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Strategic Mineral Development is Critical for Sustainable Economies

HR 4402 – passed 256-160 in July, 2012

Requires the Department of the Interior and the Department of Agriculture to more efficiently develop domestic sources of strategic and critical minerals and mineral materials; including rare earth elements.

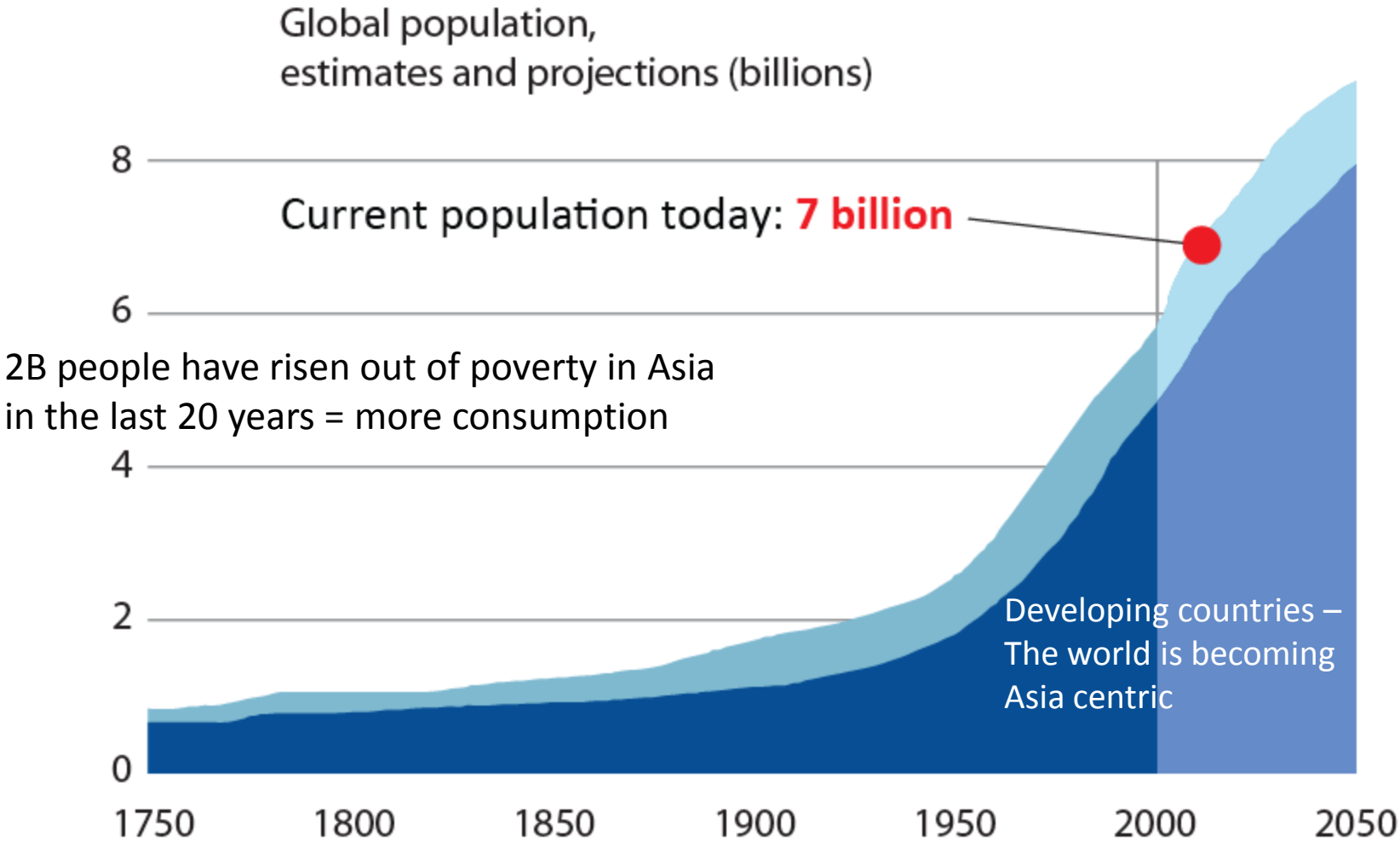
Defines strategic and critical minerals as those that are necessary:

1. For national defense and national security requirements;
2. **For the Nation's energy infrastructure including pipelines, refining capacity, electrical power generation and transmission, and renewable energy production;**
3. **To support domestic manufacturing, agriculture, housing, telecommunications, healthcare and transportation infrastructure; and**
4. For the Nation's economic security and balance of trade.

