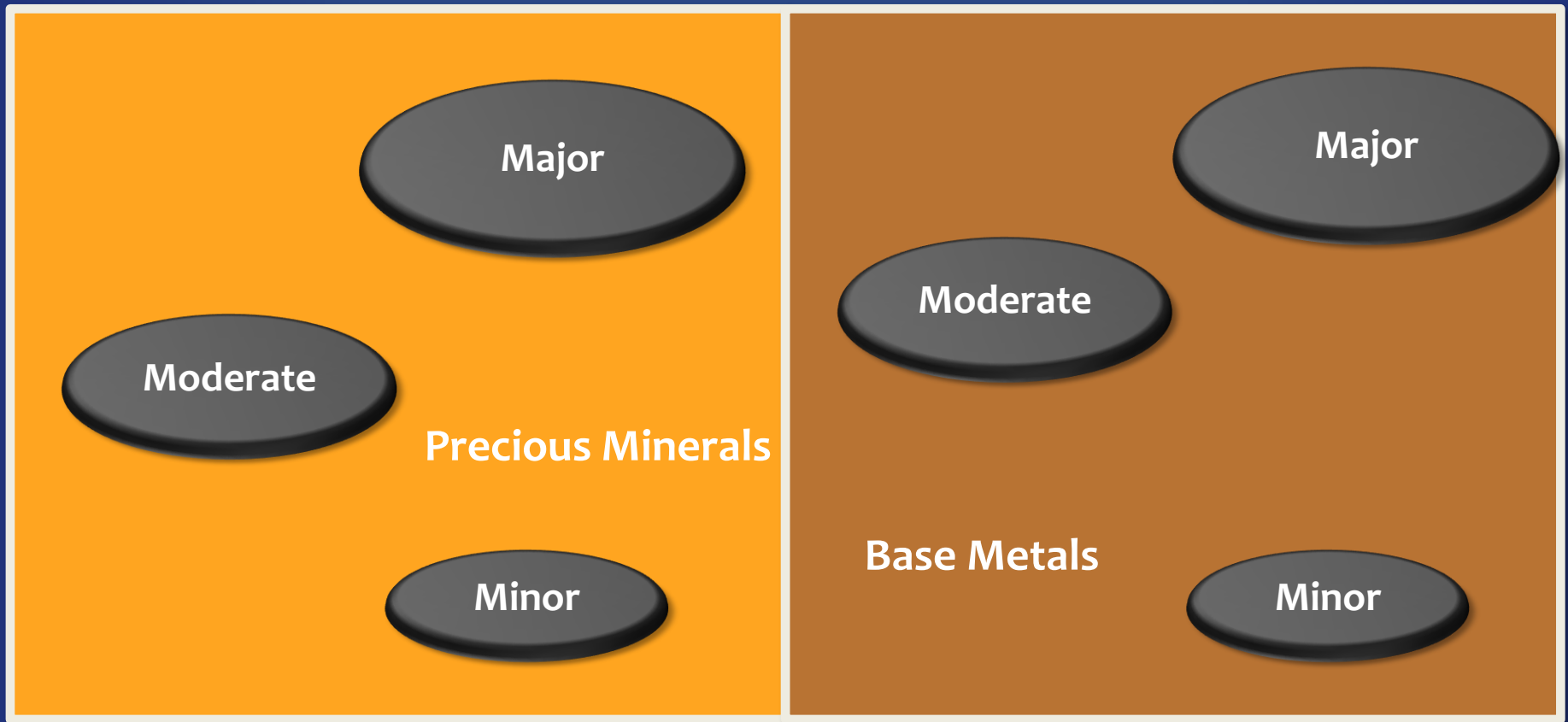
Remoteness Map



Remoteness Index
Highly Remote
Not Remote

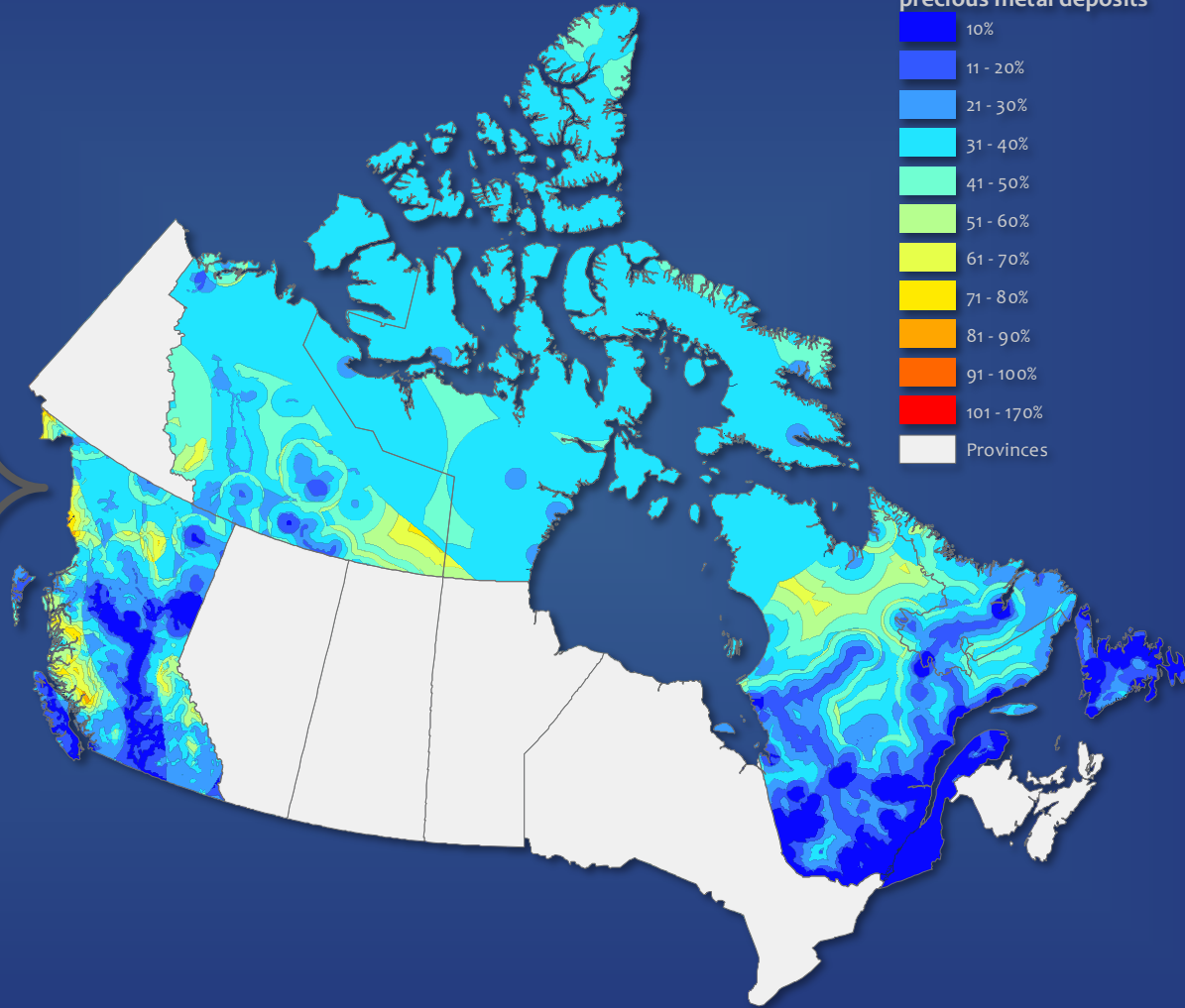
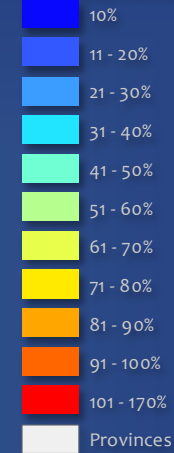
- Precious Metals, Giant
- Precious Metals, Major
- Precious Metals, Moderate
- Precious Metals, Minor
- Base Metals, Giant
- Base Metals, Major
- Base Metals, Moderate
- Base Metals, Minor
- Bulk Minerals & Other, Giant
- Bulk Minerals & Other, Major
- Bulk Minerals & Other, Moderate
- Bulk Minerals & Other, Minor

