DNR Land Sales/Online Auctions

Susan Damon| Assistant Director, Division of Lands and Minerals

DEPARTMENT OF NATURAL RESOURCES

Why does the DNR sell land?

- DNR works to improve its public land asset and sales are an important tool in managing public lands.
- The DNR sells school trust land because:
  - Sale meets DNR's fiduciary responsibilities on trust lands.
    - Limited revenue generation opportunities from parcel
    - No management access
    - Isolated, not adjacent to other state land
    - Resolution of trespass
- DNR seeks advice from School Trust Lands Director

How does the DNR sell land?

- DNR generally sells land by public sale/competitive bid. The minimum bid for a parcel includes both the market value of the land plus DNR costs in preparing the property for sale.
- Minn. Const., Art XI, Section 8 requires school trust land to be sold by public sale.

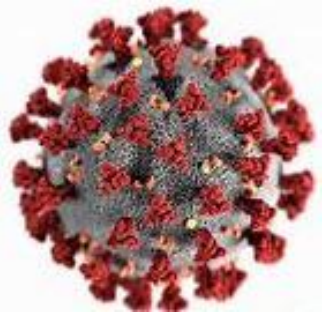
What is a public sale?

- A public sale provides the opportunity for members of the public to submit competitive bids.
- Historically, the DNR has held in-person public auctions once a year.

Legal authority for online auctions

- DNR land sales process improvement project in 2017 and 2018
- One recommendation from the project was to seek legal authority to hold public sales via online auction:
  - Expand pool of potential buyers
  - Reduce sales costs
- An amendment to Minn. Stat. sec. 94.10, subd. 2 was passed in 2018, providing:
  - (f) Public sales of surplus state-owned land may be conducted through online auctions.
- 2018 and 2019 sales still held in person; land sale coordinator began investigating possible online auction platforms

2020 COVID-19 Pandemic



In-person auction not possible in 2020 because of pandemic

What to do?

2020 Solution: Sealed Bid Auction

- WebEx option that allowed for public participation in the bid presentation

2020 Sealed Bid Auction Results

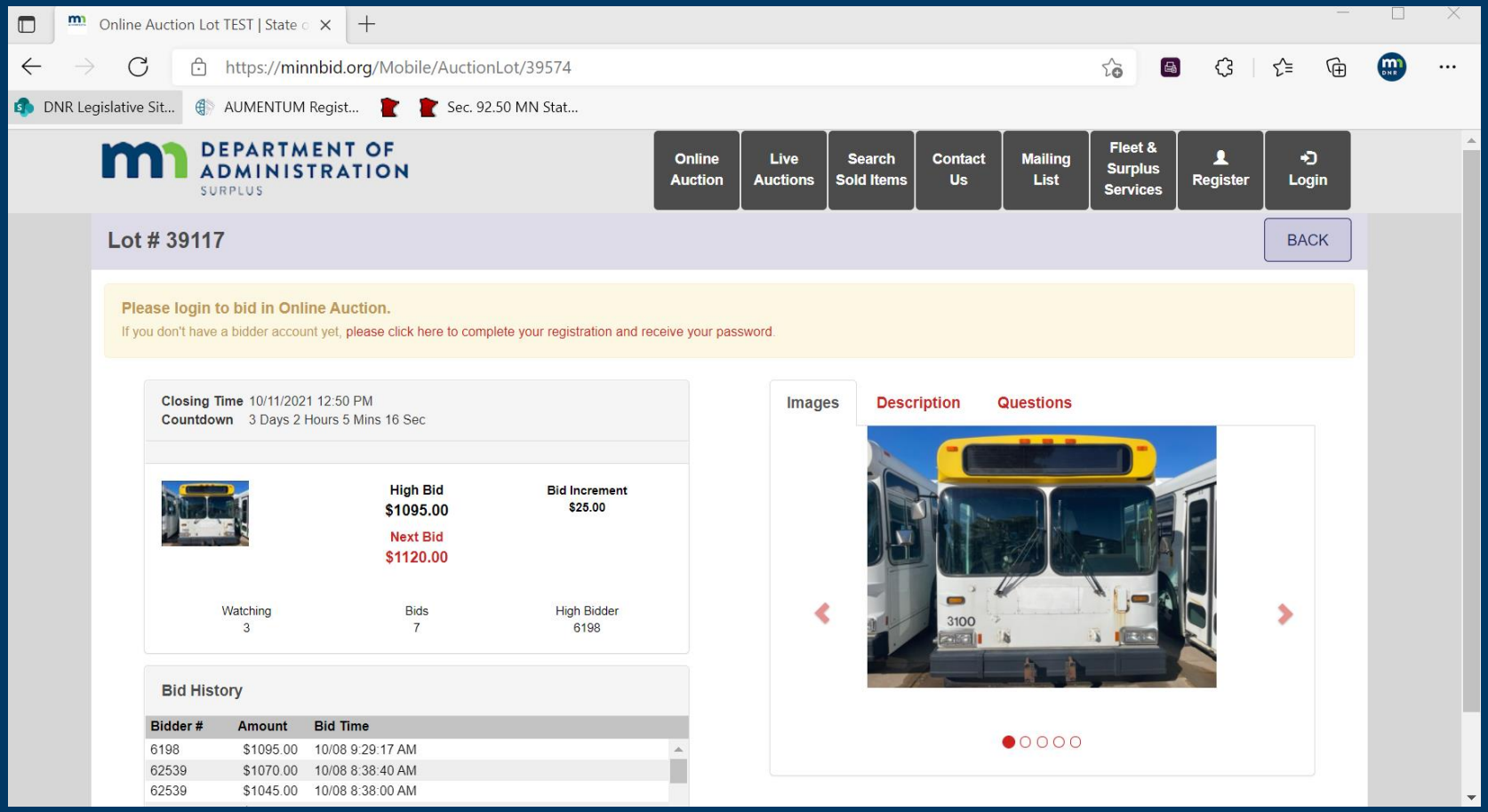
Statewide Statistics

- 18 parcels offered (9 school trust)
- 39 bids received by mail
- 11 of 18 parcels sold
- 10 parcels sold over minimum bid
- Bidding by adjoining owners
- 1 parcel bid up 3x’s minimum bid

School Trust Statistics

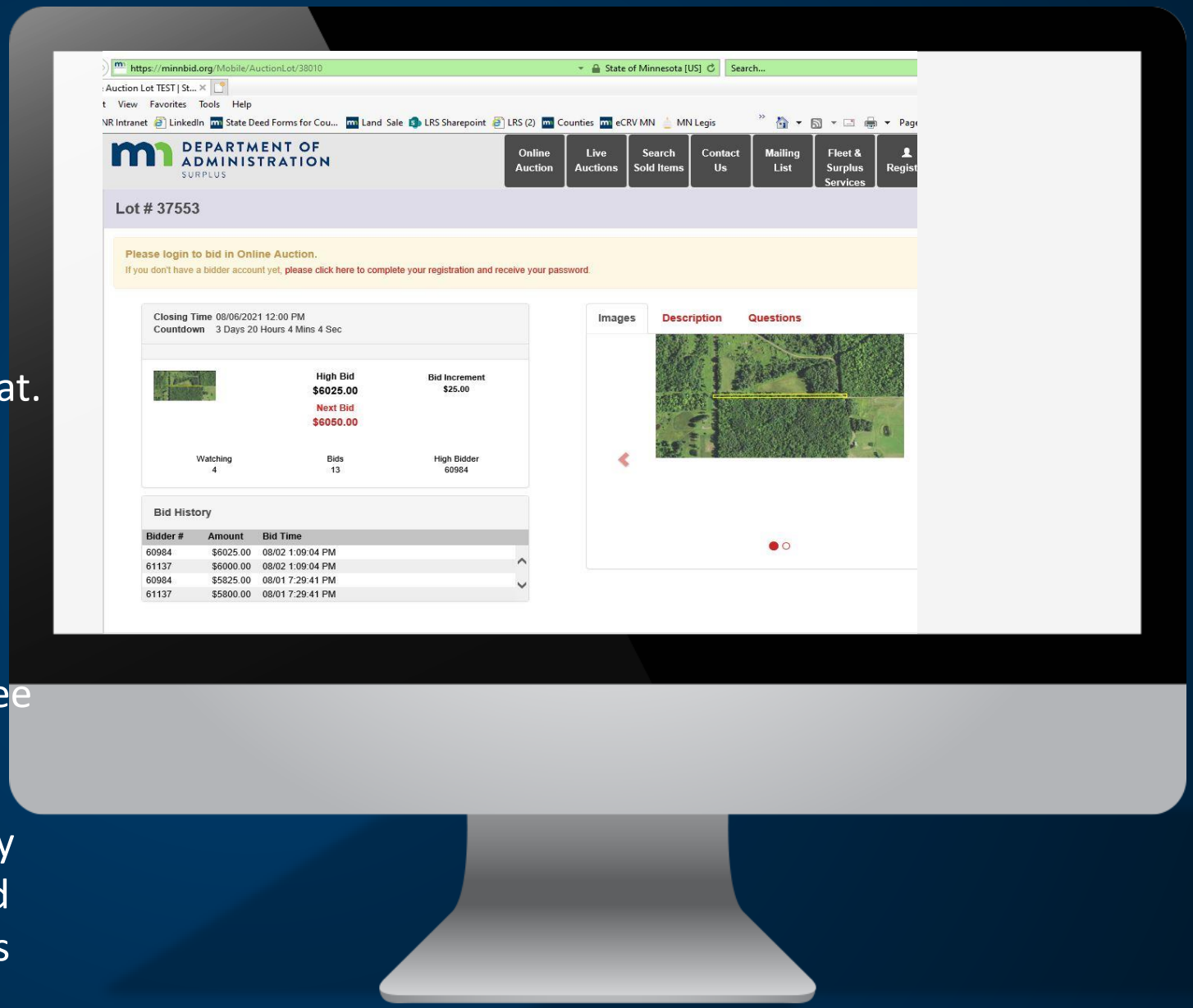
- 5 school trust parcels sold
- 1 school trust purchaser subsequently defaulted

MinnBid.org is the Dept. of Administration's Online Auction Platform for Sales of Surplus State Property