Strategic and Critical Minerals

What are they?

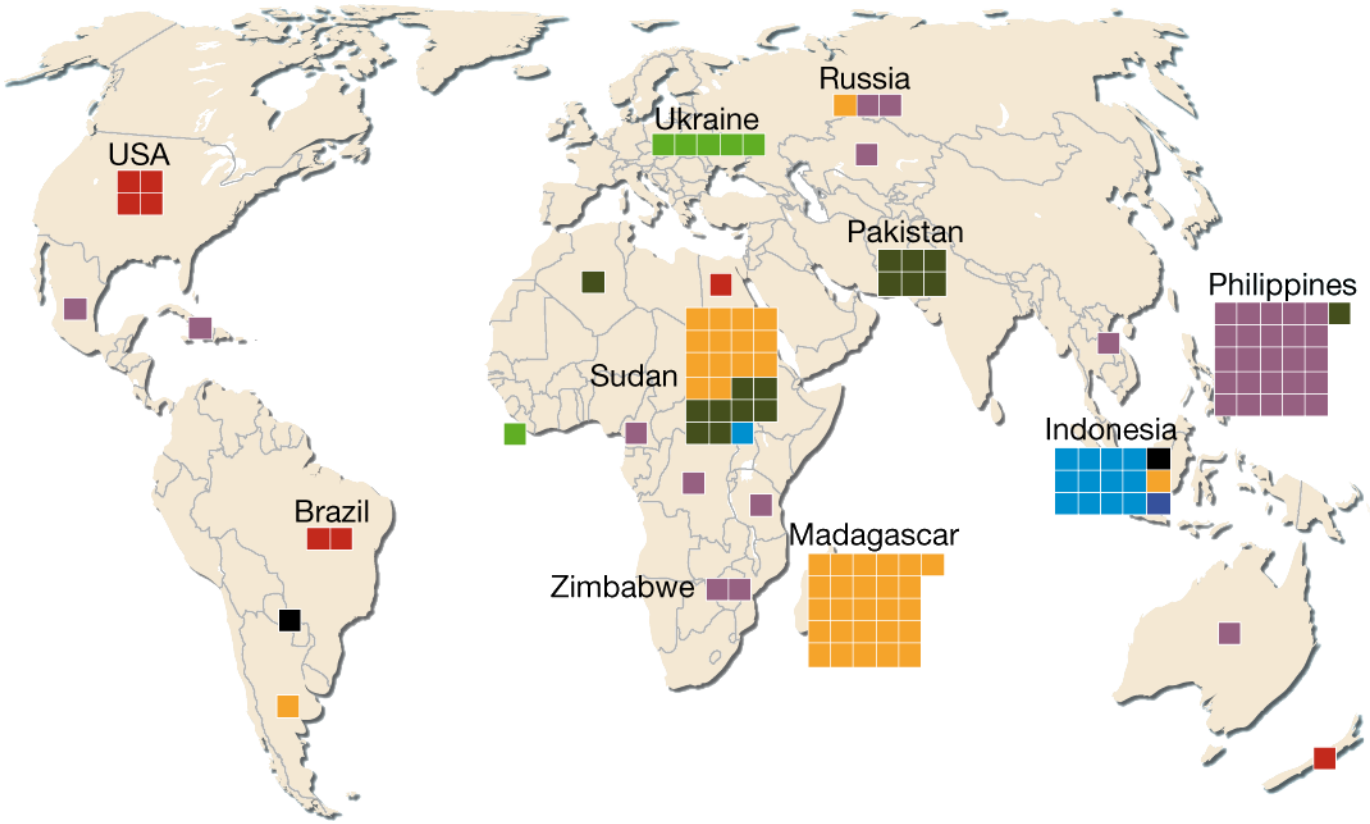
- Depends upon the Global situation
  - i.e. Salt (coins were made of salt)
  - China imposed a tax on Salt in 2200 B.C.
- China had a monopoly; taxation of salt raised $$ for the empire
- What are other drivers of mineral resource scarcity?
  - Population; developing countries are growing
  - Food security; Asian countries are investing around the world in arable land