Cost maps



Remoteness impact on CAPEX

Increase in CAPEX costs for moderate precious metal deposits



Power

Terrain

Towns

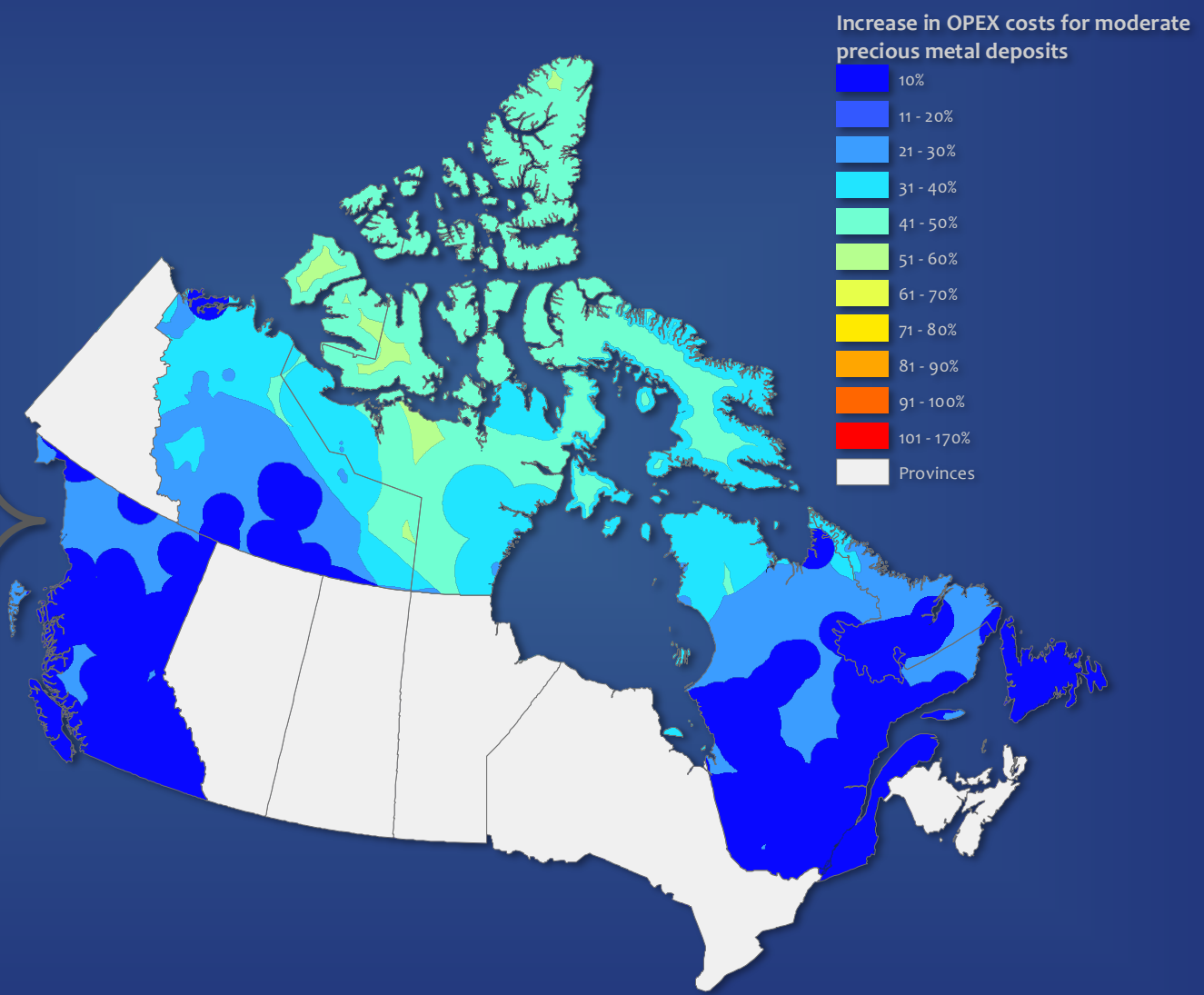
Ports

Roads