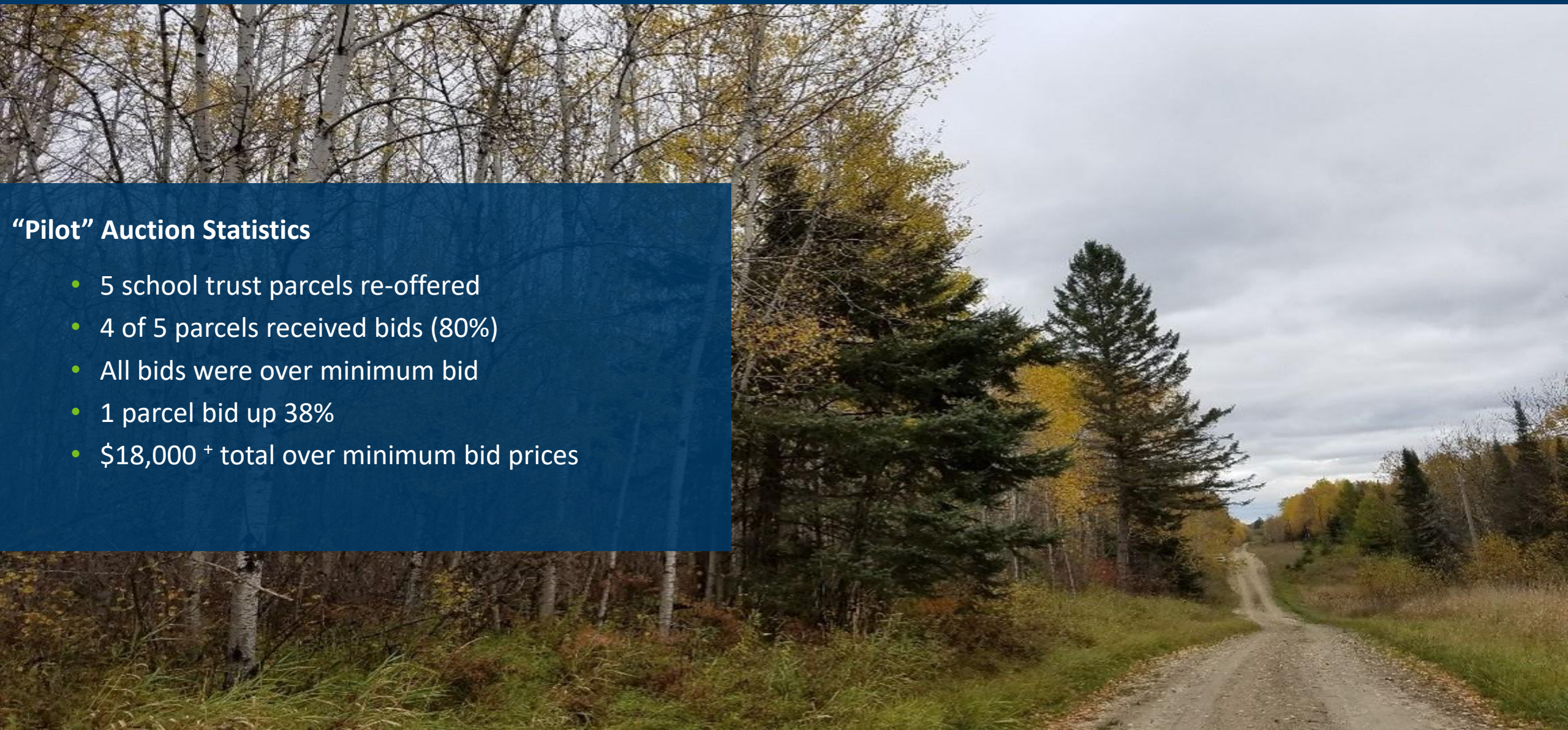


Could DNR use MinnBid.org for land sales?

- Consistent with Minn. Stat. 94.10, subd. 2 (f), authorizing online public auctions
- Department of Administration did not see any barriers
- DNR still needs to comply with statutory notice and publication requirements



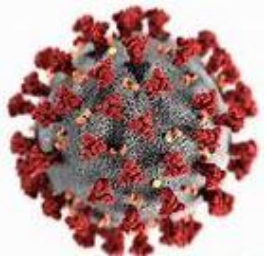
2021 “Pilot” Auction via MinnBid



“Pilot” Auction Statistics

- 5 school trust parcels re-offered
- 4 of 5 parcels received bids (80%)
- All bids were over minimum bid
- 1 parcel bid up 38%
- $18,000 + total over minimum bid prices

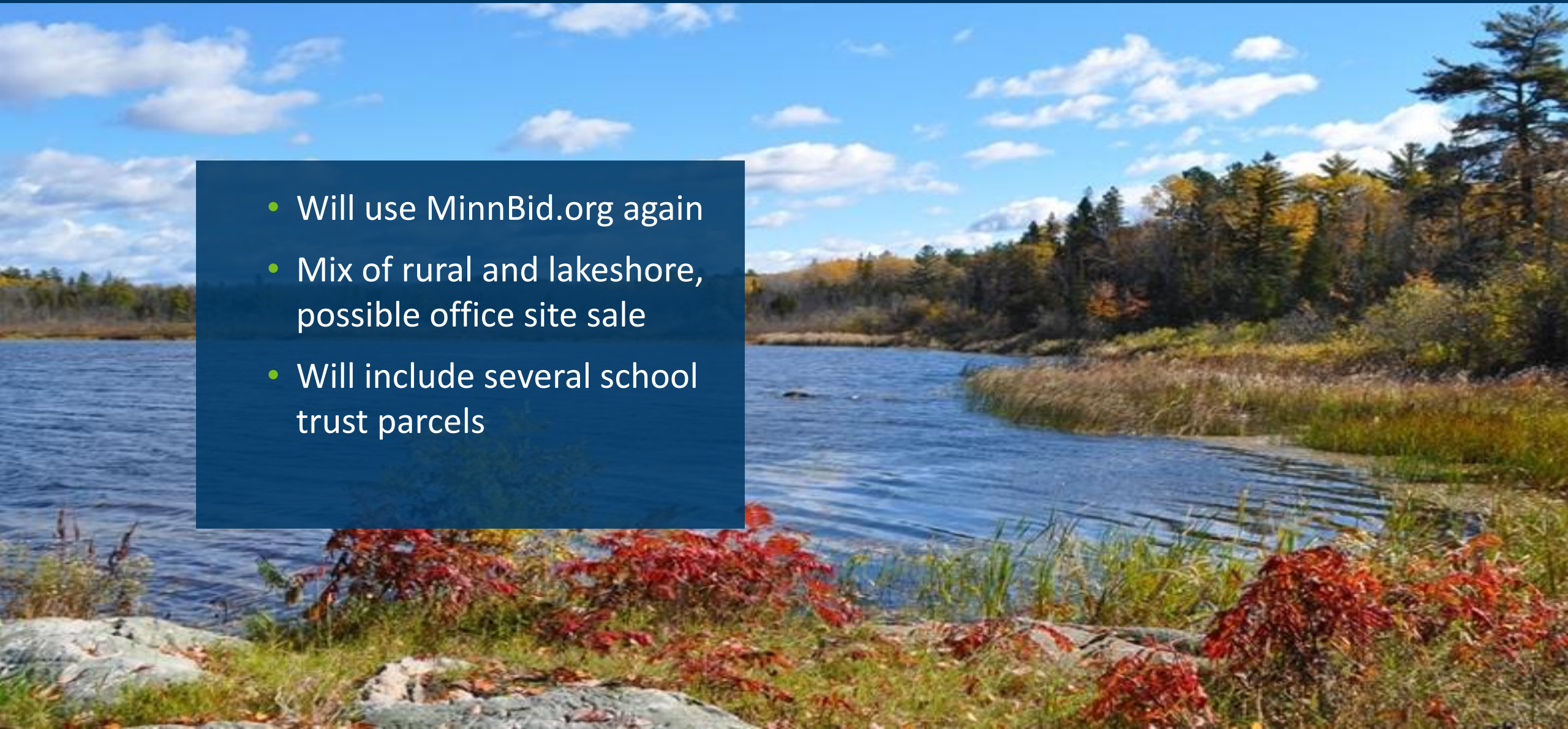
2021 Fall Auction



Pandemic isn’t over

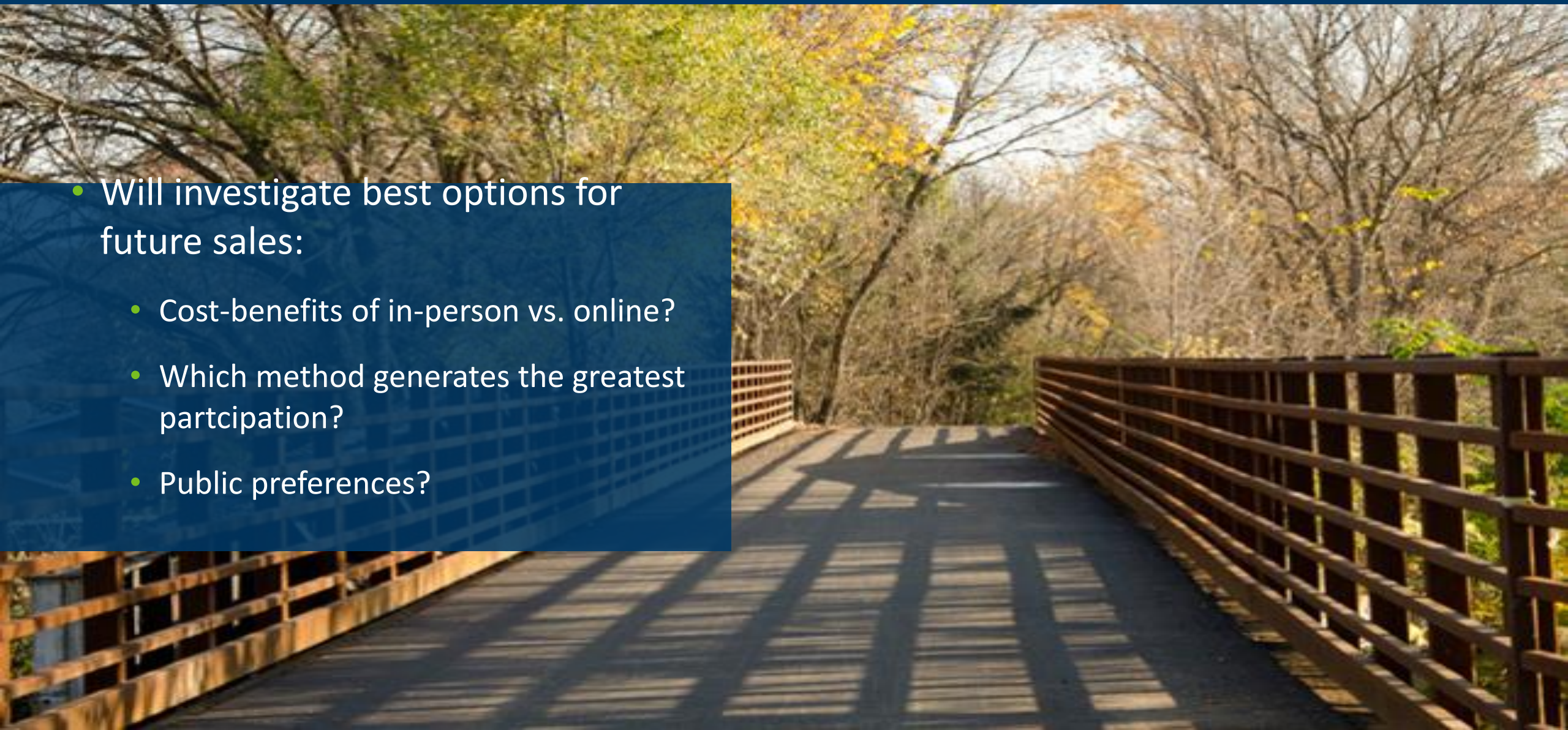
Safety concerns about holding in-person auction