2B people have risen out of poverty in Asia in the last 20 years = more consumption

UNEP

Food Security



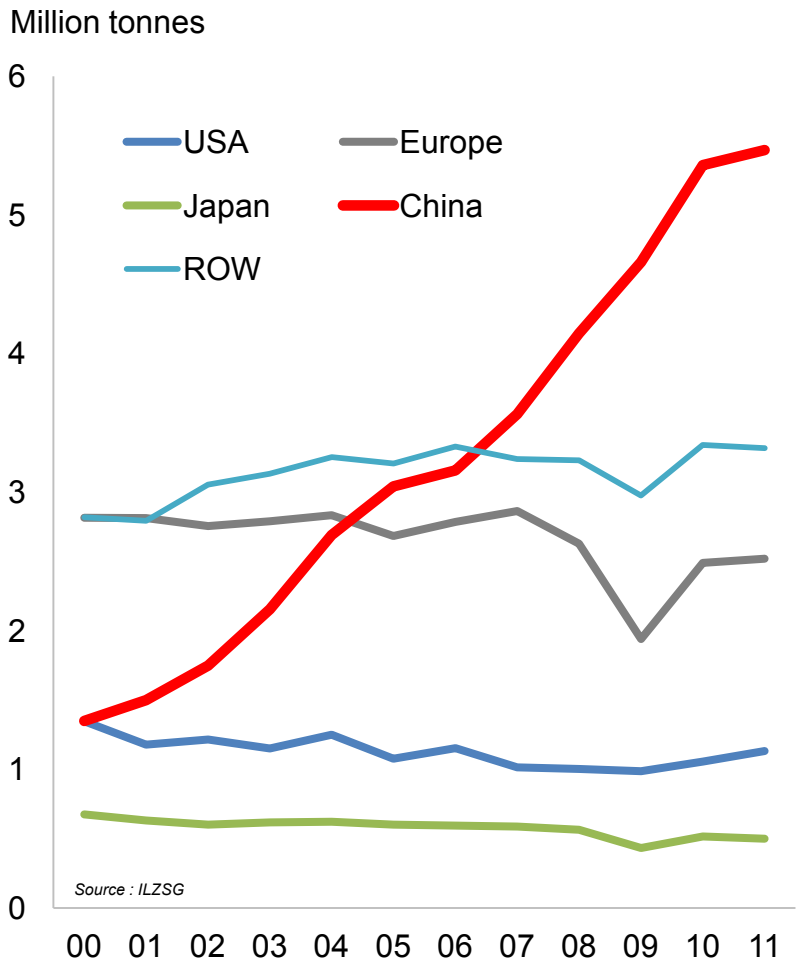
Agricultural international land leases

South Korea	2 000
China	1 500
UAE	710
Saudia Arabia	620
Japan	320
Libya	250
Malaysia	40
India	10

thousand hectares

Each square represents 50 000 hectares. Values under this value are represented with one square.