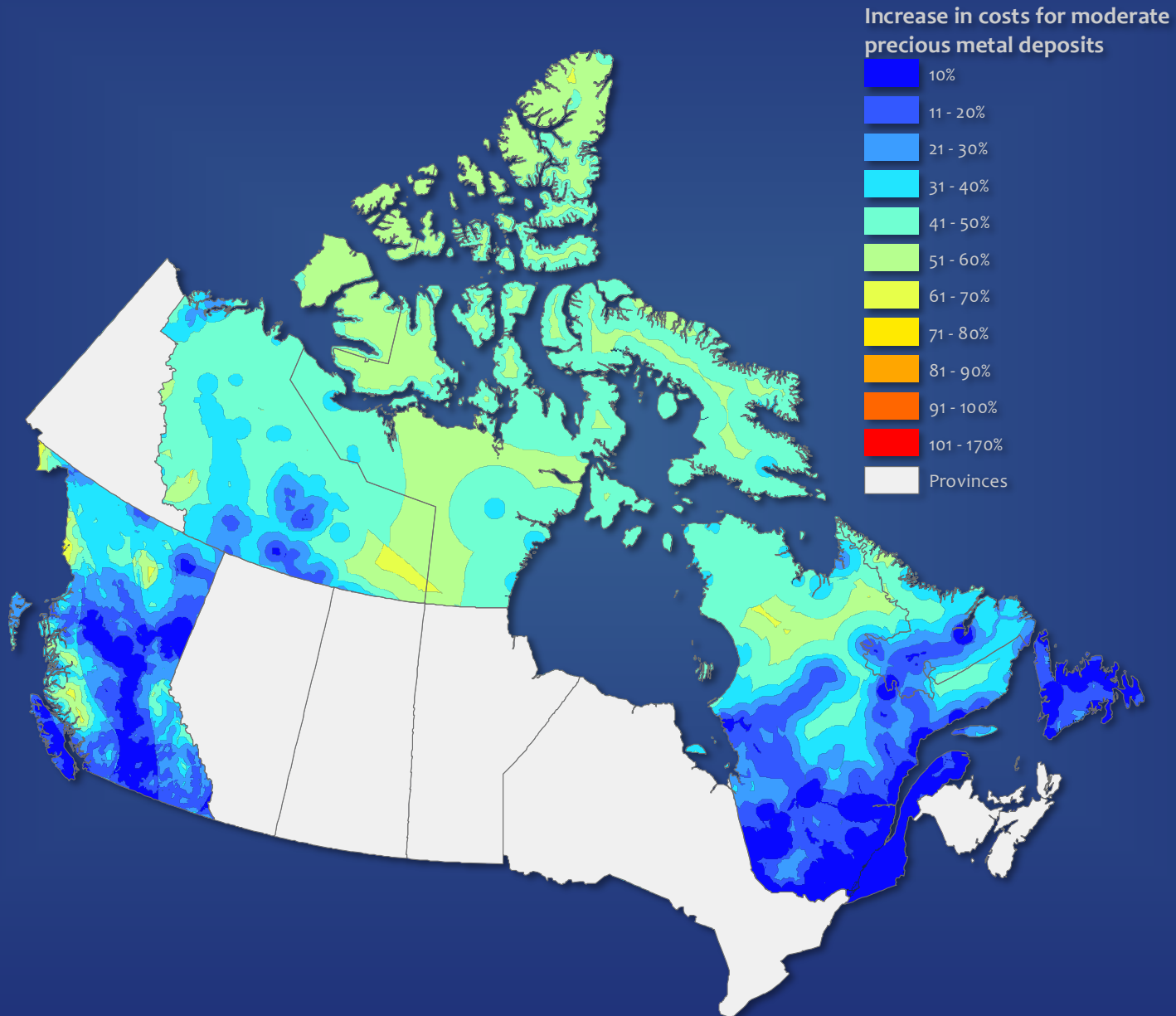
Airports

Remoteness impact on OPEX

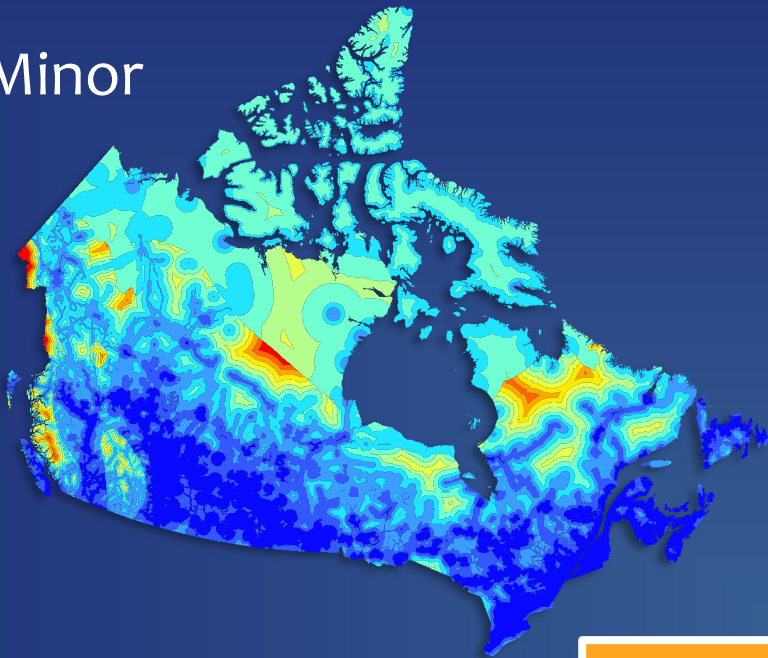
- Inbound Costs
- Outbound Costs
- Road Maintenance
- Power - Diesel
- FIFO