2021 Fall Auction II



- Will use MinnBid.org again
- Mix of rural and lakeshore, possible office site sale
- Will include several school trust parcels

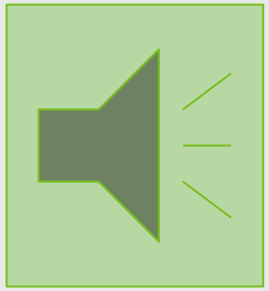
Future DNR Land Sales



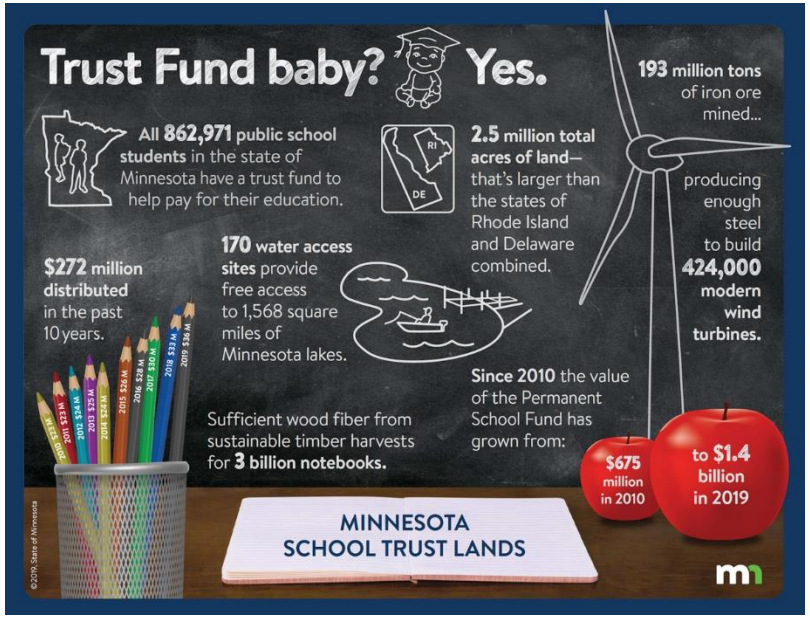
- Will investigate best options for future sales:
  - Cost-benefits of in-person vs. online?
  - Which method generates the greatest partcipation?
  - Public preferences?

Questions or Comments?

estions?



Comments?



Minerals Update

October 13, 2021

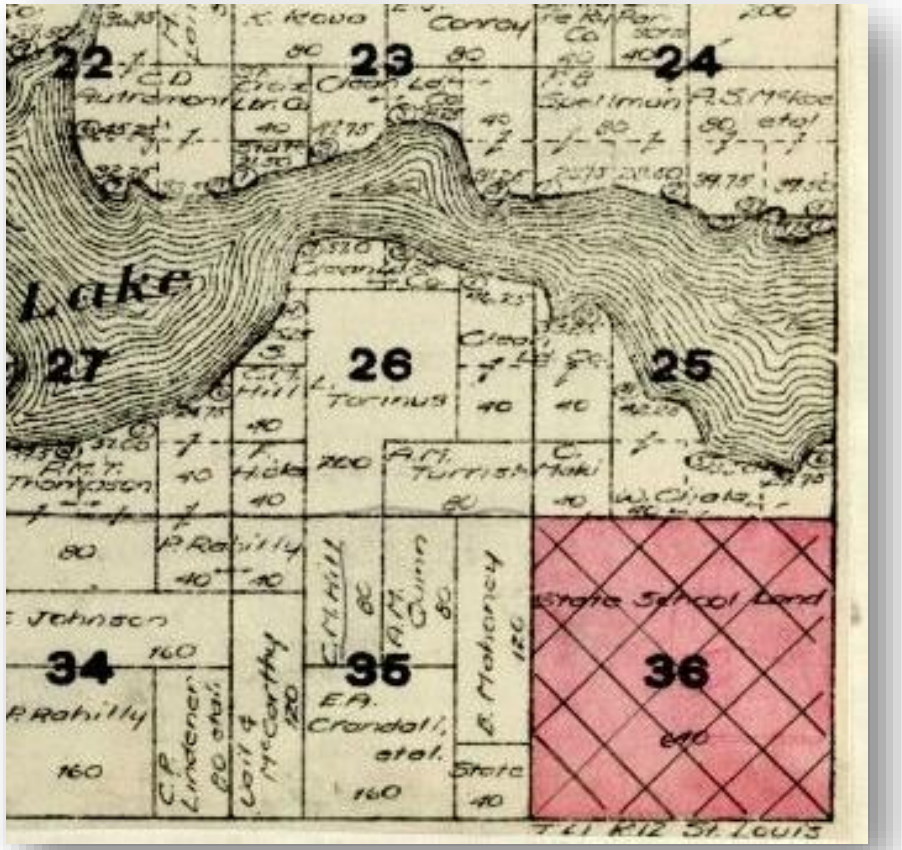
DEPARTMENT OF NATURAL RESOURCES

Thank you!

- 130 year history of mineral leasing
- 130 years of consecutive income to the school trust

DNR's Designated Role in Mineral Management

- DNR is the designated trustee to public schools, the university, and counties:
  - The DNR has the duty to manage lands to generate revenue for these trusts lands in an environmentally sound manner
  - The state manages 12 million acres of mineral rights
  - 5 million acres of these lands are Permanent School Trust Lands
- The largest source of revenue for these funds has come from Minnesota's minerals

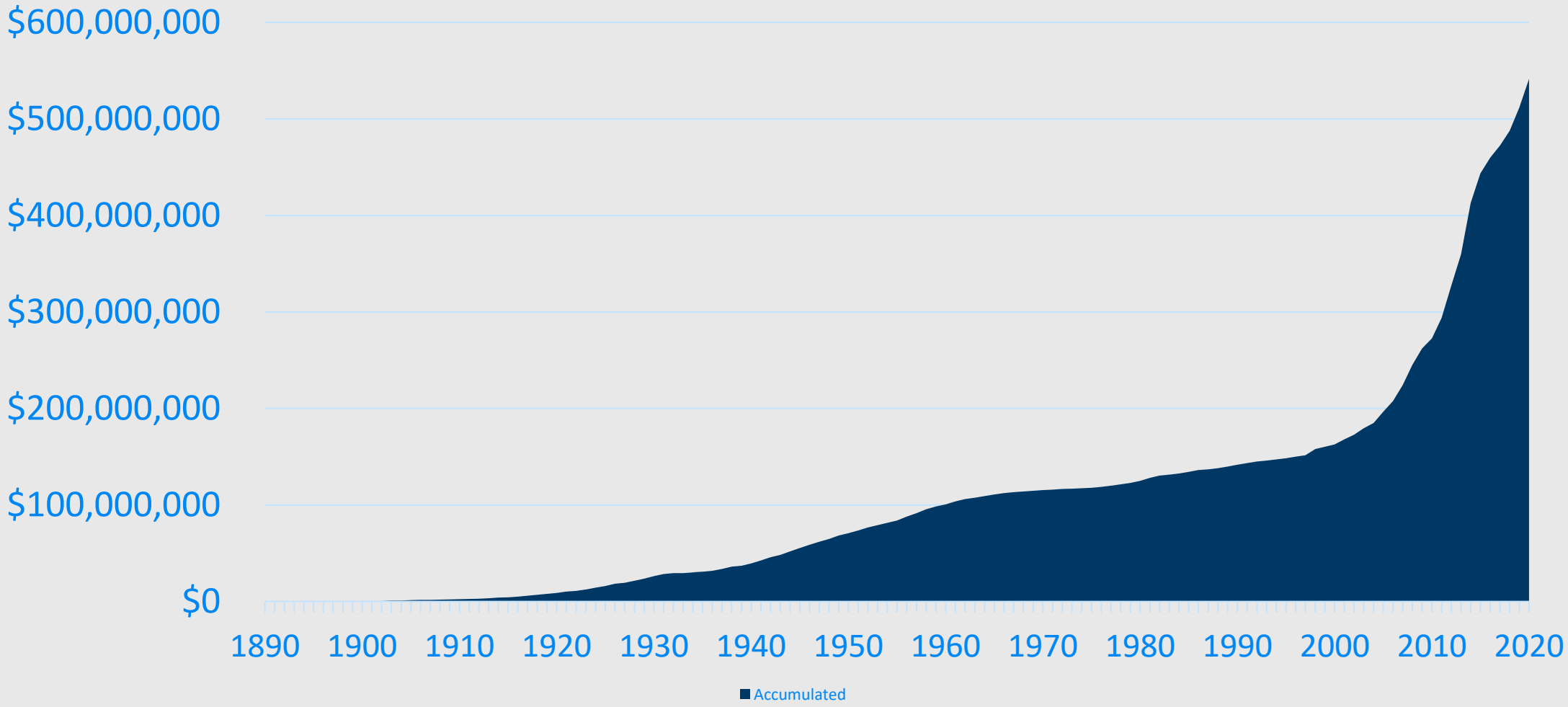


(Minn. Const. art. XI, sec. 8 and Minn. Stat. §127A.351)

School Trust Mineral Leases 1890-2020

Lease Type	First Revenue	Latest Revenue	Accumulated Revenue
Iron Ore - Taconite	1890	2020	$529,414,177
Other Metallic	1967	2020	8,263,820
Industrial Minerals	1934	2020	384,667
Peat	1980	2020	1,707,597
Total			$539,770,261

Accumulated School Trust Mineral Revenue



These are the Good Old Days

- 130 year history - $528 million
- Last 10 years - $267 million – 50%
- And FY 2020 and 2021 are above the most recent 10-year average.

