



Royalty Revenue to the Taxing Districts & the Trust Funds

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Thank you!

- 100+ year history of mineral leasing
- 100+ years of consecutive income to the trusts

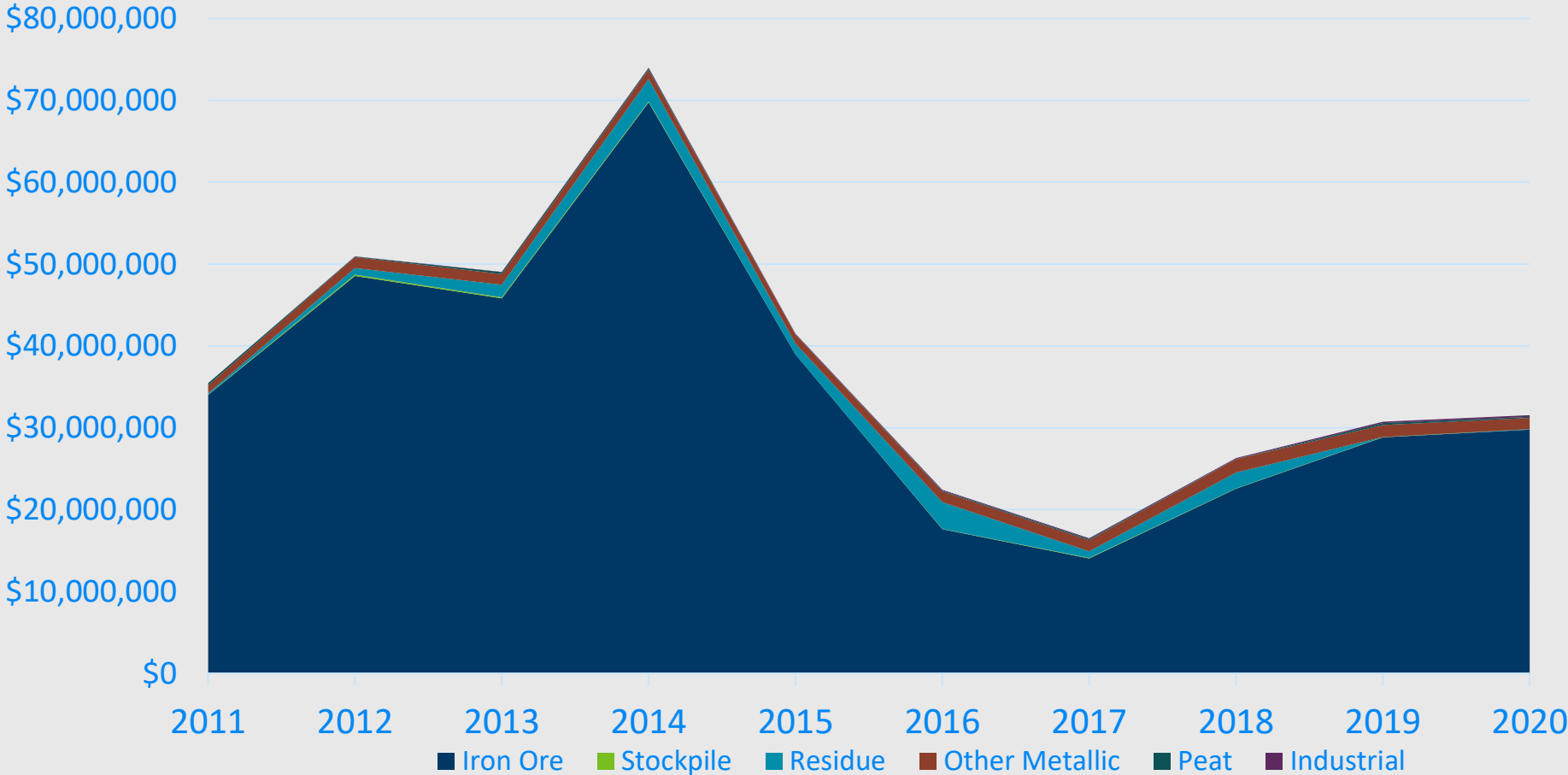
All Mineral Leases 1890-2020

Lease Type	First Revenue	Latest Revenue	Accumulated Revenue
Iron Ore - Taconite	1890	2020	\$789,228,995
Other Metallic	1926	2020	21,273,852
Industrial Minerals	1934	2020	<u>4,136,083</u>
Total			\$814,638,930