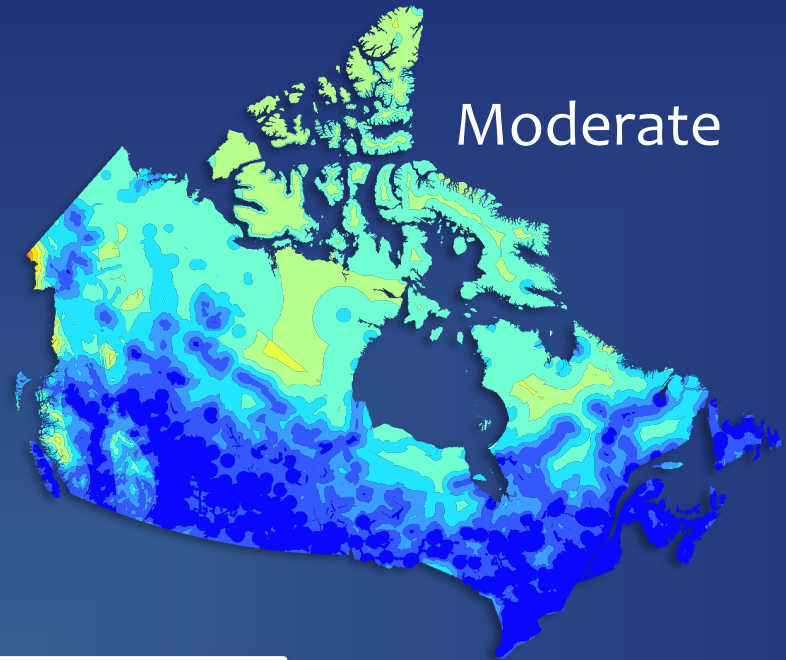
Increase in costs based on remoteness



Minor

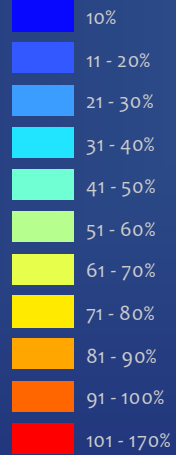


Moderate

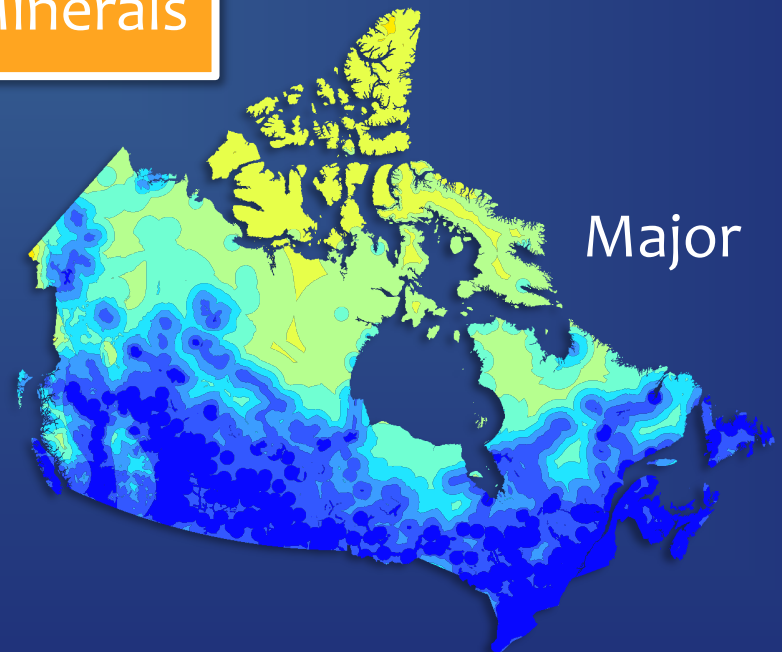


Precious Minerals

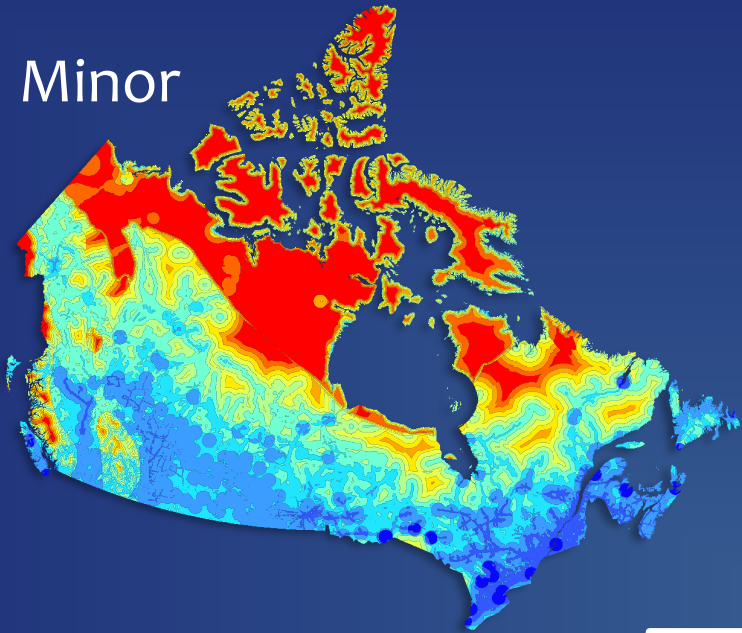
Increase in costs for
precious metal deposits



