

NANA



Will the snowshoe hare always change color?



Or will there be a hare out of place?



Nike and Ocean Conservancy



Reuters: China unveils vision for 'Polar Silk Road' across Arctic

Published Fri, Jan 26 2018 • 5:57 AM EST



In the news – effects on the Arctic?

The Guardian: Climate protesters clash with police outside Melbourne mining conference

More than 20 activists arrested amid violent scenes, with officers accused of being 'incredibly hostile'

October 28, 2019

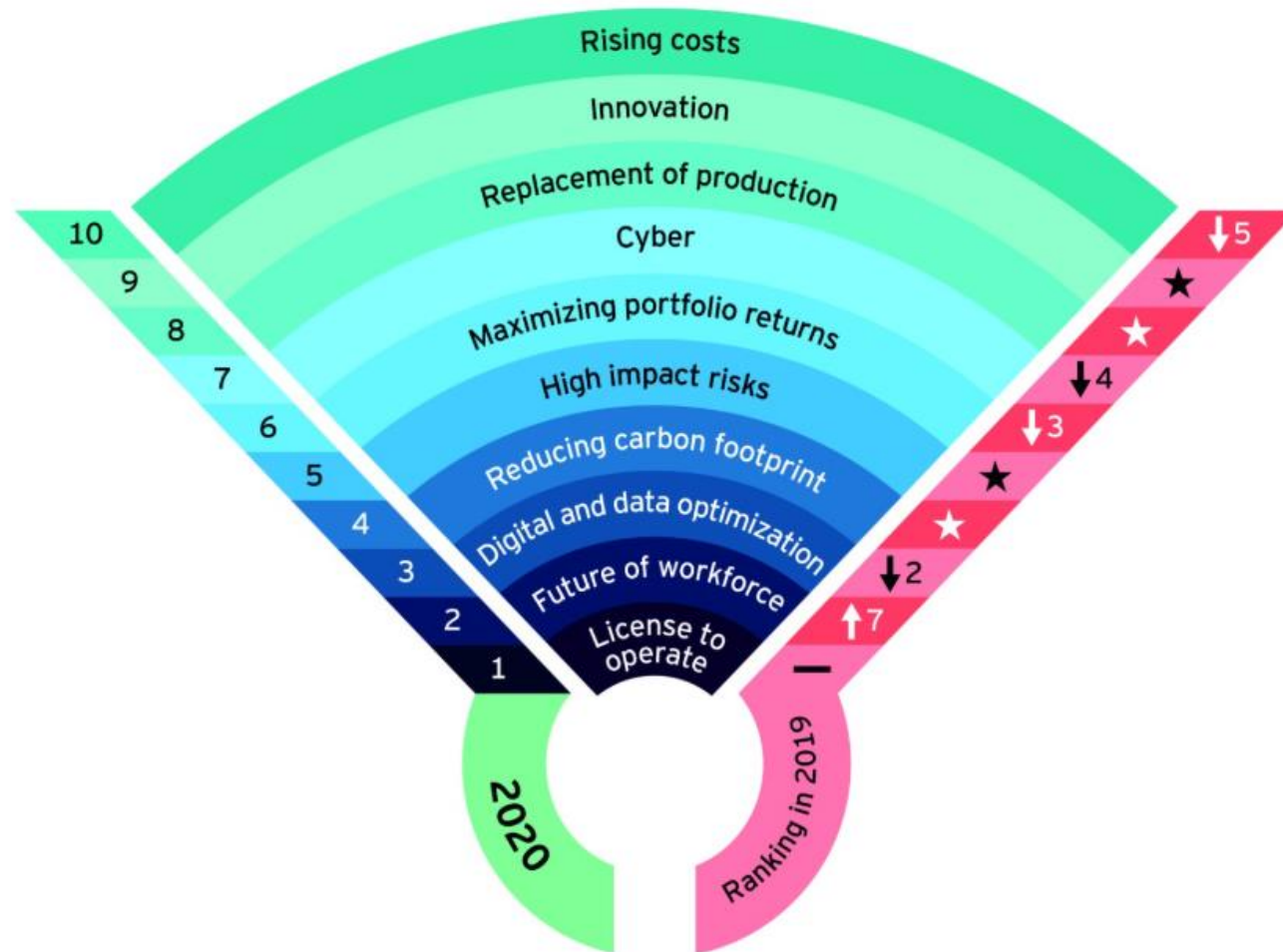


Bloomberg: Chile Faces Mine Stoppages Workers Join Protest

October 21, 2019

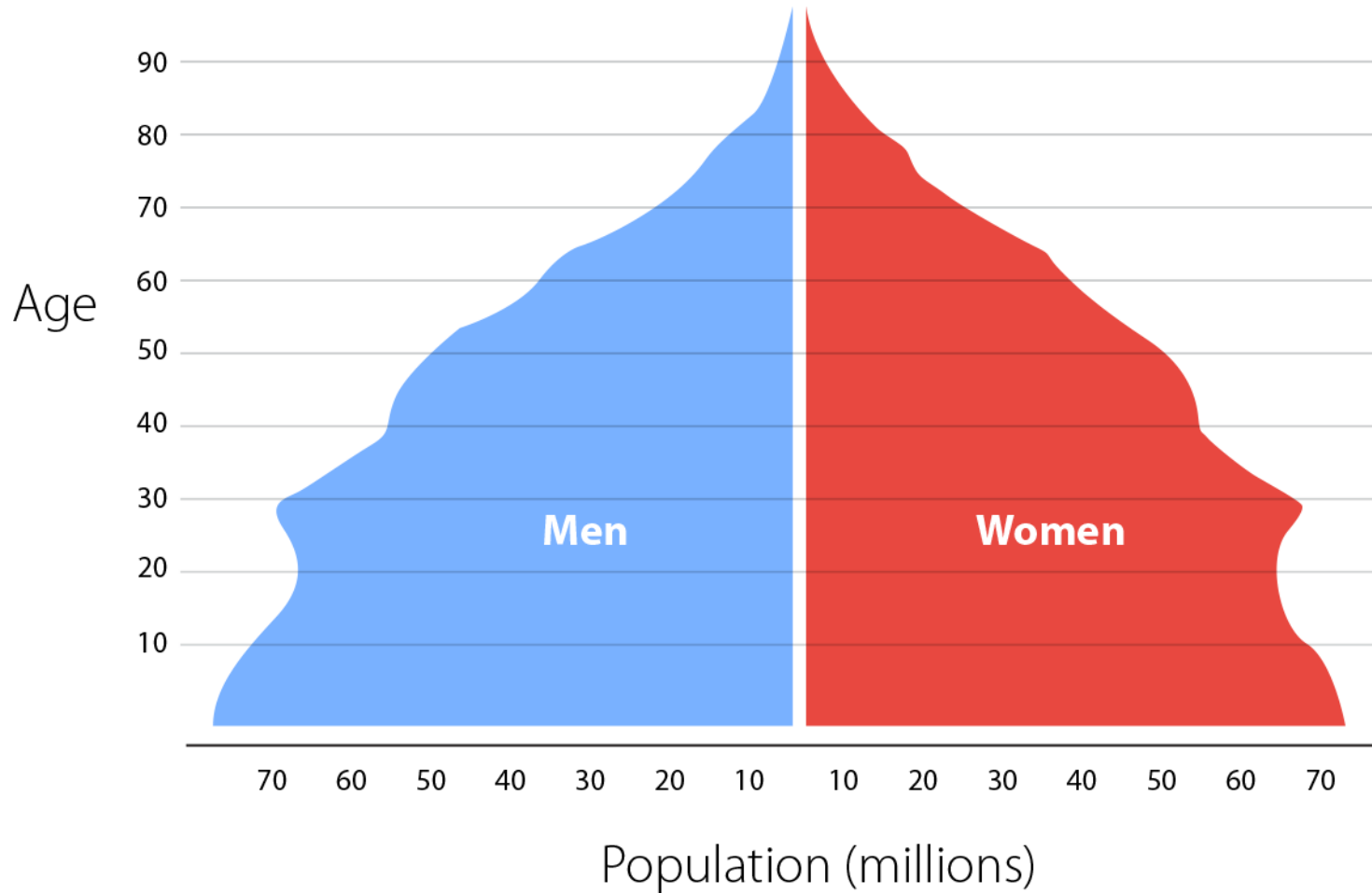


Top 10 business risks facing mining and metals

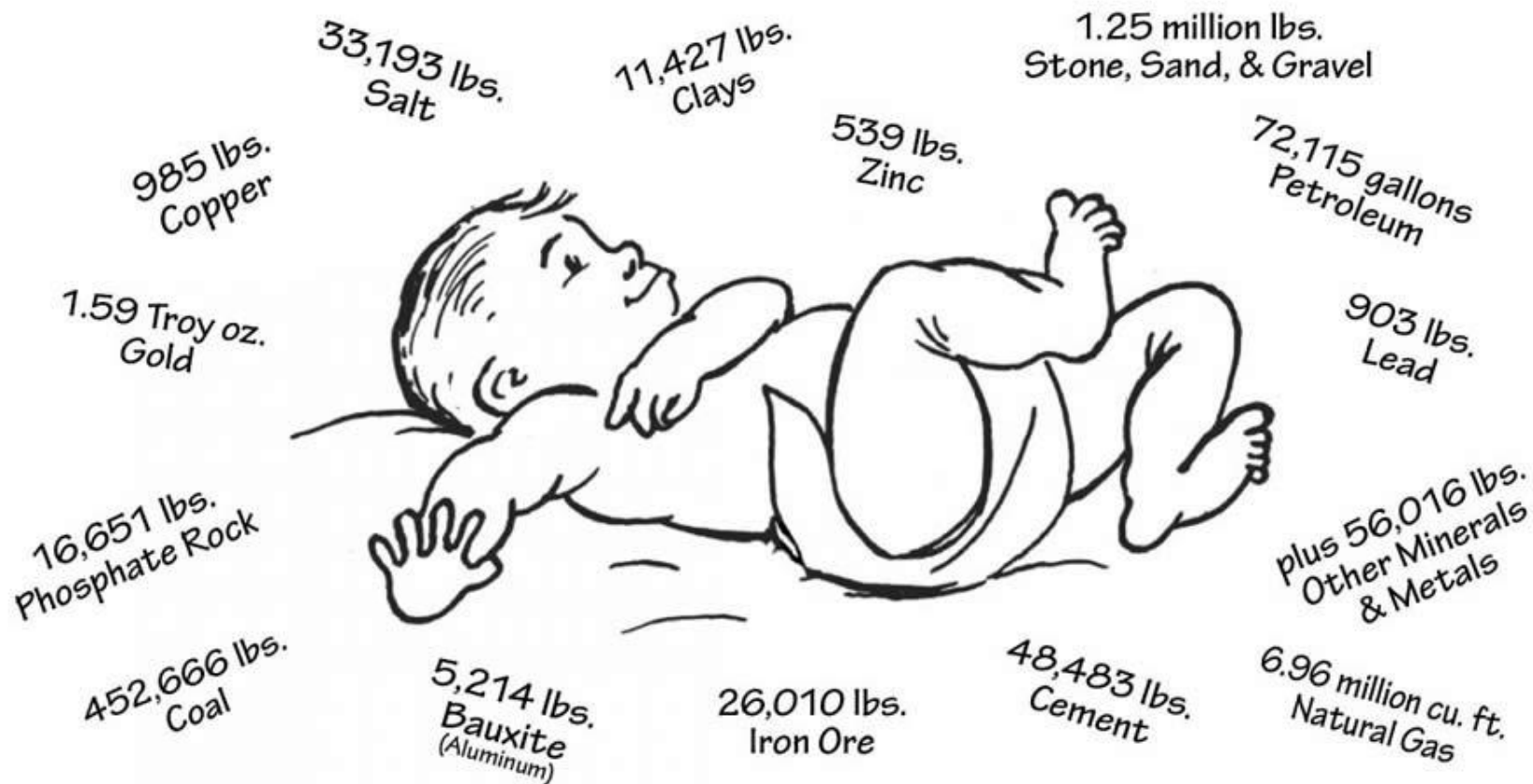


↑ Up from 2019 ↓ Down from 2019 - Same as 2019 ★ New to the radar

Things we know – global demographics (2018)