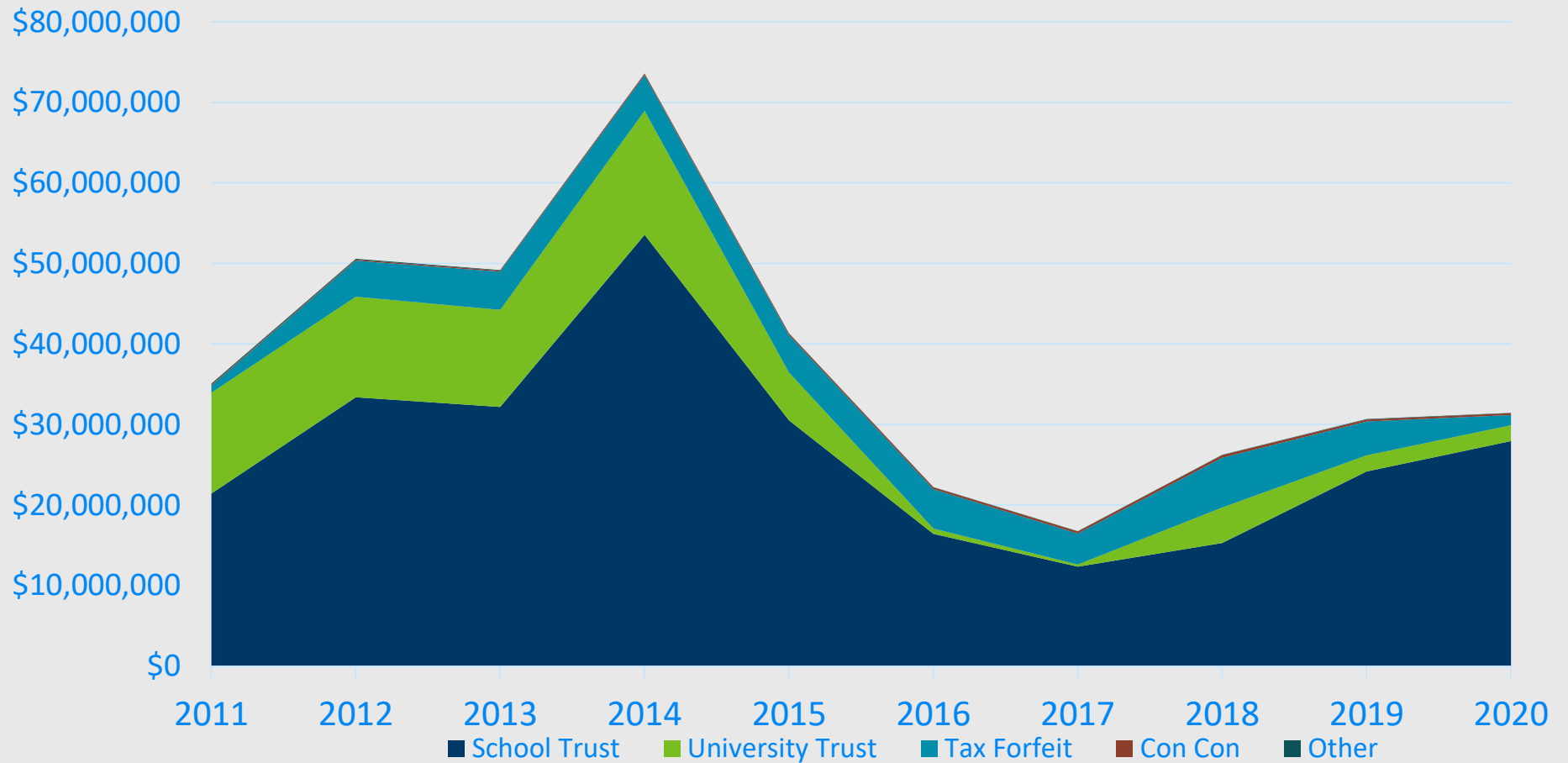
These are the Good Old Days

- 130 year history - \$815 million
- Last 10 years - \$380 million – 47%
- And FY 2021 looks to be slightly above the most recent 10-year average.

Revenue by Mineral Commodity



Revenue by Land Classification



Benefits to Minnesota's K-12 schools

- \$260 million has been deposited into the Permanent School Fund in the past 10 years
- Value of the PSF is \$1.621 billion as of 6/30/2020
- Spendable earnings from the PSF are paid directly to Minnesota's K-12 public schools each year

Fiscal Year	Total Paid	Per Student
2016	\$28,000,000	\$32.40
2017	\$30,000,000	\$34.80
2018	\$33,000,000	\$38.20
2019	\$36,000,000	\$41.70
2020	\$39,000,000	\$45.20

Benefits to the University

- \$63 million deposited into the Permanent University Fund in the past 10 years. Value of \$591 million as of 6/30/2020. Largest endowment at the University of Minnesota
- Funding scholarships and endowed chairs at the University's five campuses and research at NRRI and the CMRL

Income Distribution	FY 2020
Endowed Mineral Research Account	\$3,131,270
Endowed Scholarship Account	\$4,631,496
UM Crookston Scholarships	\$ 180,628
UM Duluth Scholarships	\$ 1,153,242
UM Morris Scholarships	\$ 162,102
UM Rochester Scholarships	\$ 60,209
UM Twin Cities Scholarships	\$ 3,075,313

Benefits to the Local Communities, Counties and Schools

- \$40 million collected in the past 10 years on tax forfeited lands
- While the DNR initially retains 20% of this revenue (\$8 million) to cover mineral management expenses the DNR has actually spent \$3 million in total for the past ten years (8%) and turned over \$37 million to the local government units where the land lies or mining occurs
 - Local school districts have received 4/9 or \$17 million
 - Local counties (mostly St Louis and Itasca) have received 3/9 or \$12 million
 - Local communities or townships have received 2/9 or \$8 million

Local Distributions



Year	Cities	Schools	County	Total
2015	\$ 35,353.49	\$ 75,092.66	\$ 58,512.23	\$ 168,958.38
2016	449,482.63	906,705.69	683,899.35	2,040,087.67
2017	184,612.54	375,508.84	284,774.57	844,895.95
2018	318,667.08	650,699.80	494,710.15	1,464,077.03
2019	31,023.64	82,921.45	72,631.81	186,576.90
2020	<u>15,127.27</u>	<u>44,122.70</u>	<u>40,029.02</u>	<u>99,278.99</u>
Total	\$1,034,266.65	\$2,135,051.14	\$1,634,557.13	\$4,803,874.92