UNEP



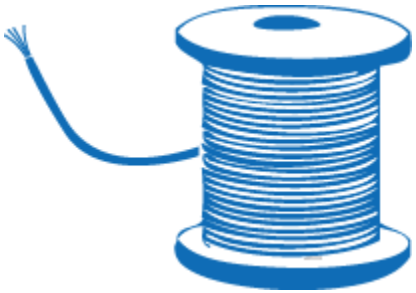
BASE METAL MARKETS – ZINC

China is the Driver for Global Zinc Consumption

- Asia has been the leader in growth - up 117% since 2000
- Within Asia, China has been the growth engine up 272% since 2000
- Since the Global Financial crisis, consumption has rebounded from 2009 levels - up 7% in the Americas and 30% in Europe

China is the biggest consuming country globally and also the biggest in the largest end use category

copper

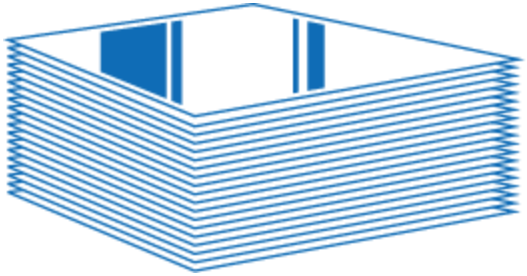


35% global share of wire rod production

lead

39% global share of lead battery production

zinc



39% global share of galvanized sheet production

Today China only galvanizes 4% of its crude steel, US galvanizes 18% of its crude steel

Source: ILZSG, ICSG

China Global Share and rank (ILZSG,ICSG)

	2001	2011	
COPPER			
Mine	5%	10%	#2
Refine	10%	26%	#1
Consumption	16%	40%	#1
LEAD			
Mine	20%	50%	#1
Refine	18%	44%	#1
Consumption	11%	45%	#1
ZINC			
Mine	18%	33%	#1
Refine	22%	40%	#1
Consumption	17%	43%	#1

China's Resource Strategy

Invest in countries with resources; <u>regardless of politics</u>

Chinese companies have a low cost of capital

Unknown ROI metrics

China has 26% of all foreign owned US treasury securities and 8% of US public debut

China's Resource Strategy

a snapshot – Cu

Cu
copper

In 2006 China consumed 23% of the worlds copper, 41% in 2010 and 55% by 2025.

Yet China has 6% of the worlds copper reserve.

25% of global Cu supply comes from; Indonesia, Russia, Kazakhstan, Iran and the Democratic Republic of Congo.

RISK

Wood Mackenzie recognizes in 2000 62% of Cu production came from Low Risk Countries, by 2020 they estimate 44% will come from low risk countries – thus investing in higher risk countries is more likely.

China's Resource Strategy
a snapshot – Cu and Fe

Purchases - 2012

中国五矿集团公司
CHINA MINMETALS CORPORATION

Minmetals bought Anvil Mining's copper deposit in the DRC for $1.3B.

CITIC PACIFIC

CITIC's iron project in western Australia went from $2.5B initially to $8.0B in August 2012.

Looking ahead investment may not be as aggressive and will have greater due-diligence. But who knows?!

The opening (access) of the Arctic; has Alaska's ship come in? or is it someone else's?

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We balance between development and maintaining our culture, subsistence and way of life.