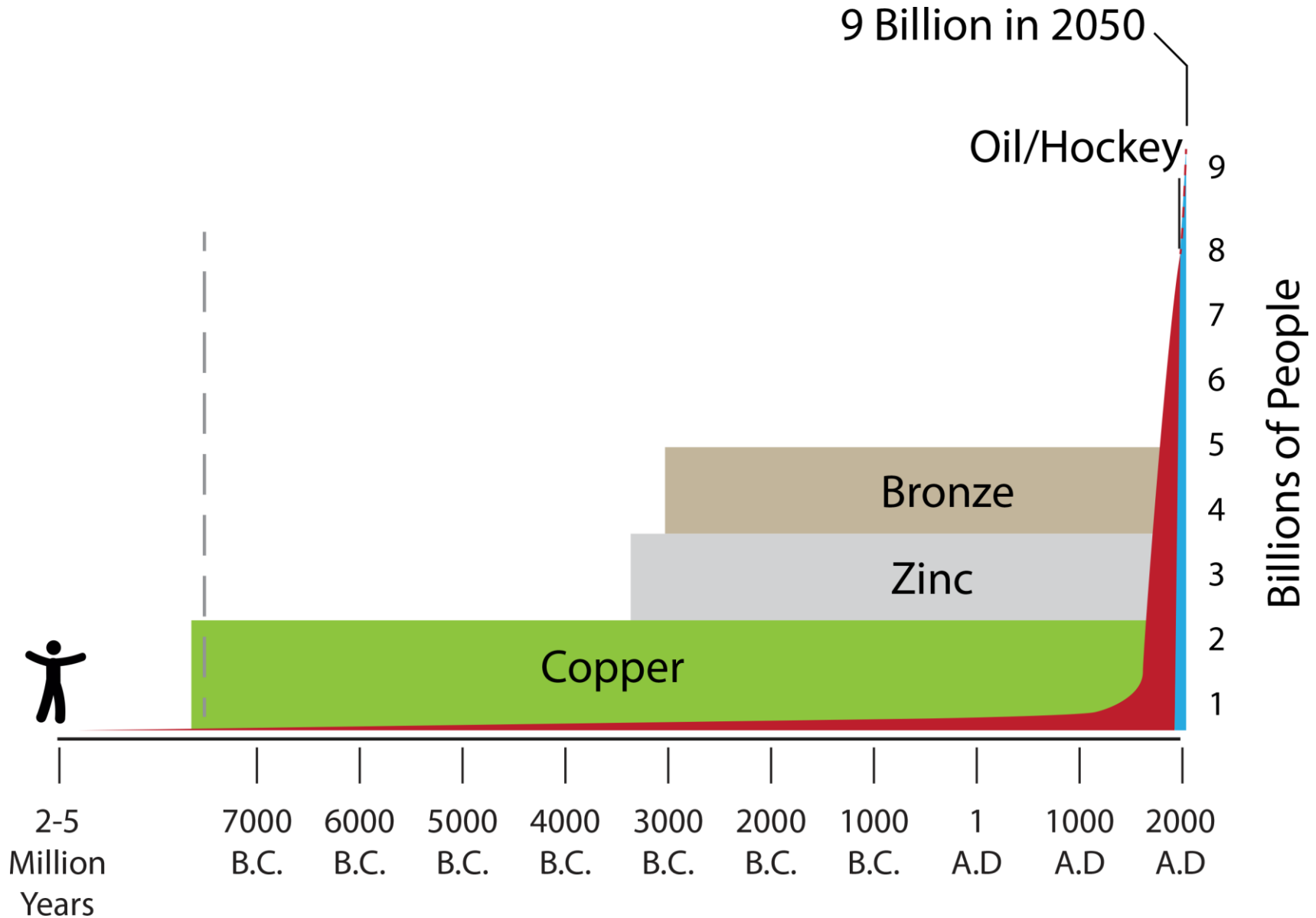


Every American Born Will Need...

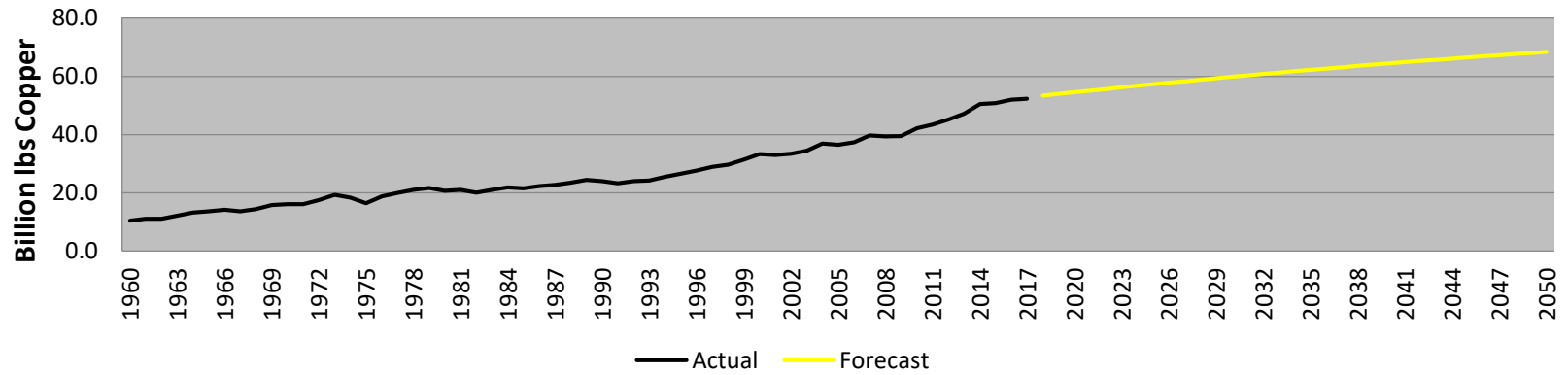