Local Distributions

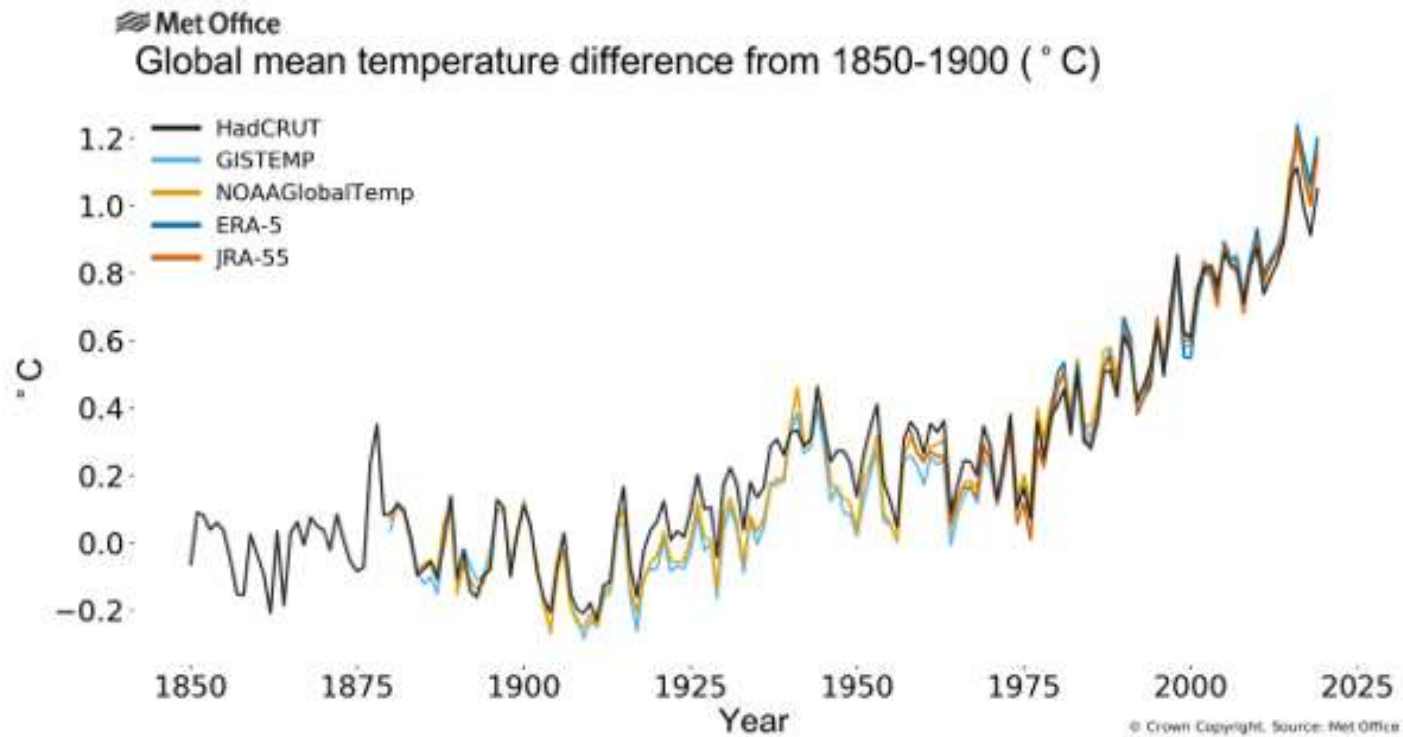


Year	Cities	Schools	County	Total
2015	\$ 711,163.81	\$ 1,438,688.63	\$ 1,087,196.98	\$ 3,237,049.42
2016	317,399.52	663,478.68	511,950.08	1,492,828.28
2017	390,779.25	816,041.52	629,272.64	1,836,093.41
2018	667,269.54	1,364,142.12	1,037,908.11	3,069,319.77
2019	594,371.31	1,234,199.72	948,378.34	2,776,949.37
2020	<u>84,882.70</u>	<u>210,389.97</u>	<u>178,104.69</u>	<u>473,377.36</u>
Total	\$2,765,866.13	\$5,726,940.64	\$4,392,810.84	\$12,885,617.61

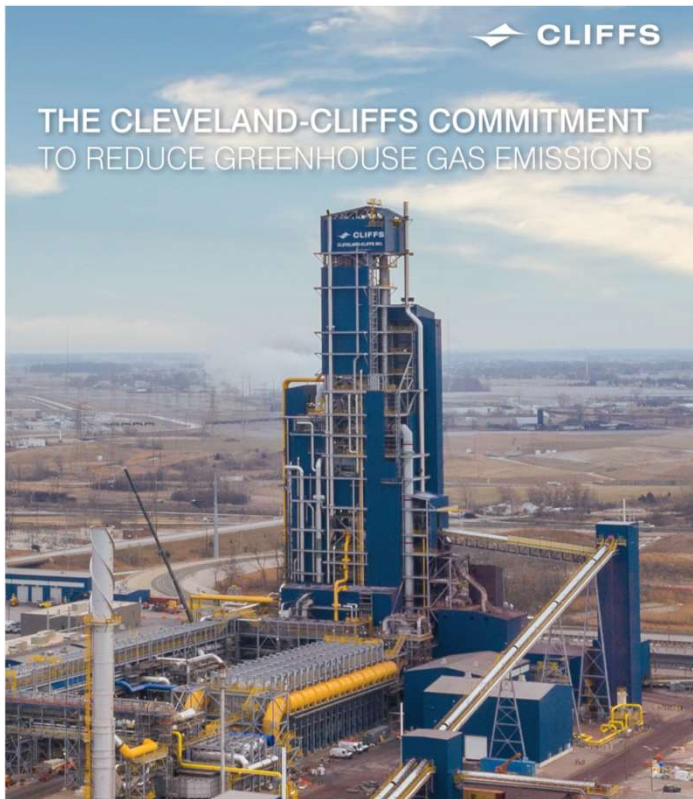
Thank you to the two companies that own and operate Minnesota's six mining operations