Strategic Minerals – In Arctic Northwest Alaska

US Foreign Dependence/China % of global consumption

73% (5% of global reserve)/ 43%

35% (5% of global reserve)/ 40%

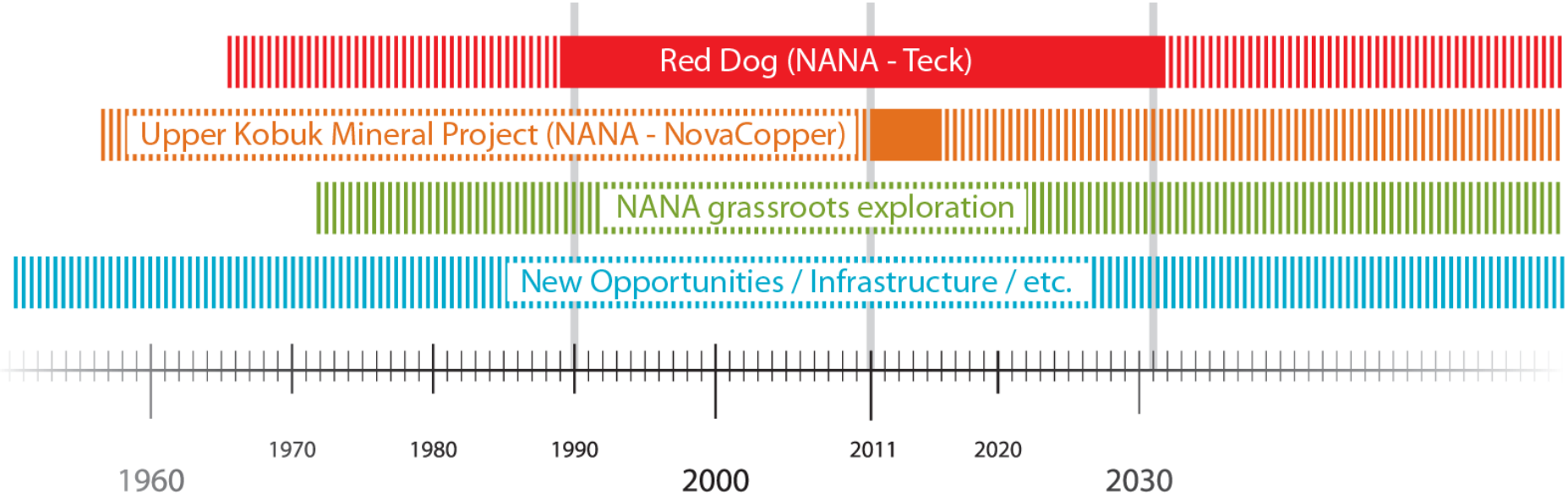
90% / China accounts for 55% of global refinery production

75% (<1% of global reserve)/??

18% (recycled lead is 91% of US consumption)/ 45%
US imports basically all primary lead