3.11 million pounds of minerals, metals, and fuels in their lifetime

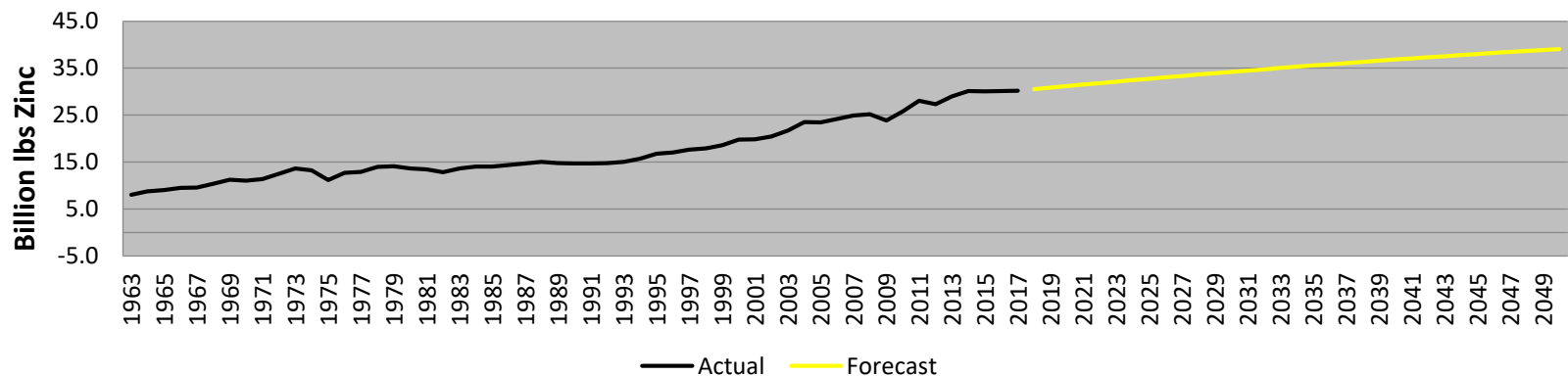
Things we know – population will increase