	Production Capacity Tons	
Cleveland-Cliffs Inc.		
Hibbing Taconite (85.3%)	6,800,000	
Minorca	2,800,000	
Northshore Mining	6,000,000	
United Taconite	<u>5,400,000</u>	
		21,000,000
United States Steel Corporation		
Hibbing Taconite (14.7%)	1,200,000	
Keewatin Taconite	5,400,000	
Minntac	<u>14,600,000</u>	
		21,200,000

Greenhouse Gas Emissions



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.

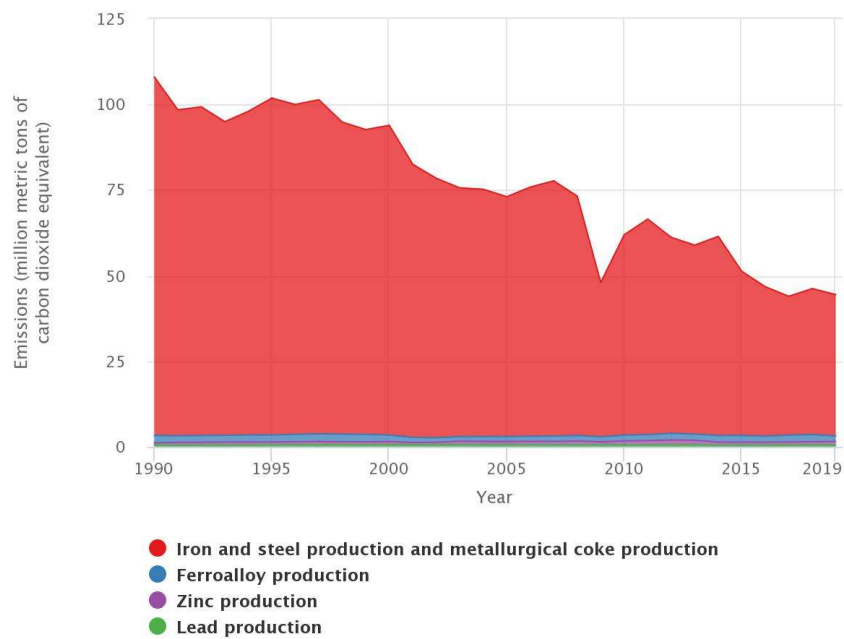
United States Steel Corporation Announces Goal to Achieve Carbon Neutrality by 2050



- 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.

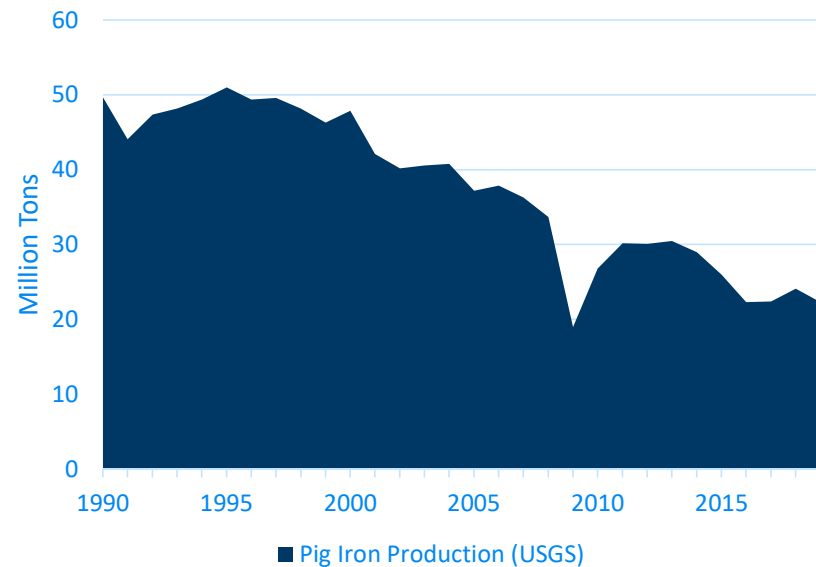
USA emits about two tons of greenhouse gasses for every ton of hot iron produced from blast furnaces