School Trust Mineral Receipts

Lease Type	2011 -2020 Average	2020	2021
Iron Ore - Taconite	$25,509,900	$27,127,405	*$27,638,694*
Iron Ore - Residue	472,546	36,091	*71,085*
Other Metallic	506,917	527,469	*542,581*
Industrial Minerals	37,702	97,619	*141,846*
Peat	63,672	28,090	*29,877*
Other	135,995	117,270	*101,616*
Total	$26,726,733	$27,933,944	*$28,525,699*

95%

School Trust Iron Ore Receipts

Lease Type	2011 -2020 Average	2020	2021
US Steel - Minntac	$24,078,717	$25,599,360	$25,804,546
All Others	1,143,183	1,528,045	1,834,148
Total	$25,509,900	$27,127,405	$27,638,694

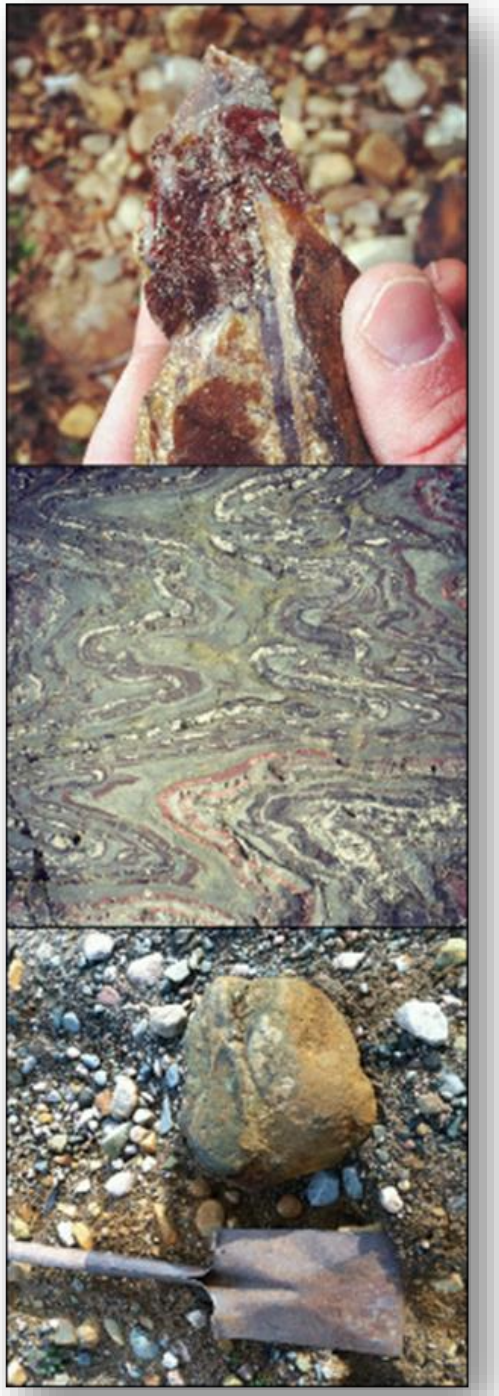
Minnesota has a Diverse Mineral Portfolio

Metallic Minerals

- Iron ore/Taconite
- Copper
- Nickel
- Cobalt
- Platinum Group Metals
- Manganese
- Titanium
- Gold

Non-Metallic Minerals

- Sand and Gravel
- Crushed Stone
- Peat
- Dimension Stone
- Kaolinite



Sustaining School Trust Mineral Receipts

- Supporting iron ore
- Diversify the minerals portfolio

Emerging trends potentially impacting Minnesota's minerals

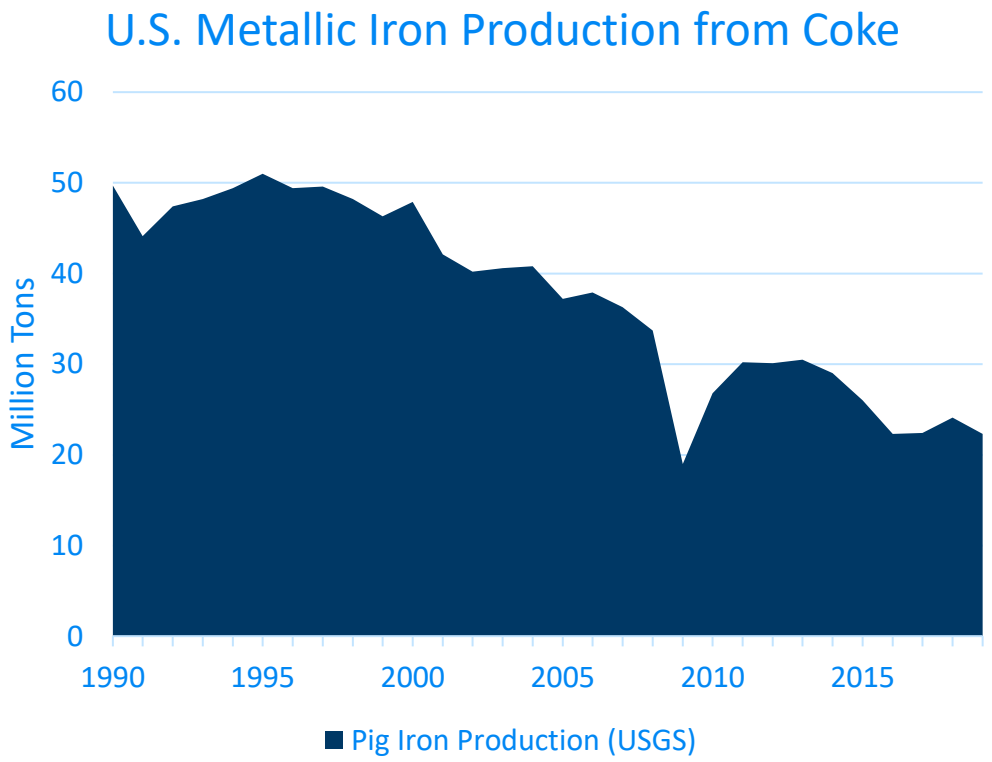
- Actions companies and countries are taking to address climate change
- Decarbonizing steel making
- Carbon sequestration
- United States identification and sourcing of "Critical Minerals"
- Increasing mineral needs for electrification

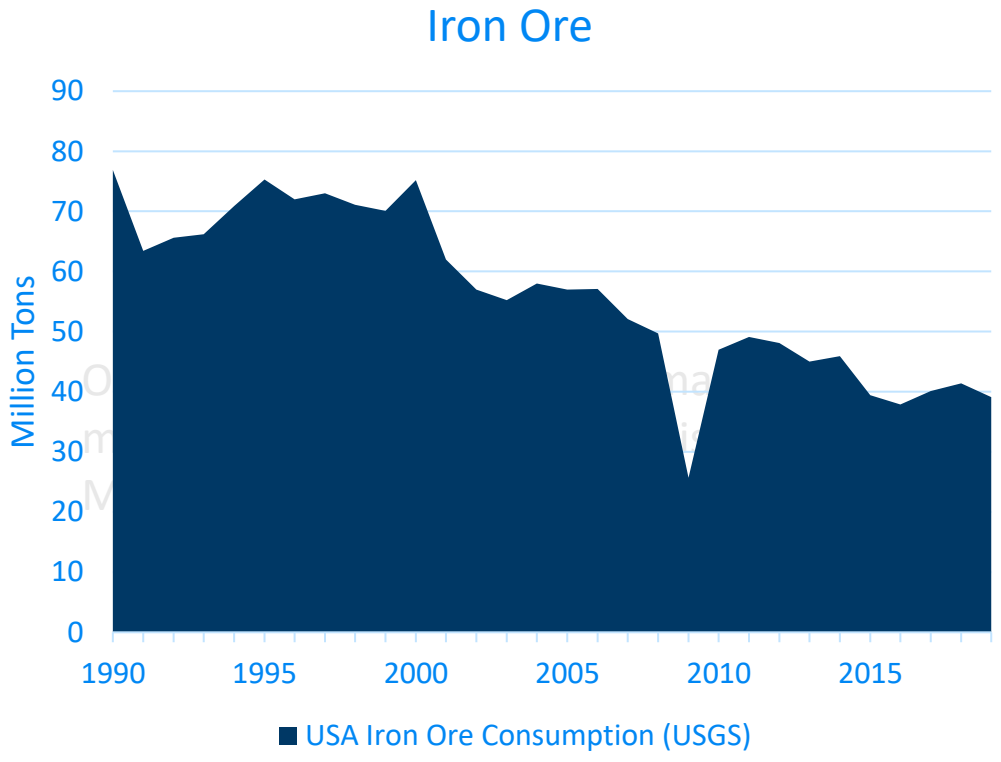
Iron ore is converted into steel at blast furnaces