NANA region projects

Strategic Mineral Development = Sustainable Economy



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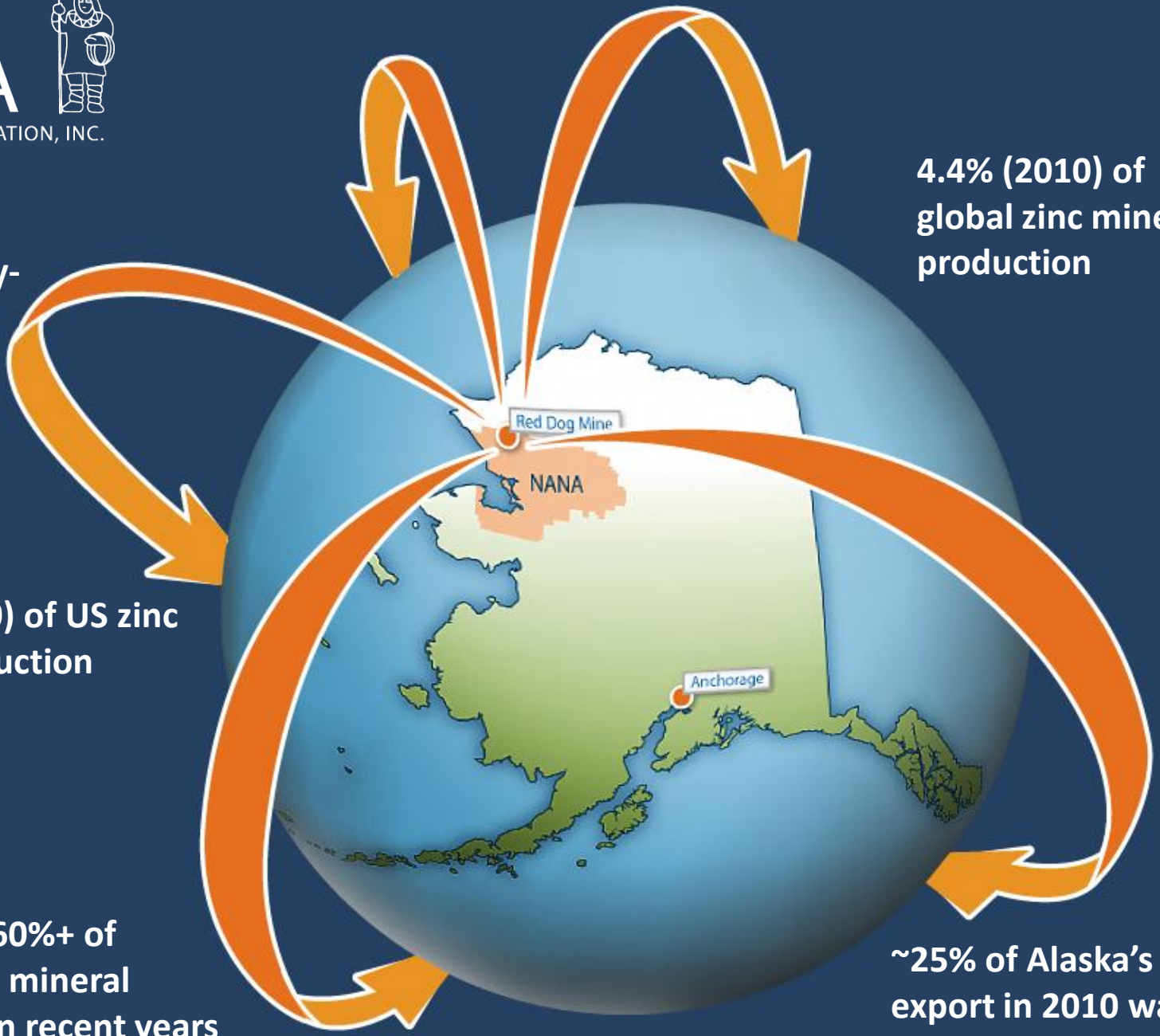
600 + Family-supporting jobs

4.4% (2010) of global zinc mine production



73 % (2010) of US zinc mine production

~49% - 60%+ of Alaska's mineral export in recent years

~25% of Alaska's export in 2010 was due to Red Dog

Helping All of Alaska

$512 million

in total 7(i) payments since mining began through FY '12

- Doyon, Limited
- Koniag, Inc.
- Sealaska Corporation
- Calista Corporation
- CIRI
- Aleut Corporation
- Ahtna, Inc.
- Bristol Bay Native Corporation
- Arctic Slope Regional Corporation
- Chugach Alaska Corporation
- Bering Straits Native Corporation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Arctic Slope
Red Dog Mine
Upper Kobuk Mineral Project
Kivalina
Noatak
Noatak River
Doyon
Kiana
Ambler
Kobuk
Shungnak
Kotzebue
Kobuk River
Noorvik
Selawik
Selawik River
Deering
Buckland
Buckland River
NANA Region
NANA Exploration
Arctic Slope
NANA
Doyon
Bering Straits
Calista
CIRI
AHTNA
BBNC
Chugach
Sealaska
Aleut
Koniag

Upper Kobuk Mineral Project

Nearly 50 years of on and off exploration for polymetallic deposits

15 years of community engagement and sporadic mineral exploration activity

NANA - NovaCopper venture

- 192 jobs in 2012
- Oversight Committee developed with NANA/NC
- Can leverage infrastructure development to keep the cost of living down in the villages