U.S. Greenhouse Gas Emissions from Metal Production, by Subcategory, 1990-2019



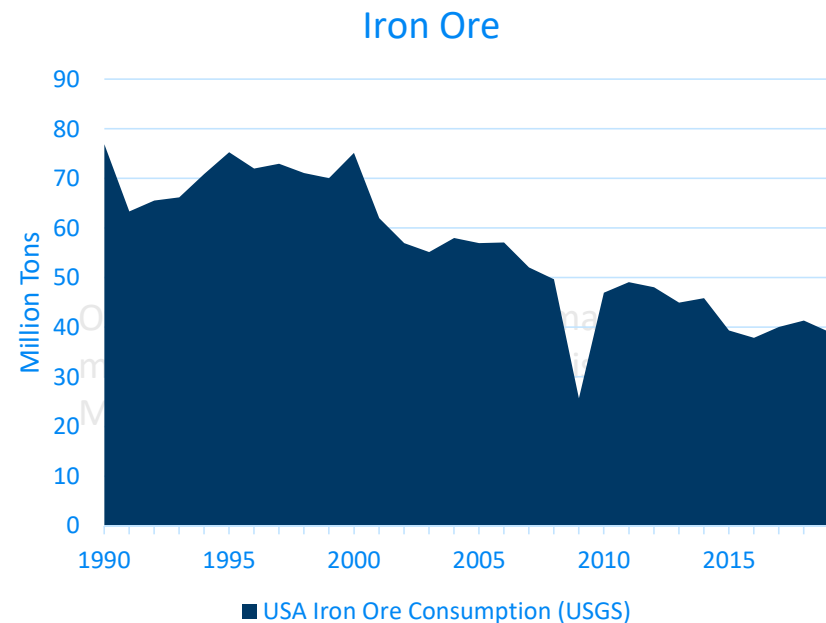
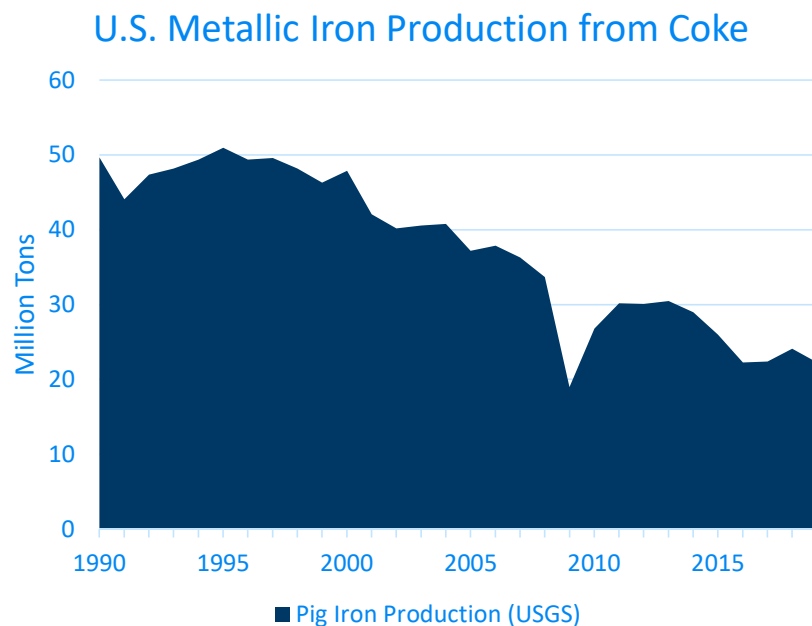
Source: U.S. EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.
<https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

U.S. Blast Furnace Iron Production



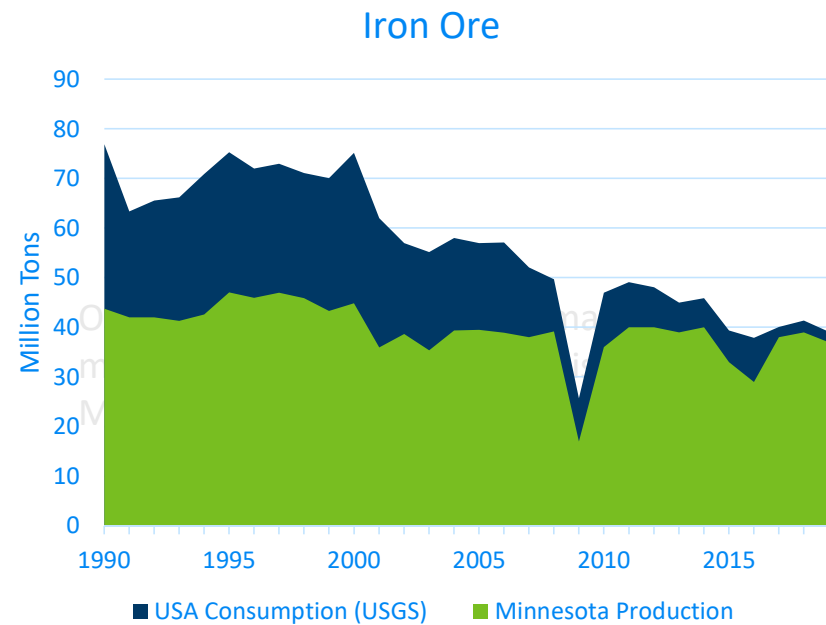
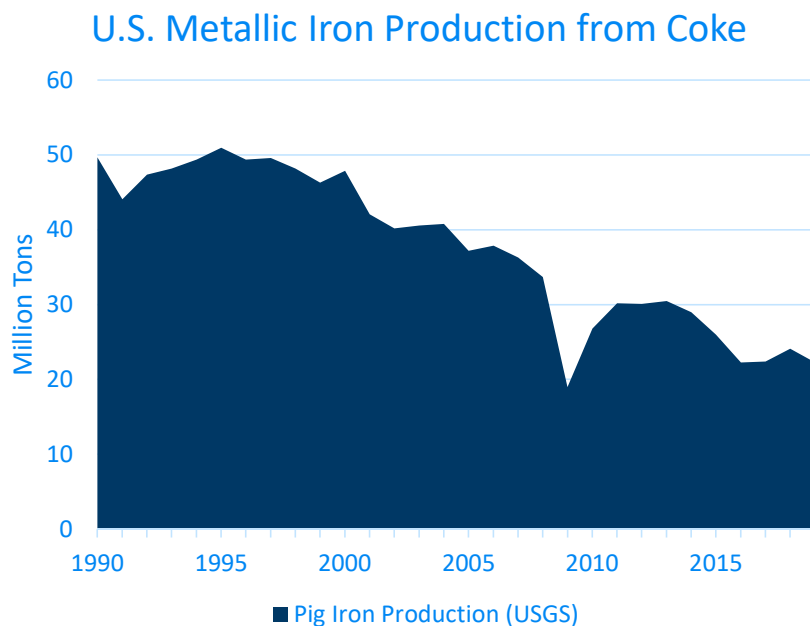
Source: USGS Mineral Commodity Summaries -- Pig Iron Production