Converting Iron Ore - Fe_2O_3 into Steel – Metallic Fe

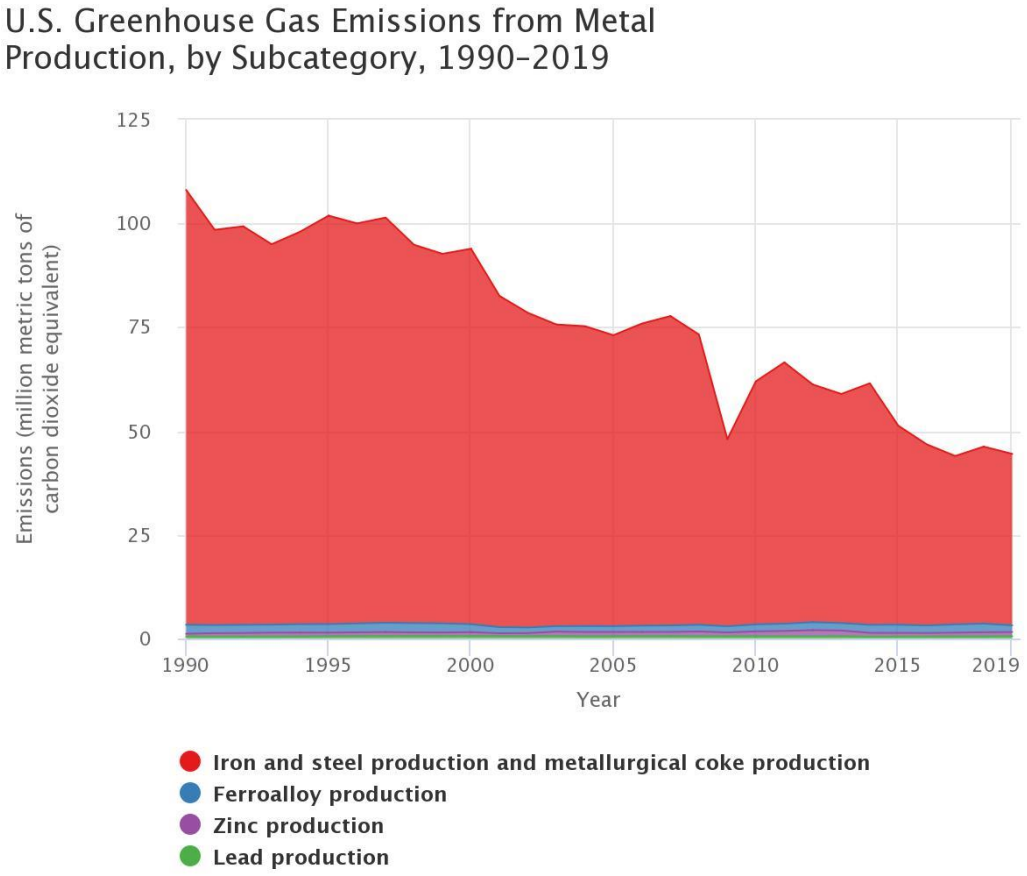
Metallic iron is produced in blast furnaces by combining iron ore (Fe_2O_3) and coke (C) in a blast furnace

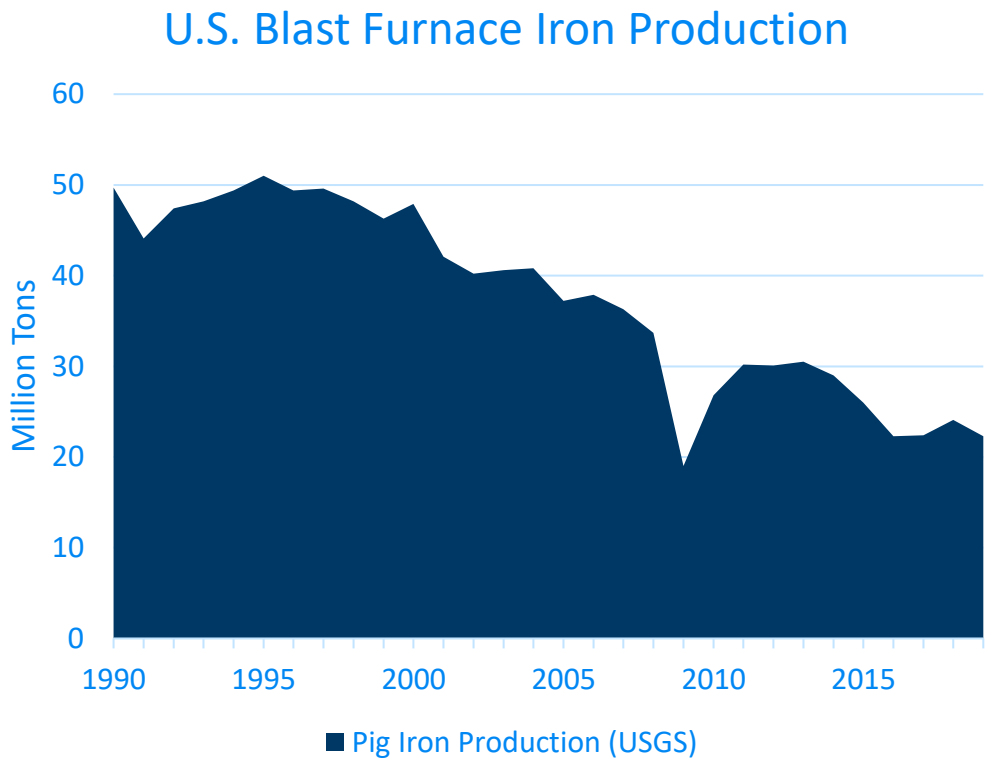




Source: USGS Mineral Commodity Summaries -- pig iron production and iron ore consumption

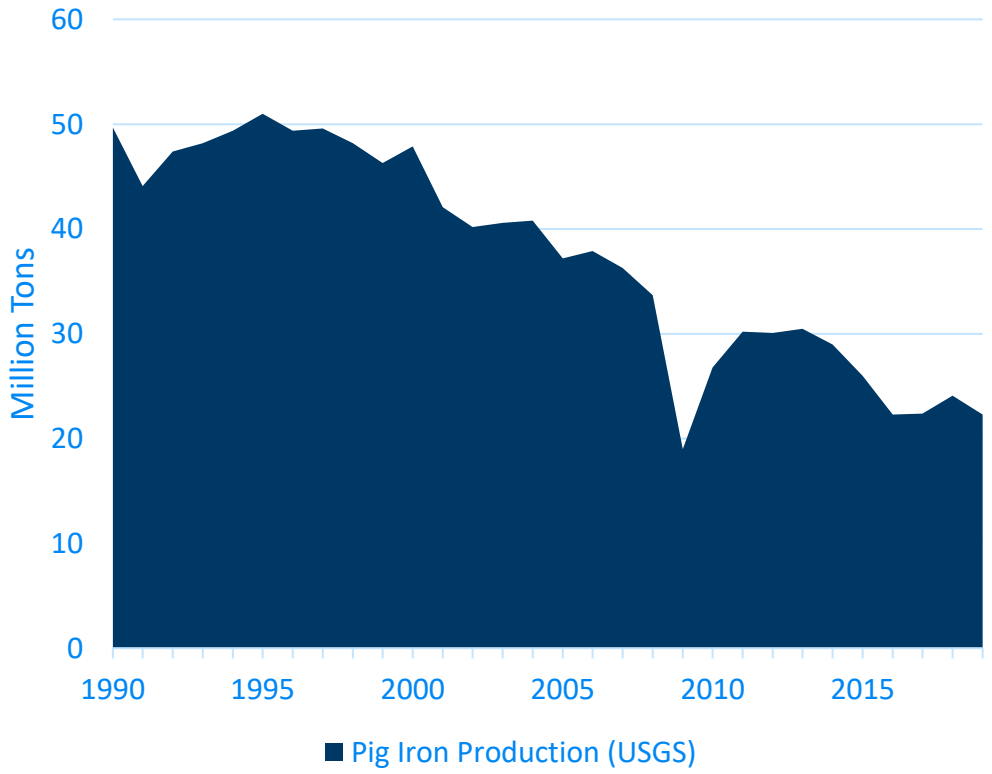
USA emits about two tons of greenhouse gasses for every ton of hot iron produced from blast furnaces