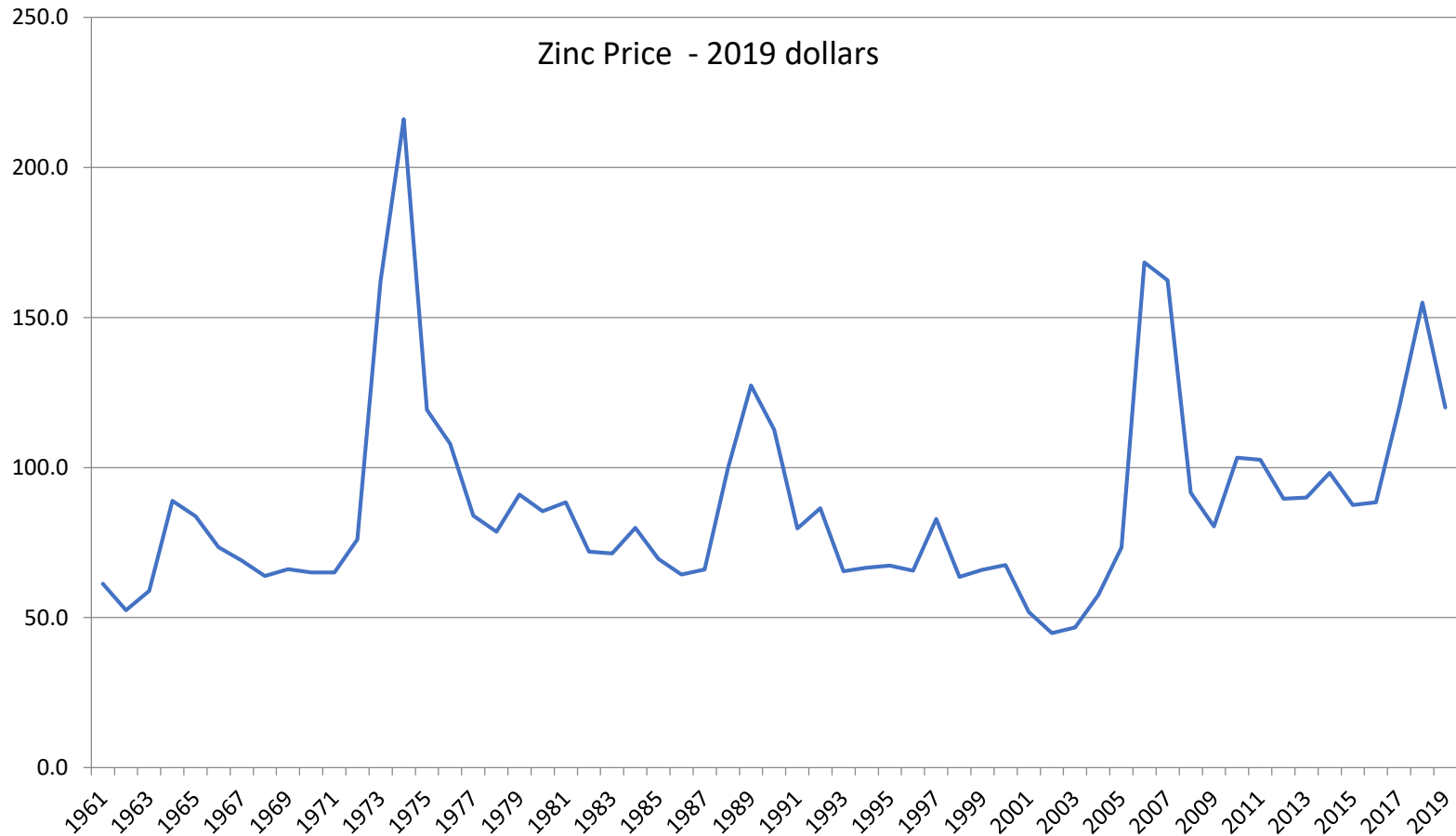
Forecast World Copper Demand (assuming 7 lbs fixed per capita consumption rate)



Forecast World Zinc Demand (assuming 4 lbs fixed per capita consumption rate)