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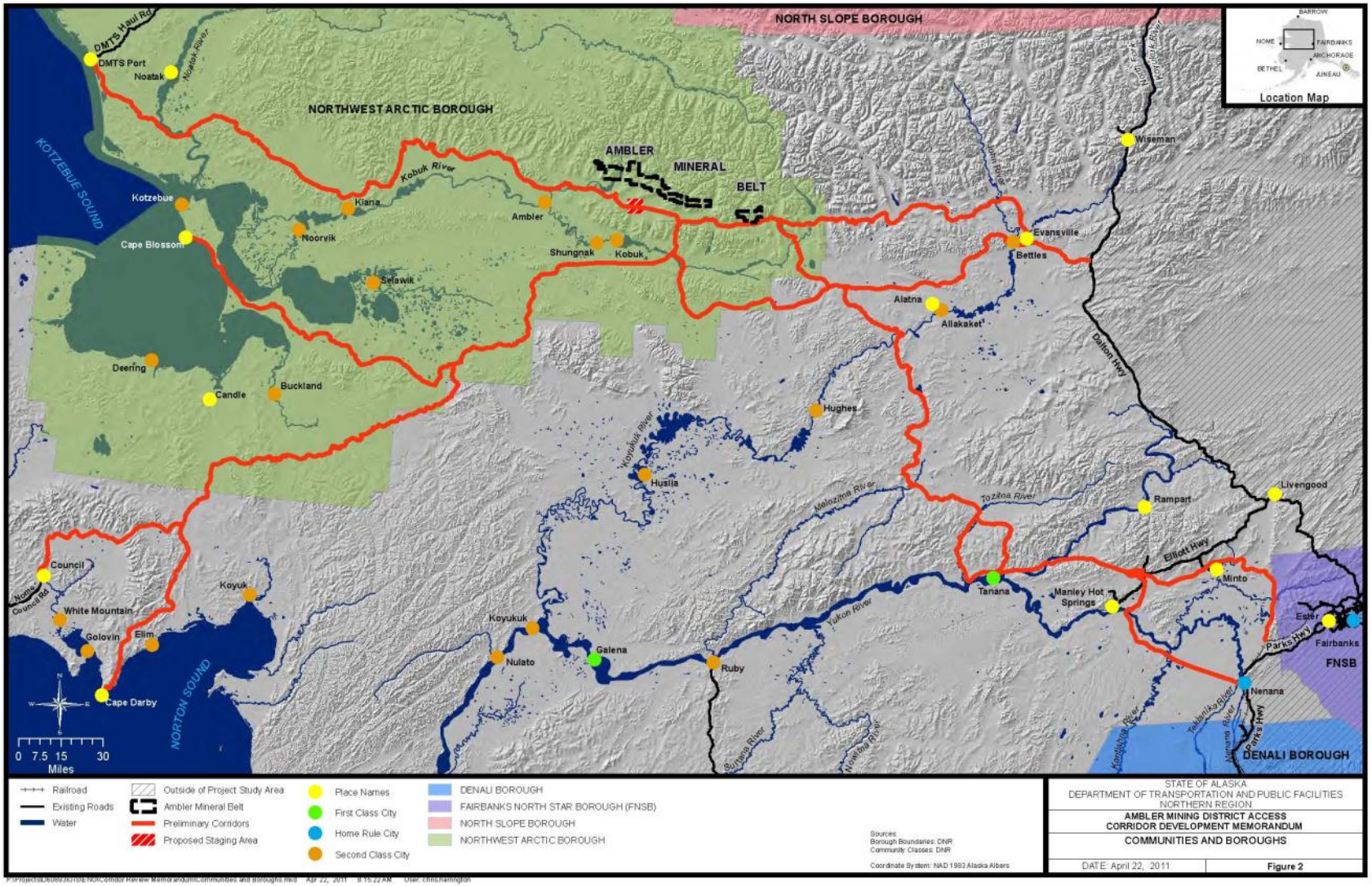
Bornite Circa 1967-68