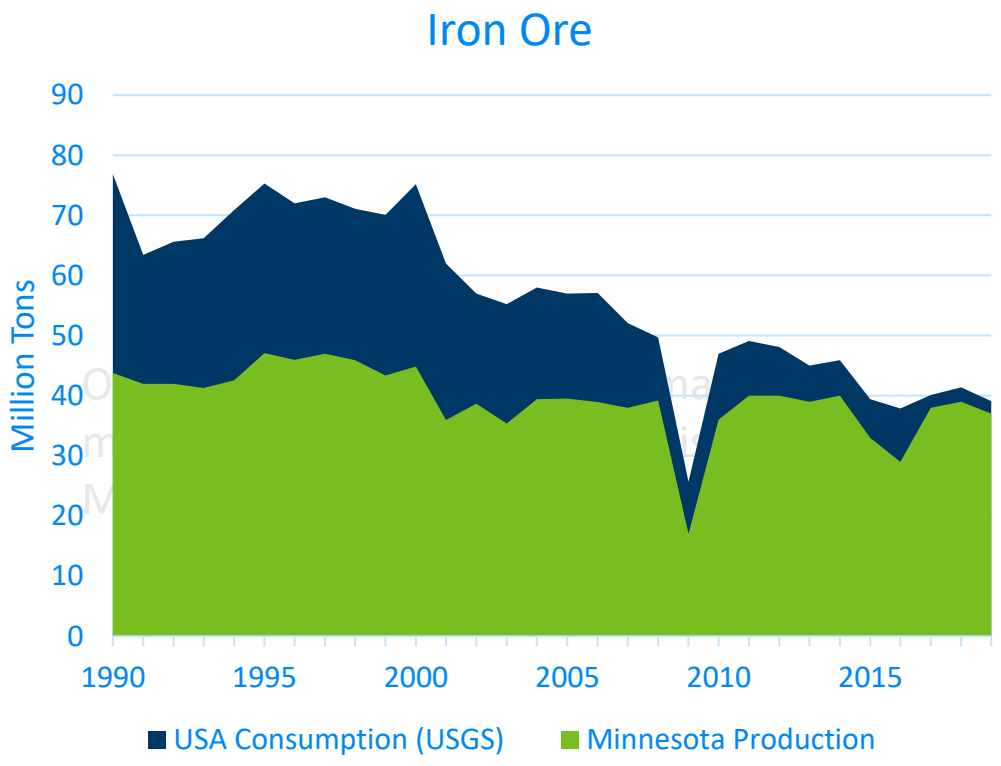




Source: USGS Mineral Commodity Summaries -- Pig Iron Production

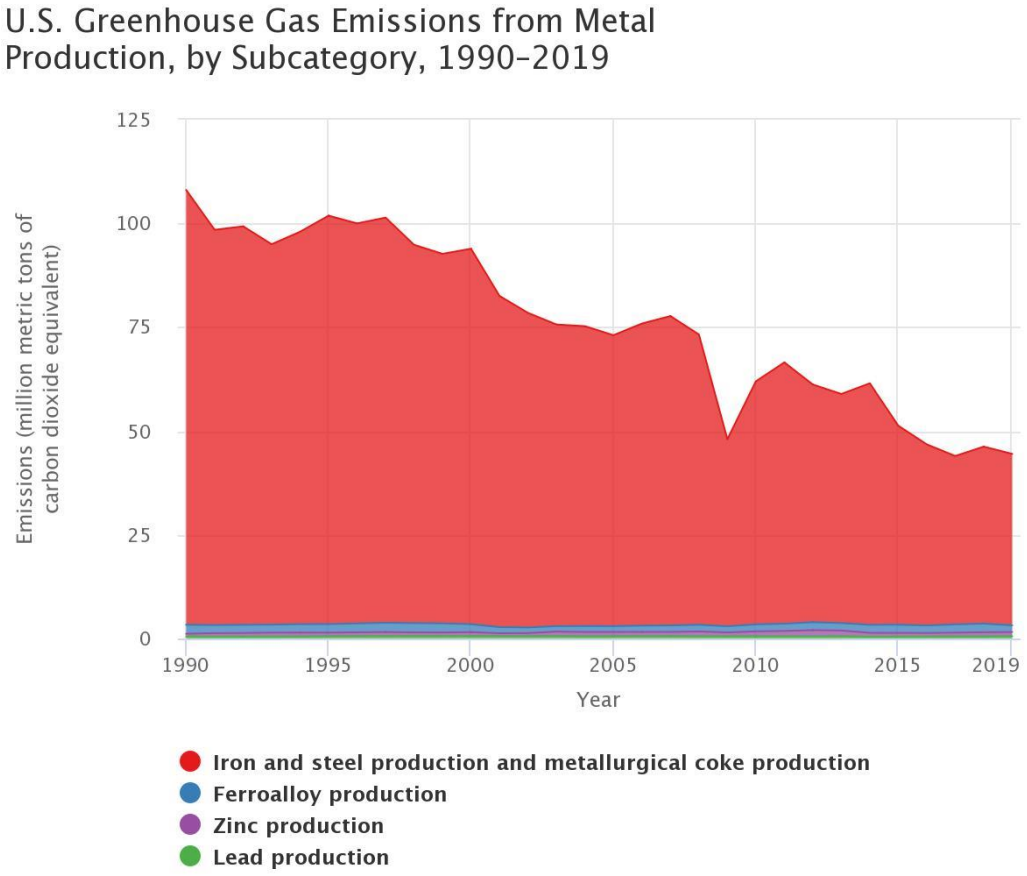
The predominant supplier of iron ore in the United States is Minnesota's Mesabi Range

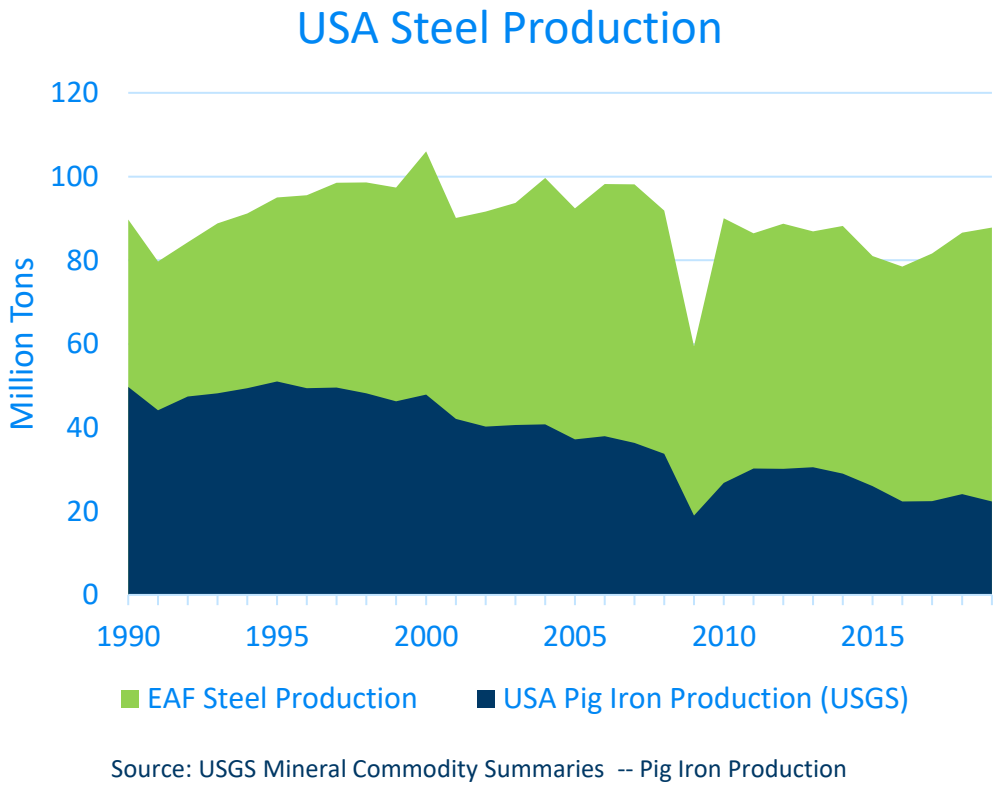




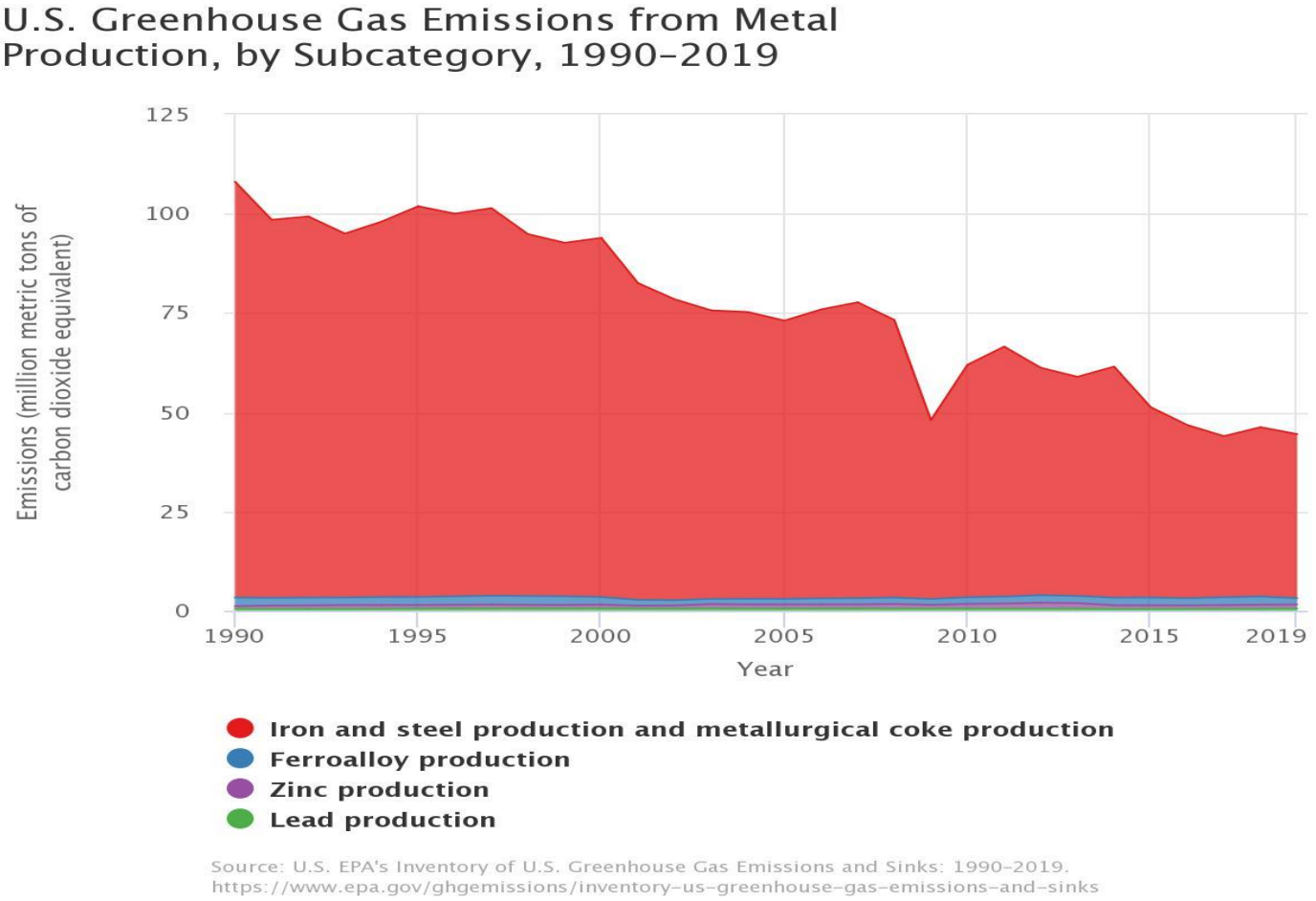
Source: USGS Mineral Commodity Summaries -- pig iron production and iron ore consumption

USA has cut greenhouse gas emissions from iron and steel production largely by shifting to EAF steel production