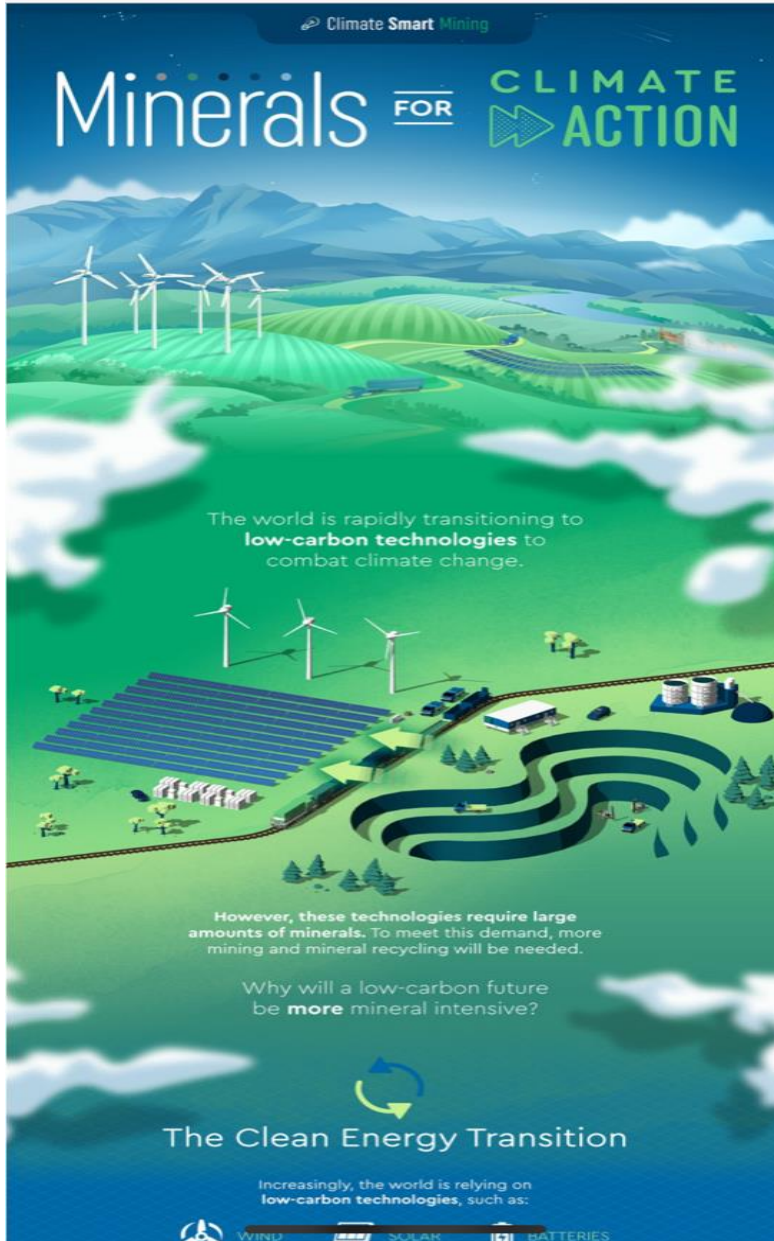


Reality check on growth



Climate Smart Mining


Minerals FOR CLIMATE ACTION






The world is rapidly transitioning to **low-carbon technologies** to combat climate change.

However, these technologies require large amounts of minerals. To meet this demand, more mining and mineral recycling will be needed.

Why will a low-carbon future be **more** mineral intensive?

 The Clean Energy Transition

Increasingly, the world is relying on **low-carbon technologies**, such as:

 WIND  SOLAR  BATTERIES



Climate Smart Mining

These building blocks will help mining companies and downstream users of minerals contribute to the Sustainable Development Goals.



Public and Private sector actors will need to work together to implement

Climate Smart Mining

to contribute to the low-carbon future.

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Goal was to develop a document to address successful mineral development in the Arctic which would be used as a basis for ongoing dialogue.

“Mining will be a valued partner in the prosperity of the Arctic”