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

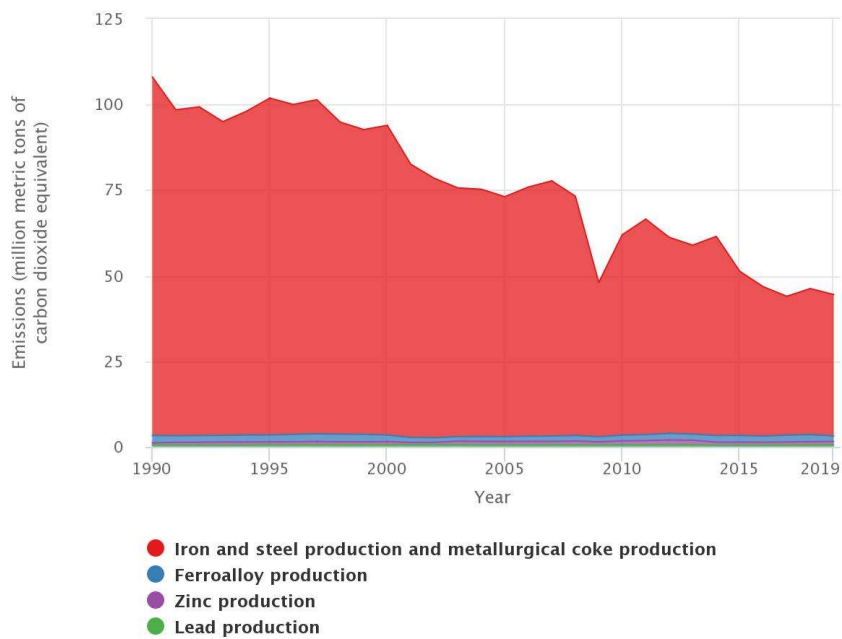
The predominant supplier of iron ore in the United States is Minnesota's Mesabi Range



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

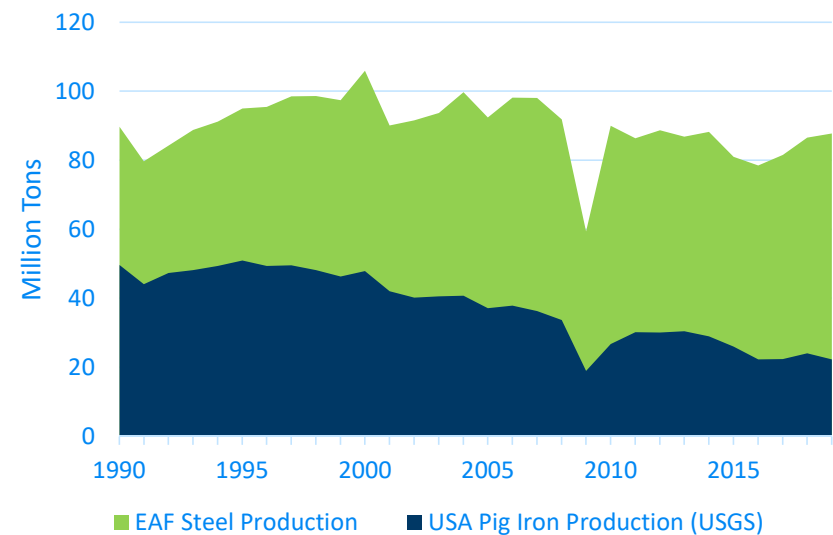
USA has cut greenhouse gas emissions from iron and steel production largely by shifting to EAF steel production