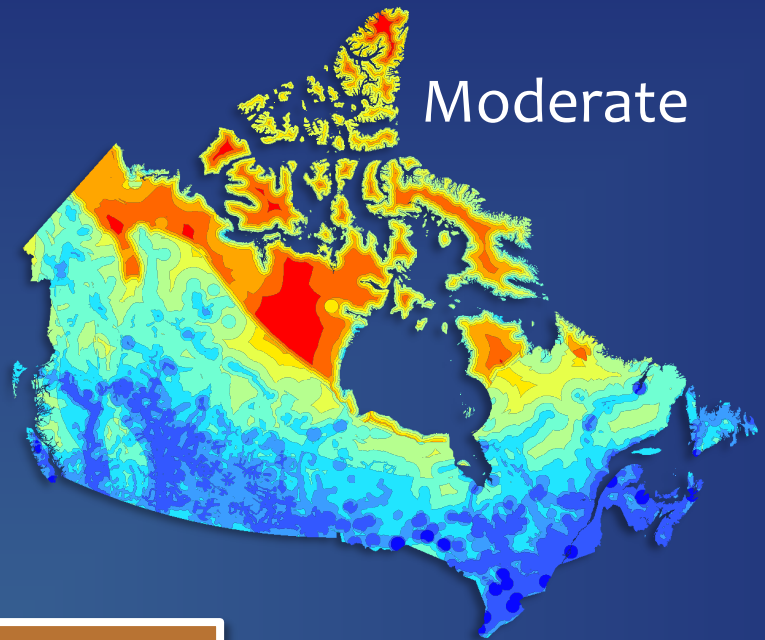
Major



Minor

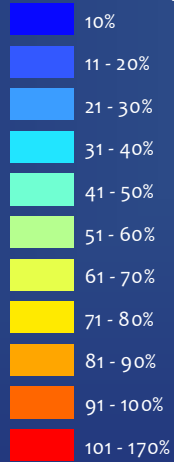


Moderate

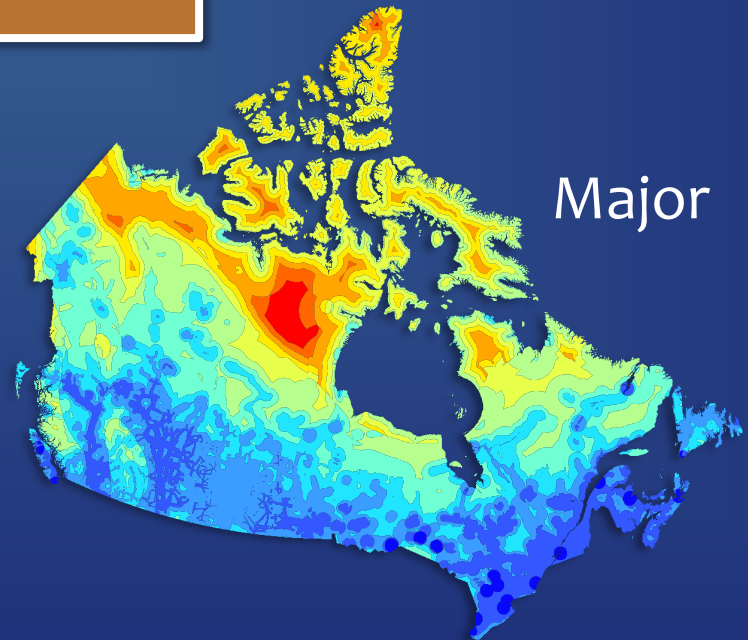


Base Metals

Increase in costs for
base metal deposits



Major



Major Undeveloped Precious Metals



Potential areas of opportunity for sharing infrastructure

Precious Metal Deposits