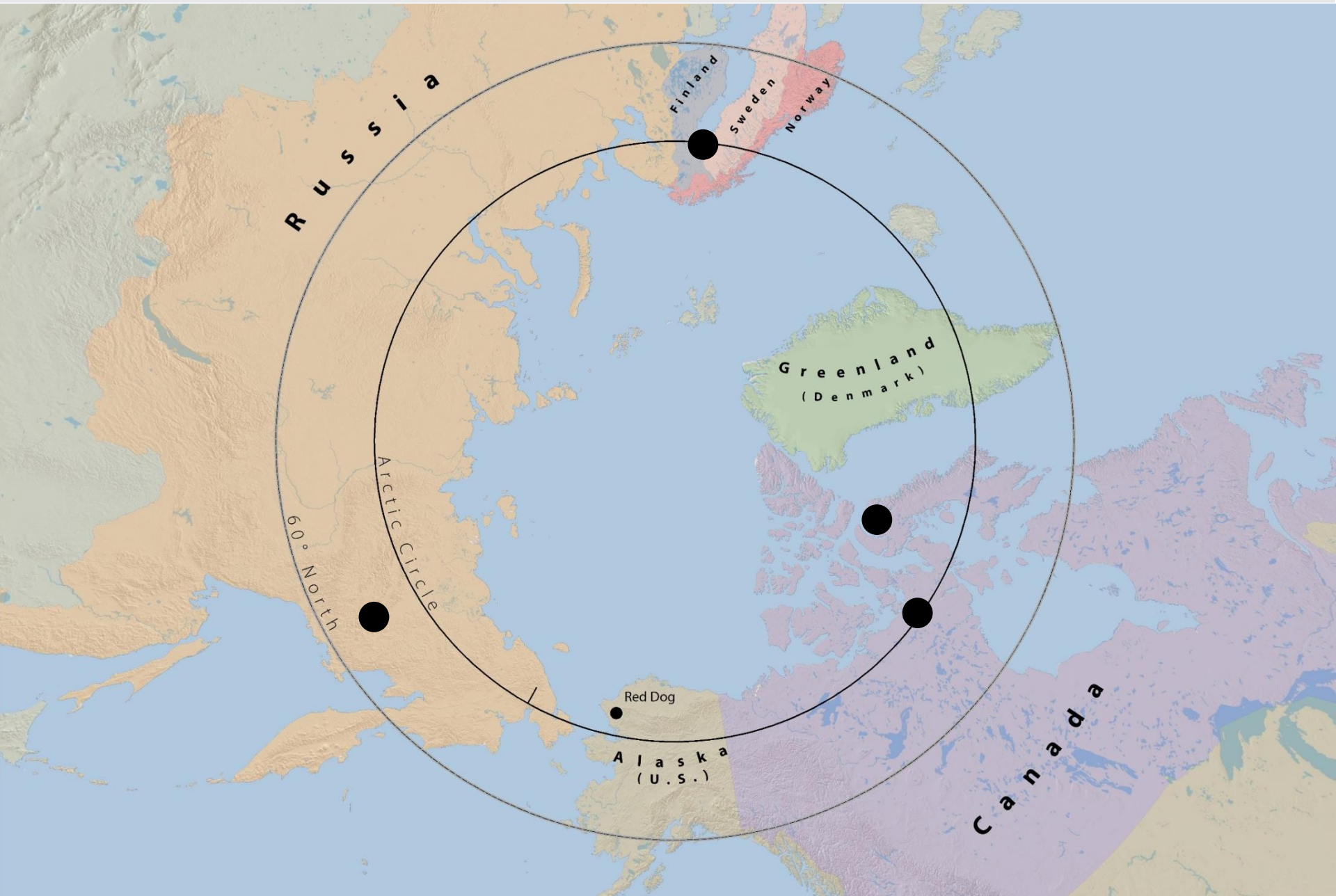


Five Pillars

- Human capital
- Built infrastructure
- Regulatory
- Data
- Economic



Mining in the Arctic – what we have learned



30 years of mining – and ongoing

Responsible development at Red Dog has helped the economy of the NANA region and Alaska.



Mining benefits from the Alaska Arctic

More than
\$217M

in total PILT to NAB since
mining began (through 2019)

\$35M

to the Village
Improvement Fund (VIF)
(through 2019)

More than
\$1.3B

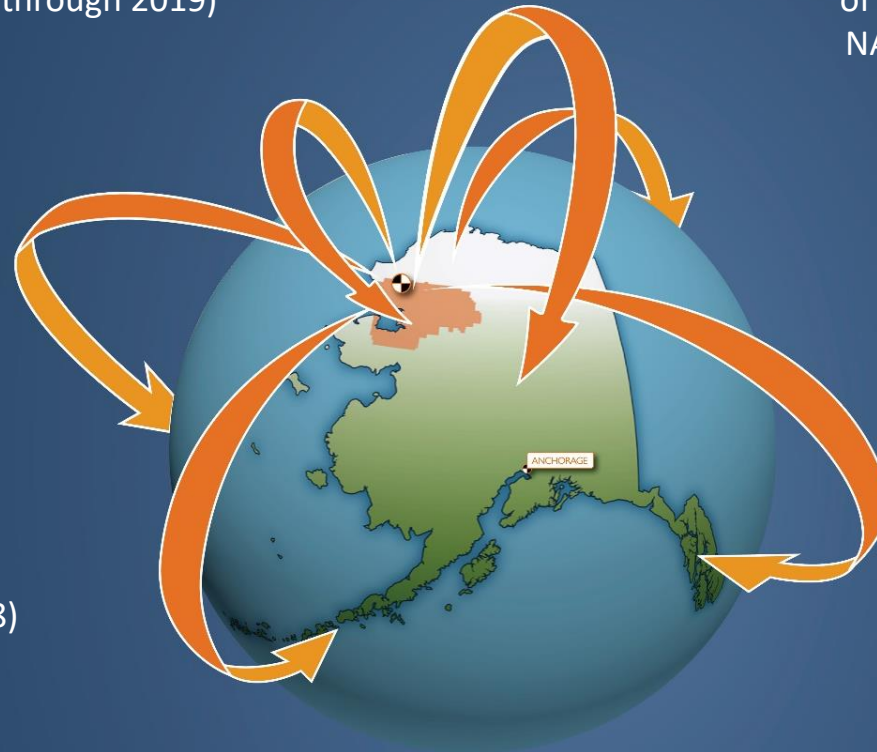
in payments to the State
of Alaska, AIDEA and
NAB (through 2018)

900+

shareholder jobs

\$1.2B

in total 7(i)/7(j)
payments (through 2018)