U.S. Greenhouse Gas Emissions from Metal Production, by Subcategory, 1990-2019



Source: U.S. EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.
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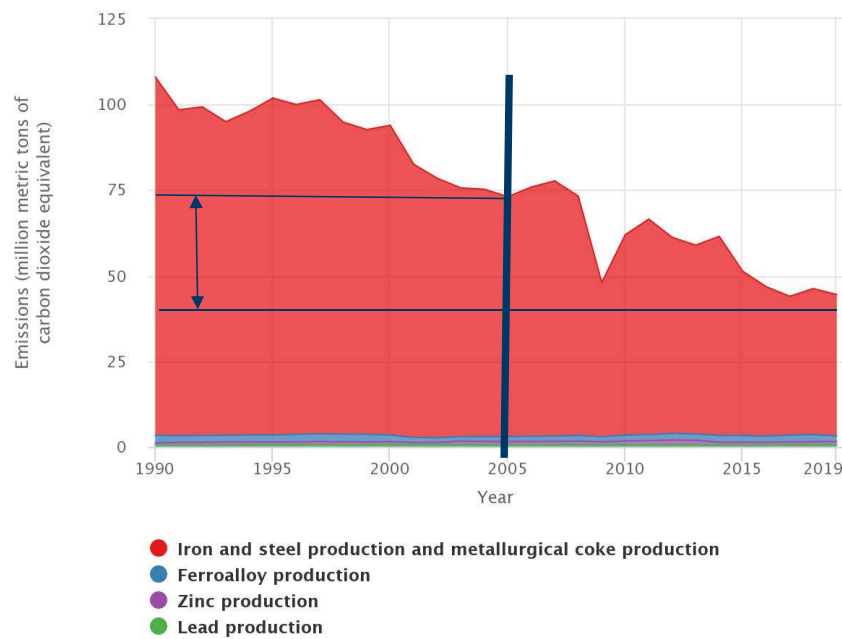
USA Steel Production



Source: USGS Mineral Commodity Summaries -- Pig Iron Production

Minnesota is targeting reducing greenhouse gas emissions from 2005 levels.

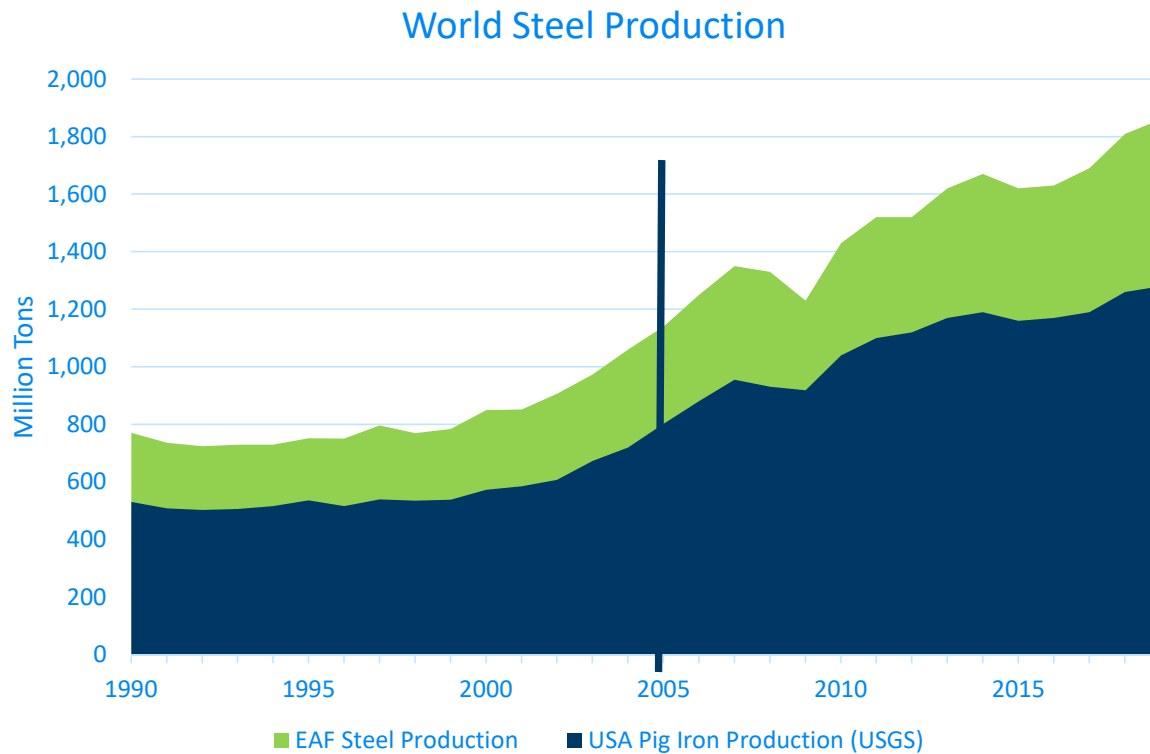
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- Since 2005 pig iron production has dropped an additional 40% in this country, and there are 30 million tons less CO₂ being emitted annually.
- Today 70% of steel production is from electric arc furnaces in the USA.
- Meanwhile...