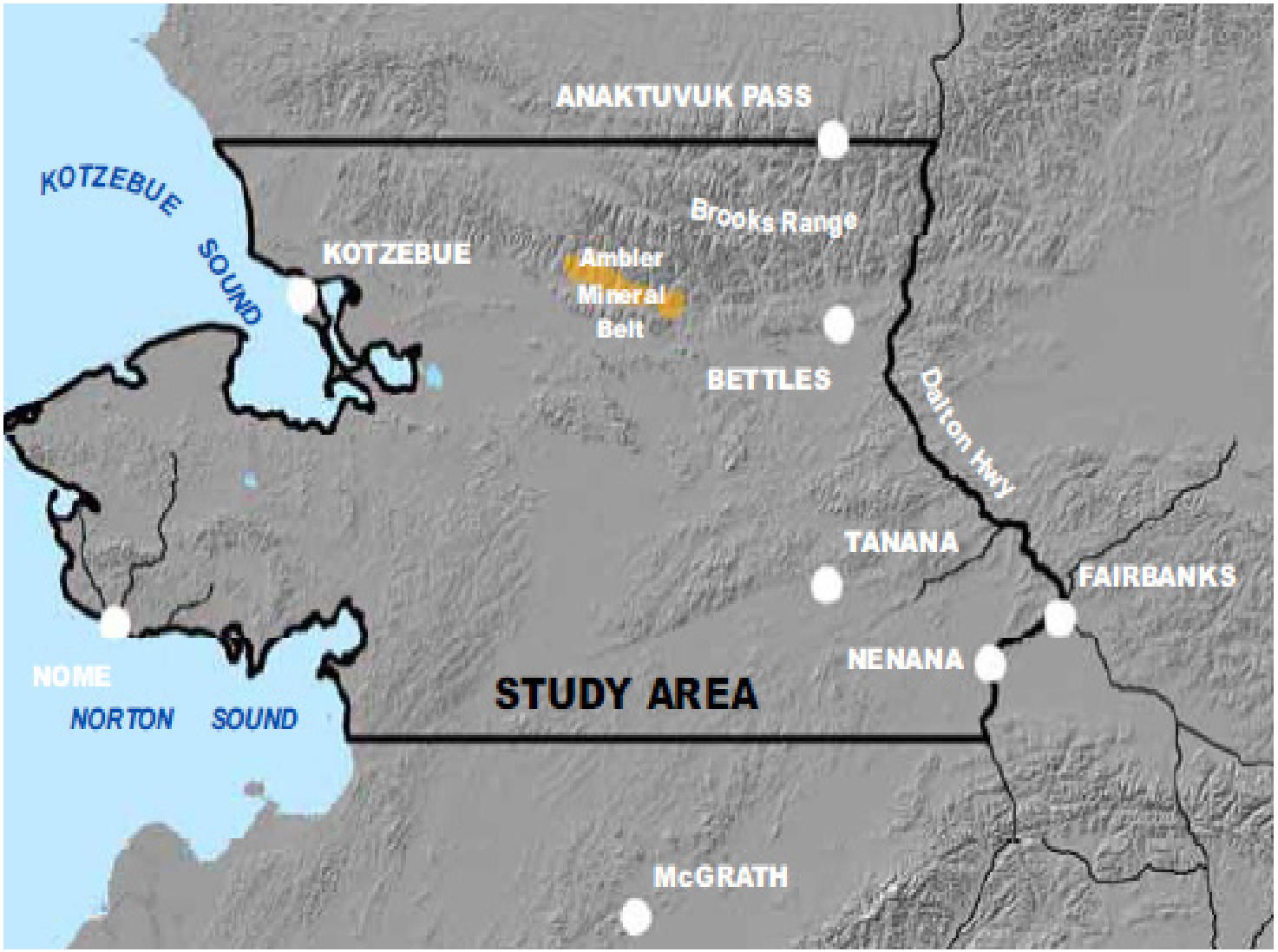

Bornite - August 2011

Ambler Mining District Access
Project Study Area/Corridors



AKDOT

Access – NW Alaska



AKDOT

Conclusions

- Any minerals we are not self sufficient on are critical and strategic
- The developing countries have a new mineral resource strategy – purchase a countries resource, don't worry about the politics
- The global focus on the Arctic puts Alaska on the radar for resource opportunities – we should seize it for sustainability!
- It is Critical for the US and Alaska to be Strategic on mineral development

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TAIKUU

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