74%+

of Alaska's mineral
export in recent years

34%

of Alaska's export
in 2017 was due
to Red Dog

73%

(2018) of US zinc
mine production

4.7%

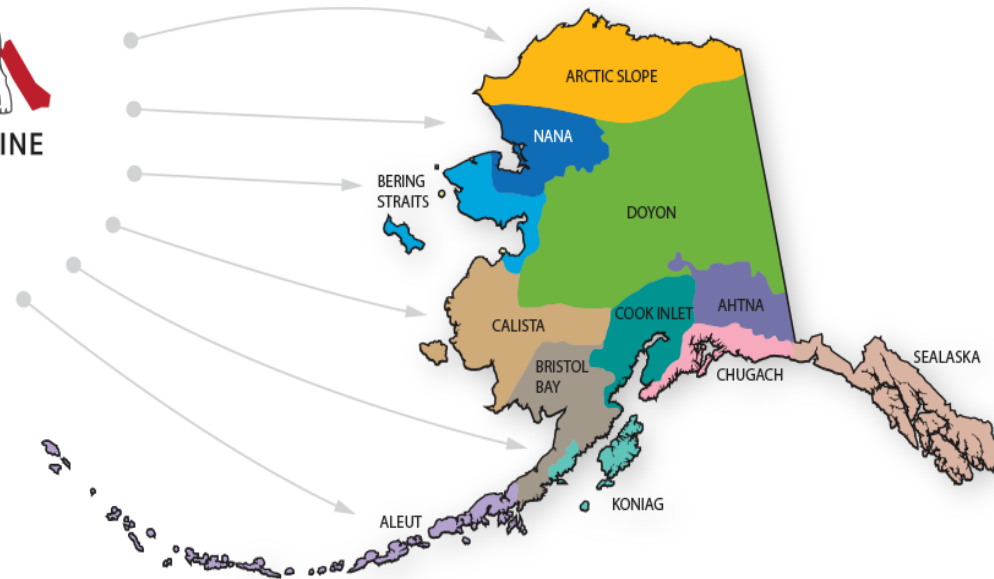
of global zinc
mine production

Mining benefiting all of Alaska

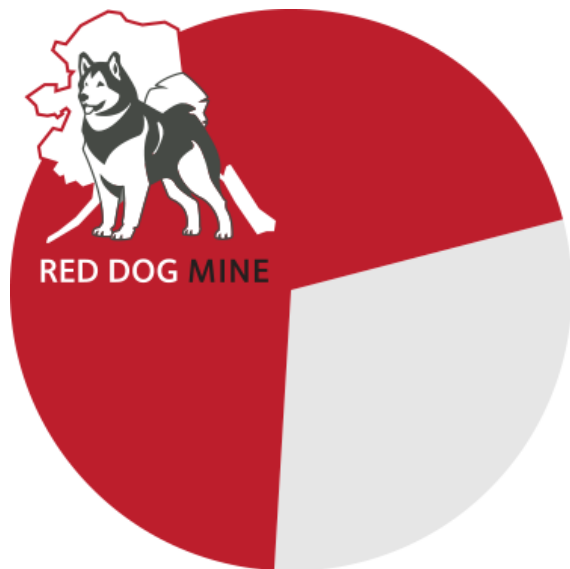
\$1.2B in total 7(i)
contributions through 2018



\$1.2B

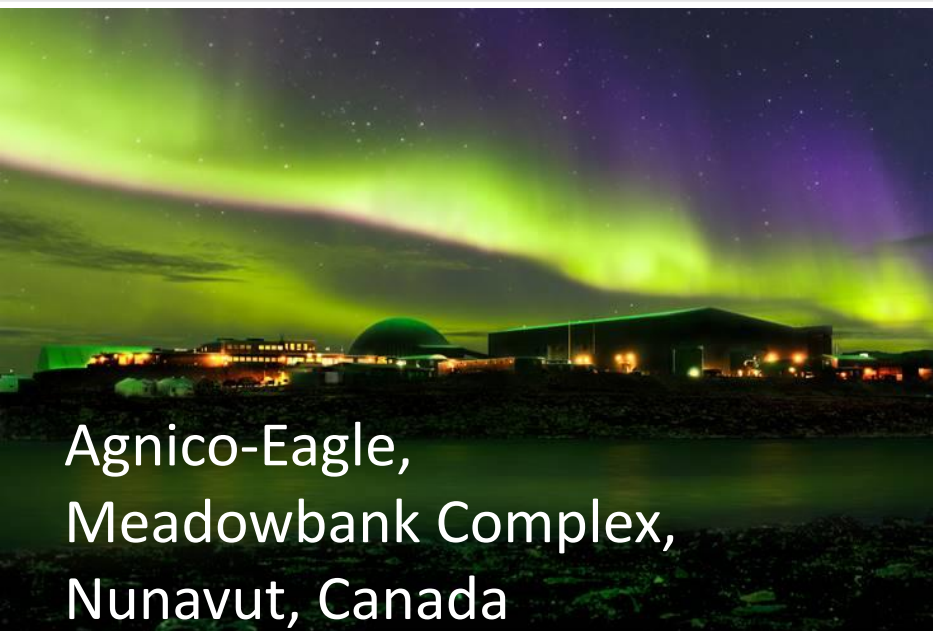


In the last 4 years (FY15-FY18)
70% of 7(i) came from Red Dog.



\$781M total

Northern development – recent mines



Agnico-Eagle,
Meadowbank Complex,
Nunavut, Canada



Mary River Iron Mine,
Baffinland, Canada



Boliden Aitik
Mine, Sweden



Agnico – Eagle
Kittila Mine, Finland

More new mineral investment – Nataalka, Russia



There are different ways to approach a challenge.

- The only thing that does not change – is change itself
- World consumer demand will continue to need metals
- More focus on stewardship and transparency – social purpose
- There are opportunities in the Arctic for sustainability
- The Arctic is the climate change poster child – yet we have and can develop Arctic projects with Arctic values



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