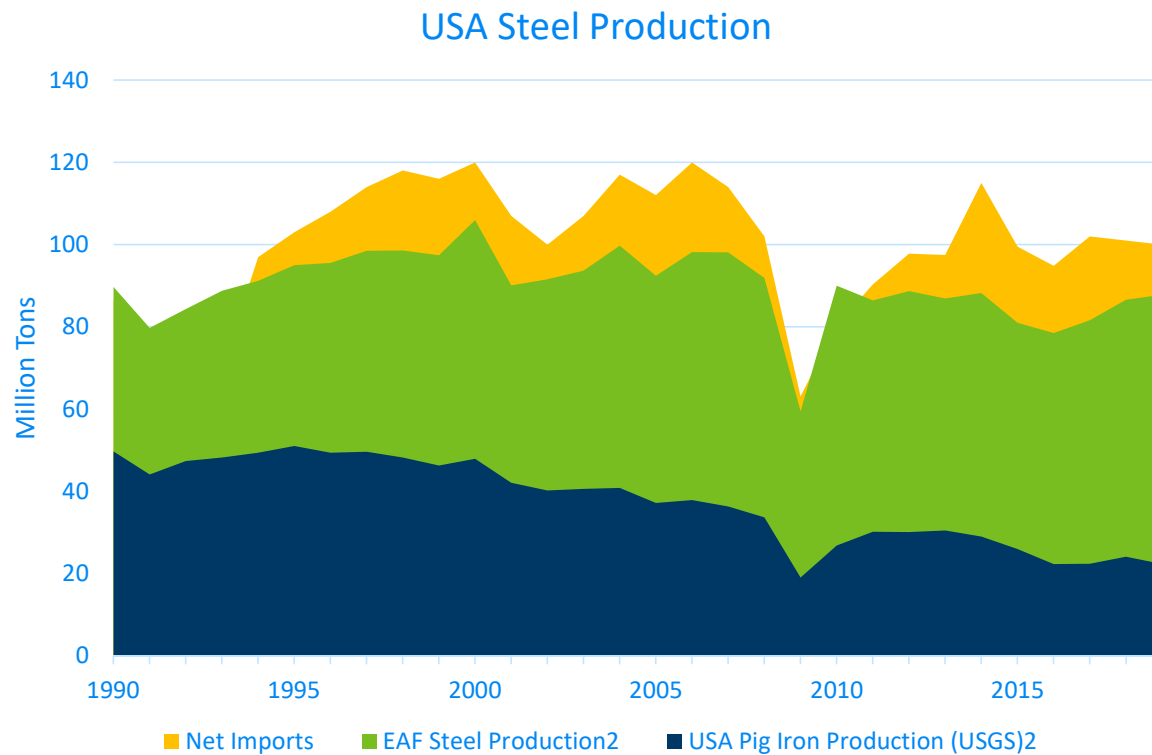
World steel production has risen dramatically



World steel production has increased over 60% from 2005 levels, adding over 700 million tons.

Almost 500 million tons of this increase is from new pig iron production, adding one billion tons of greenhouse gas emissions.

The United States also imports steel to meet current demand – it is highly likely those imports are CO₂ emitters



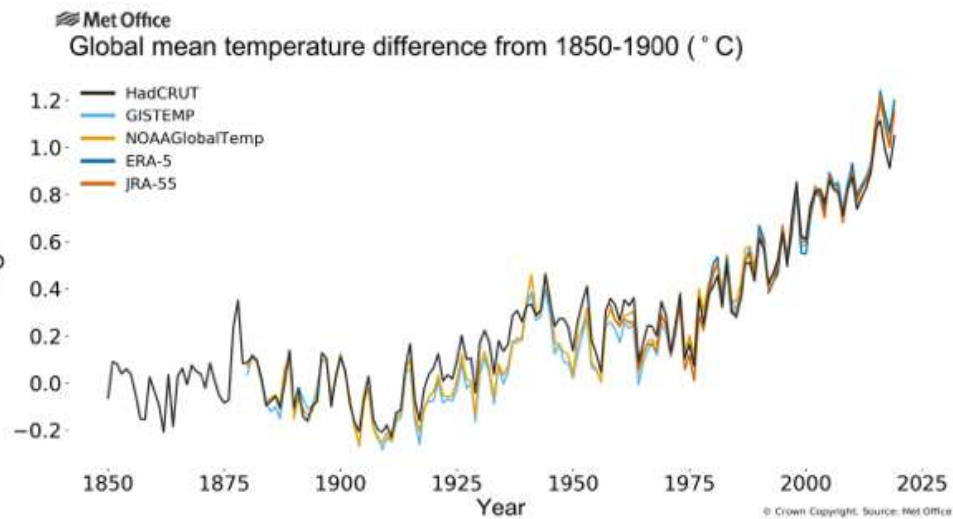
Data shows that...

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 CO₂ emissions - World 35 billion tons - 2.5 billion tons from steel production

What do we want to achieve?

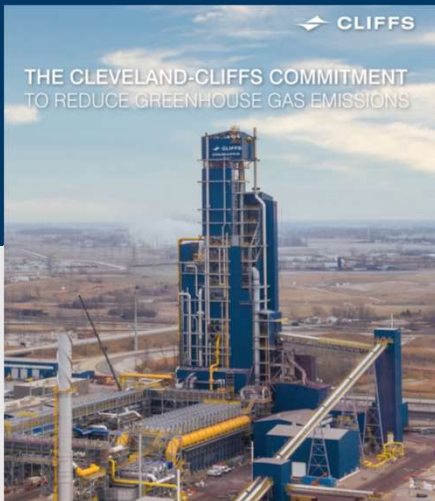


- Limiting the global warming to 1.5°C this century?
- Cutting global CO₂ emissions from 2010 levels?
 - by 45 percent by 2030?
 - reaching 'net zero' by 2050?
- Minnesota's companies that mine iron ore and produce steel show the world a path to prosperity in a green economy – Stakeholders recognize and support their initiatives

Conclusion

- State iron ore royalties are at all time highs.
- The state School and University trust funds are benefitting all Minnesotans
- Iron Range counties, communities and schools are benefitting
- Reducing greenhouse gas emissions is both a threat and opportunity for Minnesota iron ore





Thank You!

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