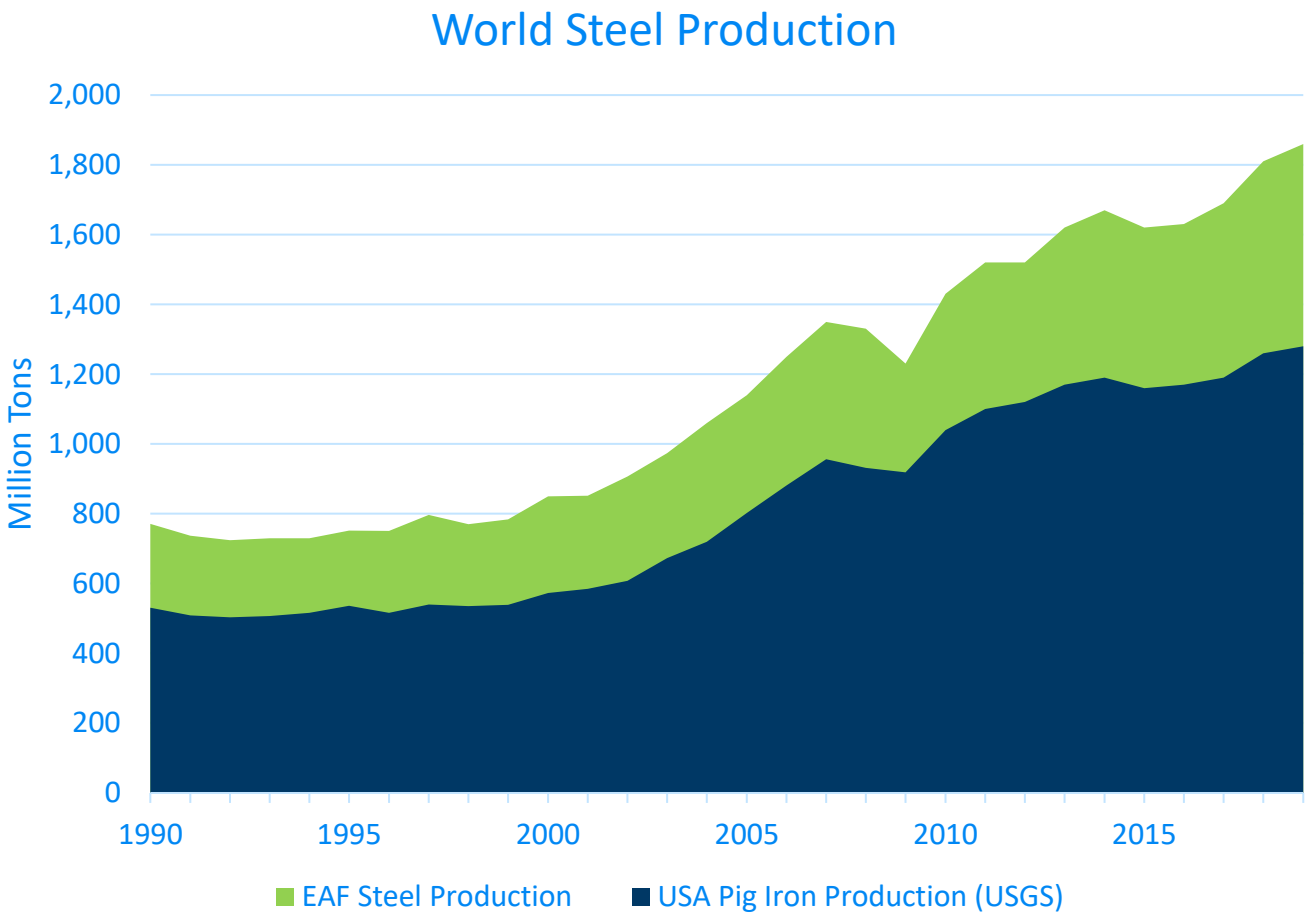


The Unites States is reducing greenhouse gas emissions



- Since 1990 pig iron production has dropped in the USA and there are **50 million tons less CO_2 being emitted** annually.
- That trend continues.
- Meanwhile…

World steel production has risen dramatically



World steel production has more than doubled, adding over one billion tons.

Over 700 million tons of this increase is from new pig iron production, **adding 1.5 billion tons of greenhouse gas emissions**.

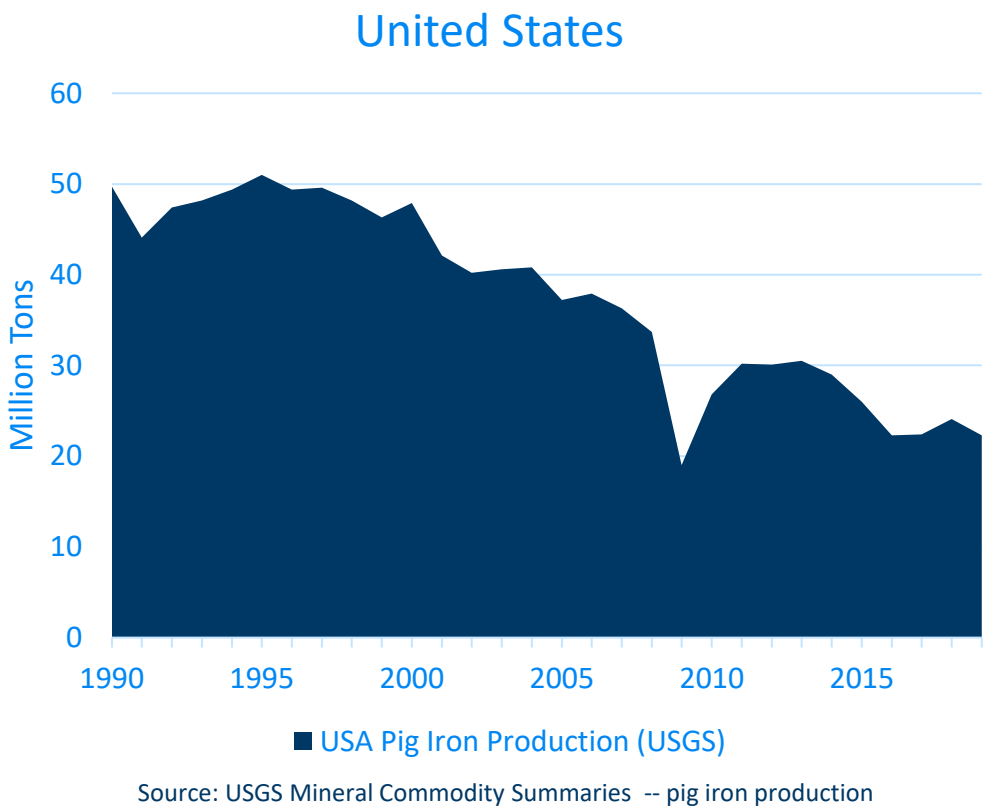
Data shows that…

The world needs steel, and demand is growing.

Iron and steel making accounts for almost 7% of mankind's entire carbon footprint source: ArcelorMittal Climate Action Report 1 – 2018

2018 CO_2 emissions - World 35 billion tons - 2.5 billion tons from steel production

USA blast furnace companies



Source: USGS Mineral Commodity Summaries -- pig iron production

- 1990
  - US Steel, Bethlehem, ACME, Armco, Birmingham, Geneva, Inland, LTV, Republic, Rouge, Wheeling, Weirton
- 2021
  - US Steel, Cleveland Cliffs

USA Iron Ore Mines

		Production Capacity Tons	
Cleveland Cliffs Inc.			
Hibbing Taconite (85.3%)	Minnesota	6,800,000	
Minorca	Minnesota	2,800,000	
Northshore Mining	Minnesota	6,000,000	
Tilden	Michigan	8,000,000	
United Taconite	Minnesota	5,400,000	
			29,000,000
United States Steel Corporation			
Hibbing Taconite (15%)	Minnesota	1,200,000	
Keewatin Taconite	Minnesota	5,400,000	
Minntac	Minnesota	14,600,000	
			21,200,000

Iron Ore Destinations

Customers	Tons per Year
Blast Furnace Destinations	
USA	36.2 million
Exported to Canada	6.0 million
	42.2 million
DRI Steelmaking	3.0 million
Total	45.2 million

USA Blast Furnace Locations and Iron Ore Consumption

		Production Capacity Tons	
Cleveland Cliffs Inc.			
Burns Harbor	Indiana	5,800,000	
Cleveland	Ohio	3,900,000	
Dearborn	Michigan	2,600,000	
East Chicago	Indiana	8,000,000	
Middletown	Ohio	2,900,000	
			23,200,000
United States Steel Corporation			
Braddock	Pennsylvania	1,300,000	
Ecorse	Michigan	2,500,000	
Gary	Indiana	6,500,000	
Granite City	Illinois	2,600,000	
			12,900,000