● Major, UNDEVELOPED

□ Provinces

Increase in costs for precious metal deposits

10%

11 - 20%

21 - 30%

31 - 40%

41 - 50%

51 - 60%

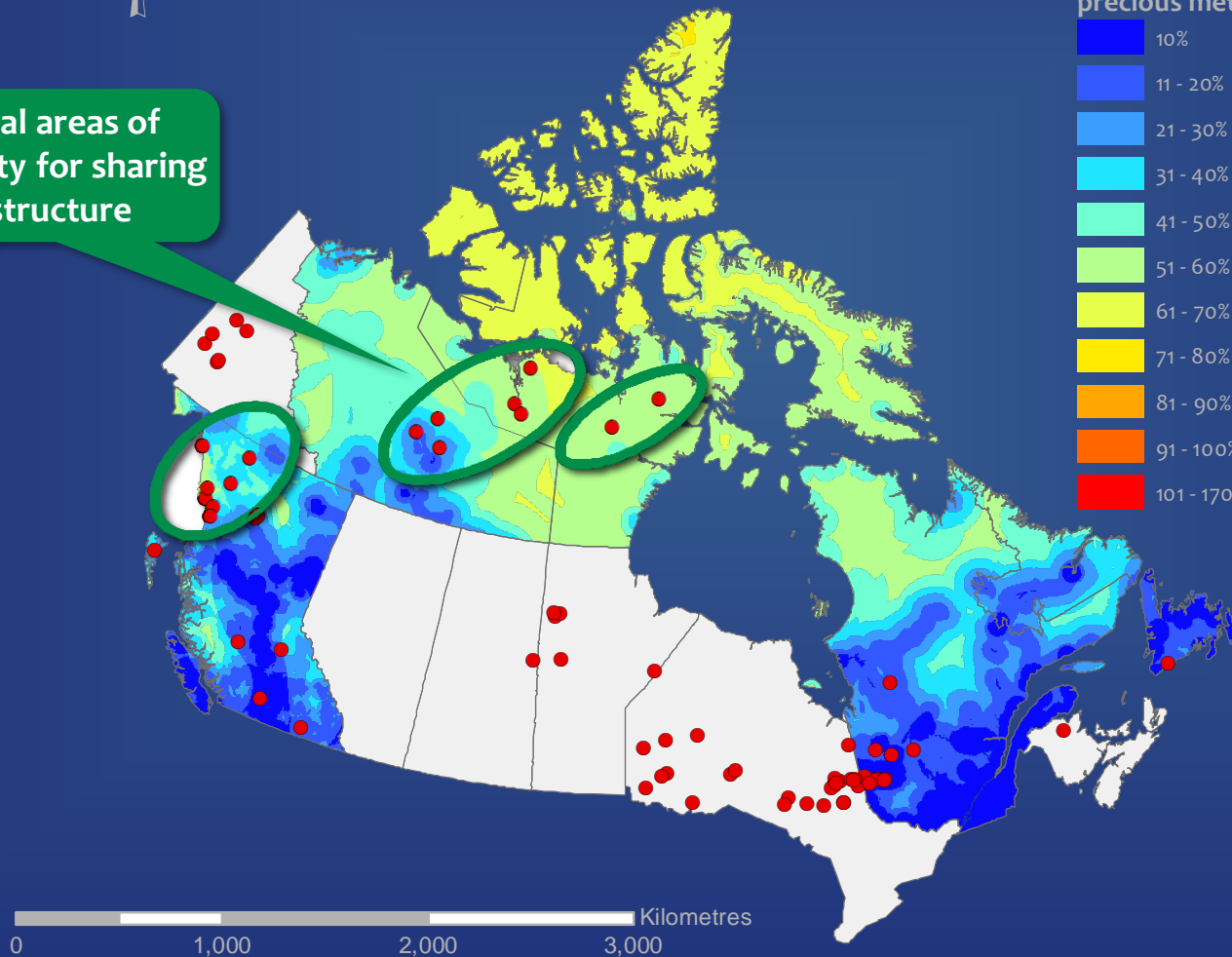
61 - 70%

71 - 80%

81 - 90%

91 - 100%

101 - 170%



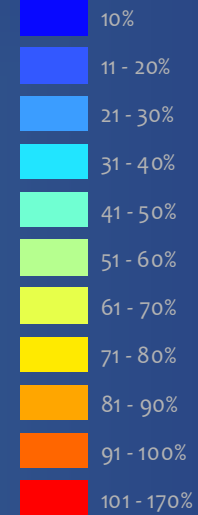
Major Undeveloped Other Metals



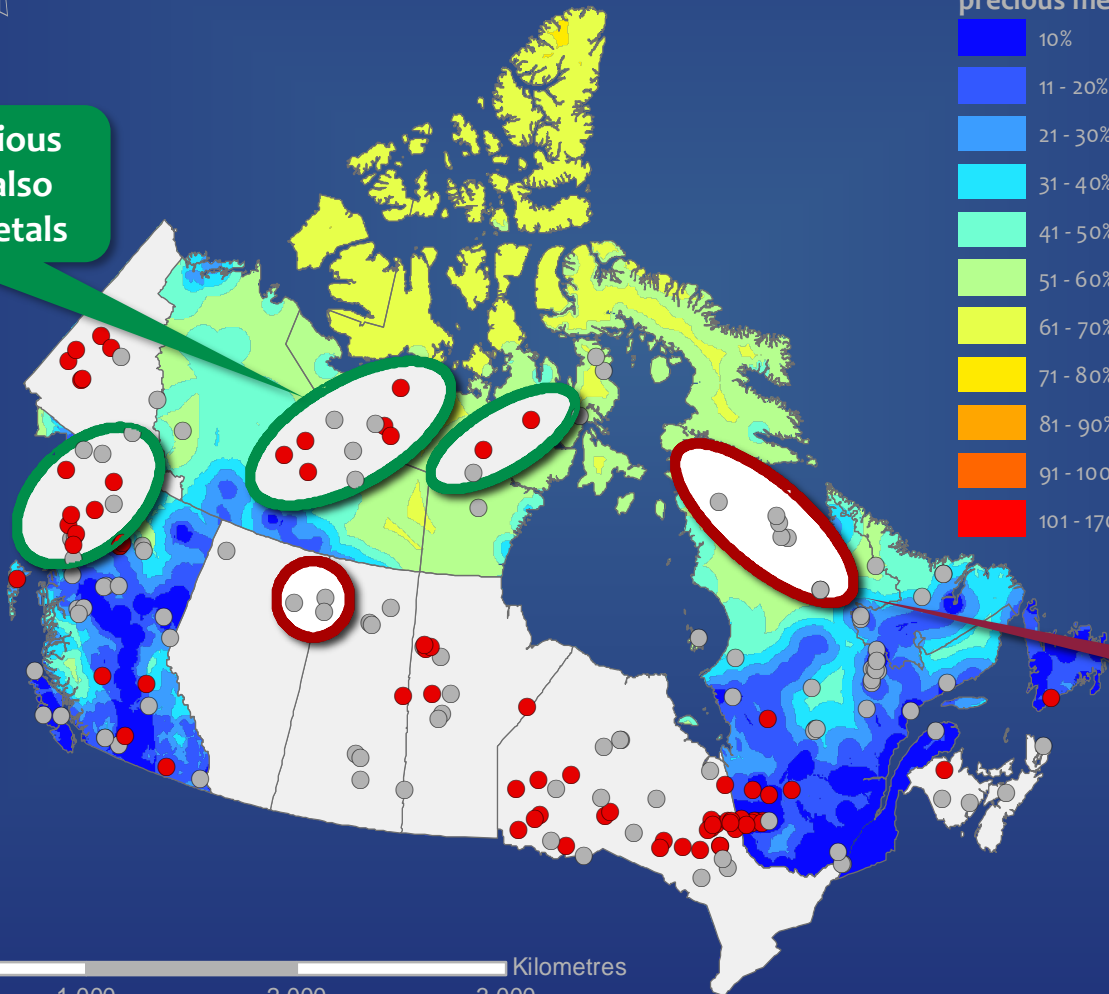
- Major, Undeveloped Precious Metals
- Major, Undeveloped Other Metals

Provinces

Increase in costs for precious metal deposits



Unlocking precious metals would also unlock other metals



Additional areas exist for other commodities

Thanks

- Elisa Puccioni – Kenex Ltd
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