CLEVELAND-CLIFFS PLANS TO REDUCE GREENHOUSE GAS EMISSIONS 25% BY 2030

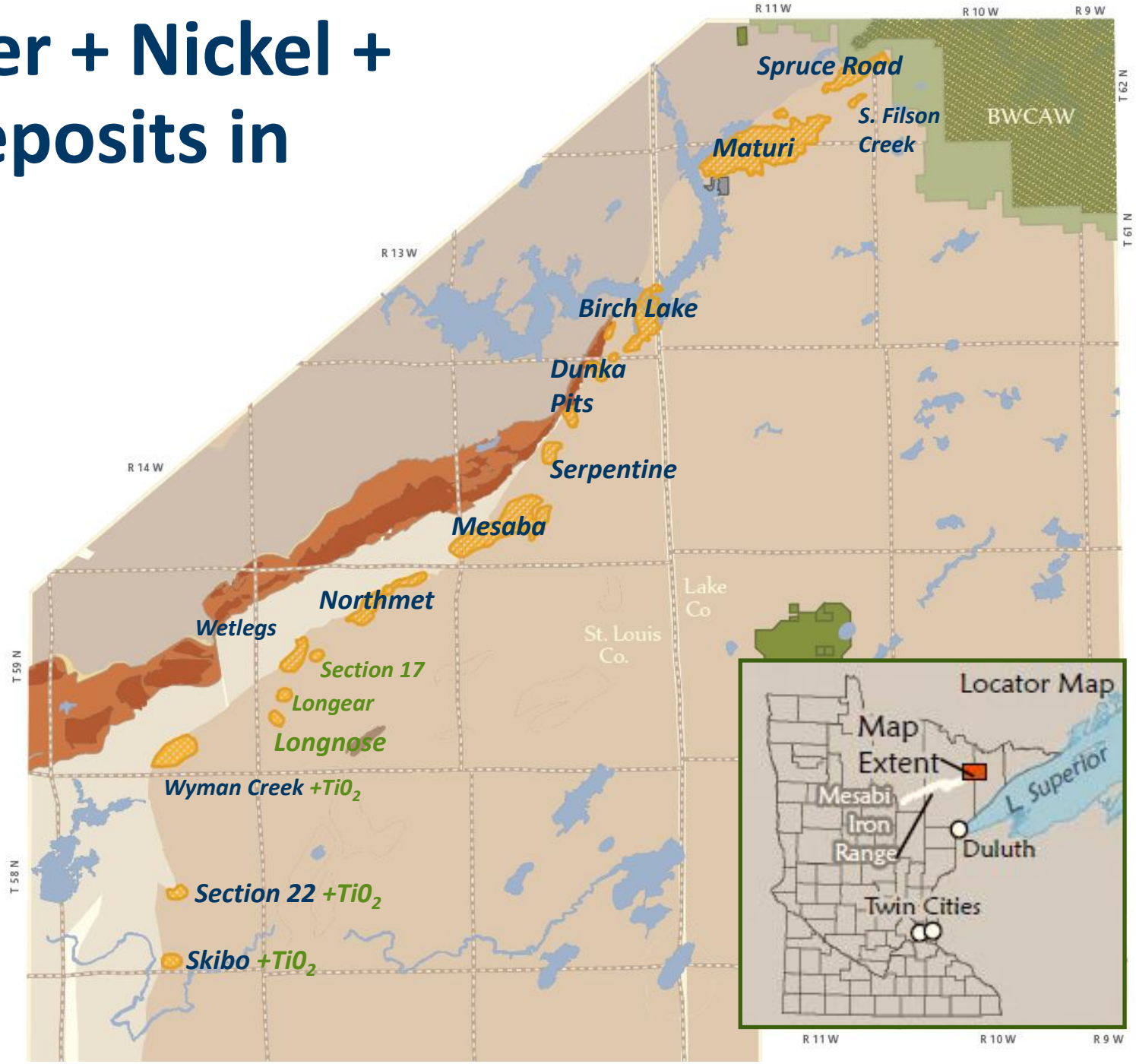
- **Strategy based on executing the following five strategic priorities:**
  - Developing domestically sourced, high quality iron ore feedstock and utilizing natural gas in the production of hot briquetted iron (HBI);
  - Implementing energy efficiency and clean energy projects;
  - Investing in the development of carbon capture technology;
  - Enhancing our GHG emissions transparency and sustainability focus; and
  - Supporting public policies that facilitate GHG reduction in the domestic steel industry.

United States Steel Corporation Announces Goal to Achieve Carbon Neutrality by 2050

- To achieve its net-zero goal for 2050, U. S. Steel expects to:
  - leverage its growing fleet of electric arc furnaces (EAF) coupled with,
  - other technologies such as:
    - direct reduced iron,
    - carbon-free energy sources,
    - and carbon capture, sequestration, and utilization.
- Achievement of the goal also depends on public-private collaboration across industries and global stakeholders.

Distribution of Copper + Nickel + PGE and Titanium Deposits in Minnesota

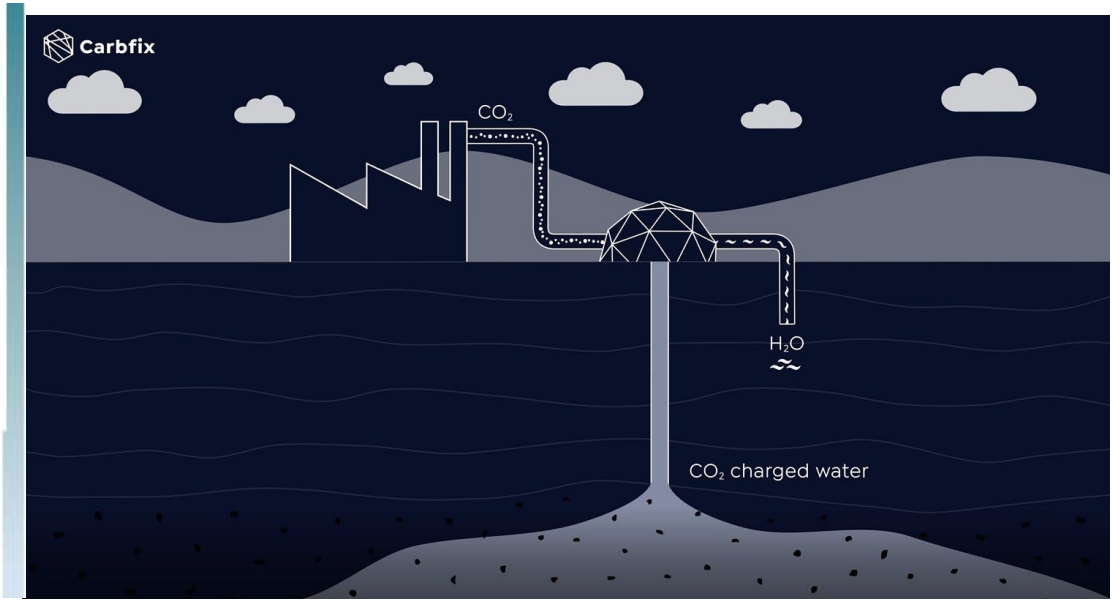
- Cu+Ni+PGM Deposits
  - Spruce Road
  - South Filson Creek
  - Maturi
  - Birch Lake
  - Dunka Pit
  - Serpentine
  - Mesaba
  - Northmet
  - Wetlegs
  - Wyman Creek
  - Section 22
  - Skibo
- TiO_2 Deposits
  - Section 17
  - Longear
  - Longnose
  - Wyman Creek
  - Section 22
  - Skibo



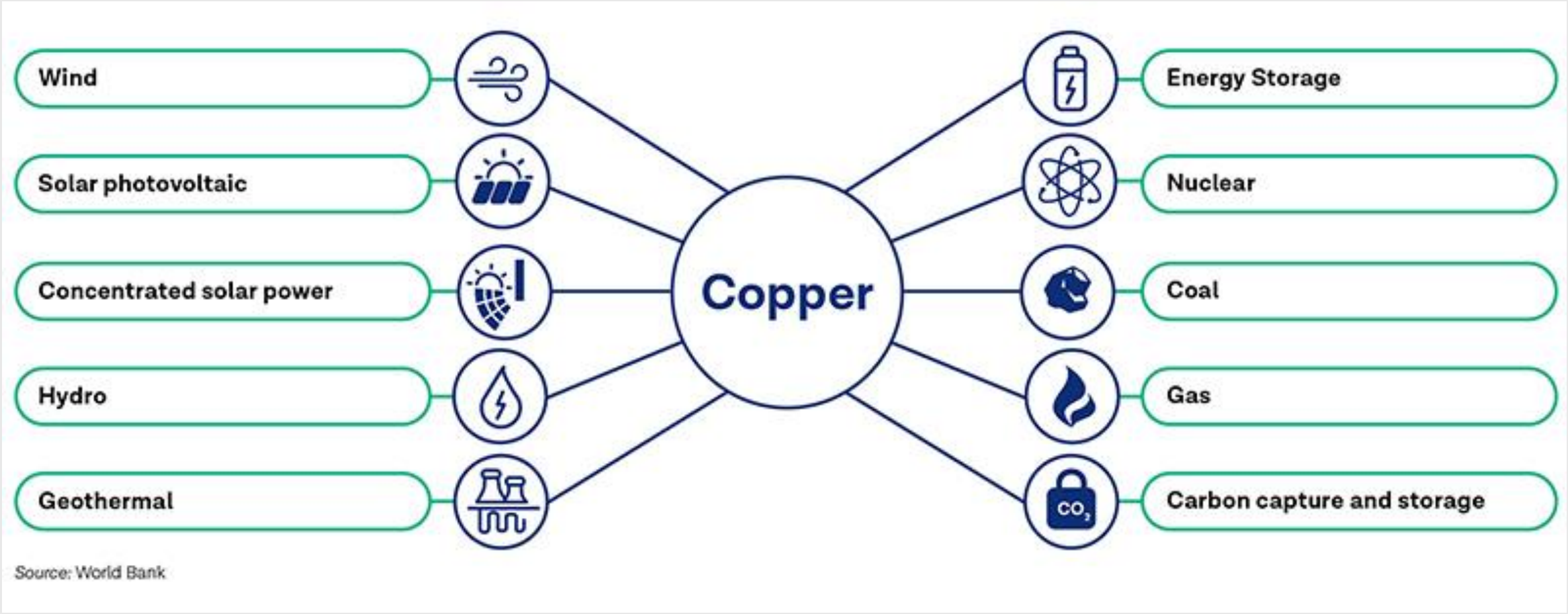
Carbon Sequestration

+ $CO_2(aq)$ =

Calcium - Magnesium Silicate Rock + Dissolved CO_2 = (Ca, Mg, Fe) Carbonate



Energy generation technologies that require copper



12 fold growth in nickel for the electric vehicle market

0.196 mtpa*

YEAR 2019

YEAR 2029 FORECAST

2.4 mtpa**

That is an additional **1,260ktpa** of nickel for batteries that may be needed

* Lithium-Ion Battery Megafactory Assessment p7, January 2020, Benchmark Minerals

** Norilsk NIckel 2019 Financial Presentaion, February 26, 2020, page 14 - 2018 Global Ni Production

Manganese minerals

Argonne NATIONAL LABORATORY

- **Researchers eye manganese as key to safer, cheaper lithium-ion batteries**

How Do We Ensure Adequate Supplies of Manganese for the Future? Although the total reserves of the world are adequate to meet foreseeable demand, there has long been a concern in the United States, because of its total import reliance for manganese ore, for a continued manganese supply in light of possible political or military disruptions of production or supply chains. Although **there are large resources of manganese-enriched rock in the United States, mostly in Maine and Minnesota**

Conclusion

- State mineral receipts are at all time highs.
- The state School Trust is benefitting which benefits all Minnesotans.
- We are following events that will effect mineral revenues from iron ore
- Reducing greenhouse gas emissions is both a threat and opportunity for our largest revenue source.
- We continue to work to diversify mineral revenue for the School Trust.

Thank You!

Pete Clevenstine

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