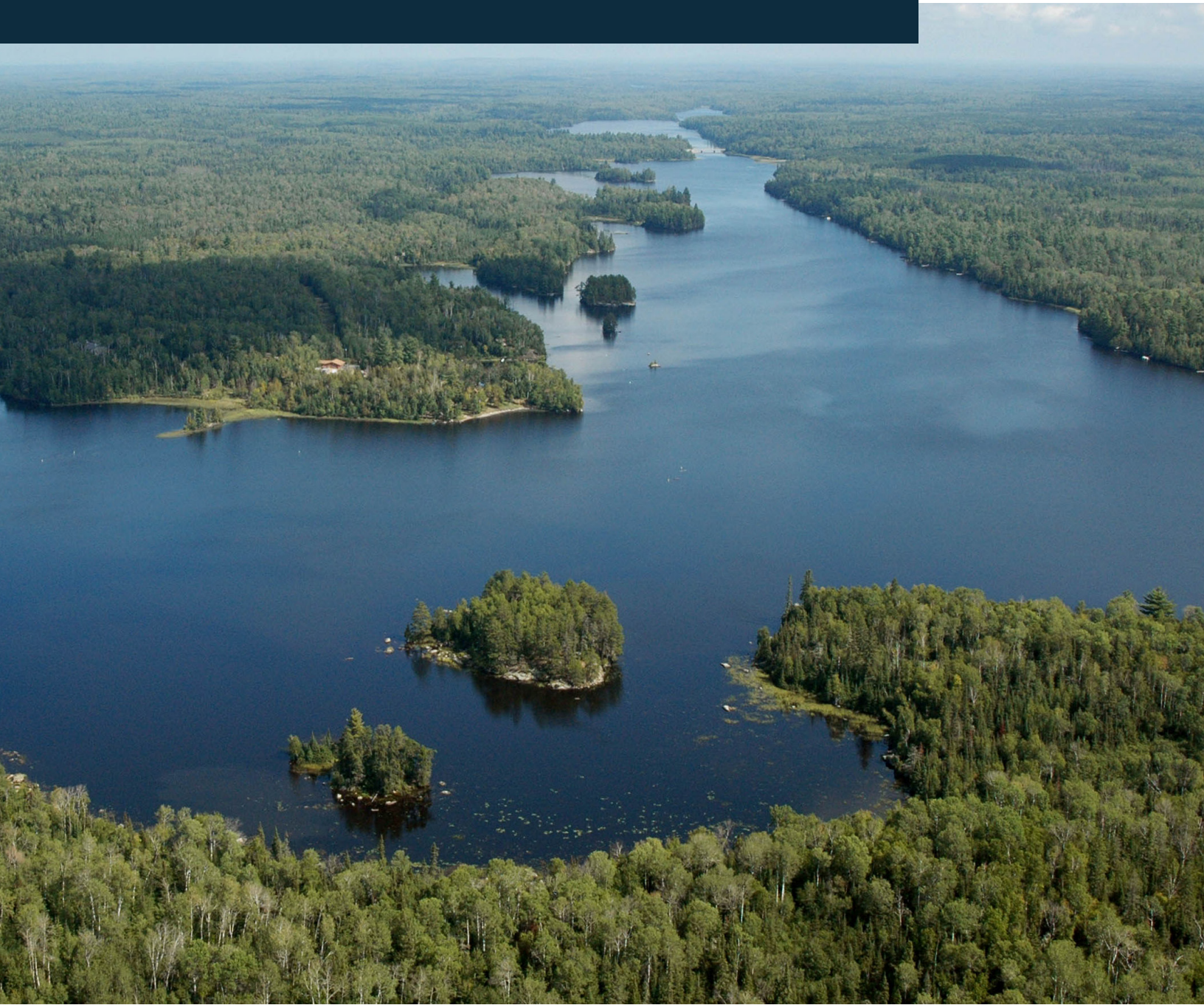
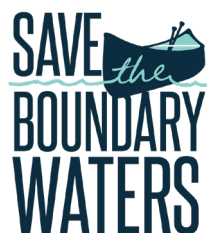


TREND REPORT:

Metal Mining Rebrands Itself to Ride Clean Energy Wave



Antofagasta rebrands its Twin Metals Minnesota mining project as clean, green, and vital to climate action. The reality is very different.



Trend Report: Metal Mining Rebrands Itself to Ride Clean Energy Wave

Introduction and Summary

In March 2021, President Joe Biden released the American Jobs Plan calling for large scale investments in clean energy and green infrastructure.¹ Electric vehicles, reducing carbon emissions and creating more sources to capture and distribute renewable energy are among the highest priorities to achieve critical goals set by federal, state and local governments.



During waves of transition such as this, a predictable behavior unfolds when industries with significant negative environmental and human health impacts, engage in a public relations campaign known as greenwashing in a cynical attempt to skirt consequences and stay relevant. Greenwashing, first coined in the mid-1980s, is when a company markets itself as environmentally friendly as a diversion tactic from the actual harm it causes the planet.

In recent decades, a seemingly endless list of companies, including by way of example major corporations in different industries with questionable environmental practices or products have utilized the strategy: plastics manufacturing, oil & gas production, industrial meat production, and automobile manufacturing. One need only recall seals clapping in delight when DuPont claimed it would better try to keep ships from leaking oil into the ocean, to remember a recent example of greenwashing. Or take the ongoing situation in North Carolina, where pork-producing Smithfield is moving forward with a \$30 million project to convert swine waste from hog farms into biogas. Despite attempts by Smithfield to spin its biofuels project as 'green,' its farms will still generate 10

¹ The White House, "Fact Sheet: The American Jobs Plan," Press release, March 31, 2021, available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/>

billion gallons of hog waste a year, stinking the air of rural communities in North Carolina and doing little to address serious and complicated water issues.²

Time and again, greenwashing is the tactic favored by some of the worst corporate actors that seek to shift the public narrative away from how their industries pollute the environment and/or risk public health. In some cases, it functions as a smokescreen to the diversion of America's natural resource wealth into the pockets of overseas corporate ownership. John Stauber, editor of the Madison, Wisc.-based PR Watch, explained that "green advertising works very well because the public is so poorly informed about environmental issues."³ Will we learn from the greenwashing campaigns of the past, and see through the campaigns underway now, and in the future?

1950s-1960s to the present – Big Tobacco's Ad Campaigns

Early shades of greenwashing can be seen in the tobacco industry's repeated attempts to discredit the science of smoking's harmful health impacts. As noted by the University of Bath⁴:

As early as the 1950s, scientists demonstrated causal links between smoking and lung cancer. The tobacco industry responded in 1954 with full-page newspaper ads signed by tobacco company executives assuring smokers that, "we believe the products we make are not injurious to health," and promising to fund independent scientific research into tobacco's effects. In all, the tobacco industry doubled its spending on advertising between 1959 and 1964 to discredit the science. The industry also pushed and promoted filtered cigarettes to reassure smokers that it was taking action to make cigarettes safer,² as well as to promote an alternative to quitting.

In 1964, the US Surgeon General issued a groundbreaking report on smoking and health that concluded definitively that smoking causes lung cancer. The industry refused to accept the science. Philip Morris (PM) claimed that the report "missed an opportunity to promote the health benefits of filters." In 1966, PM conducted market analysis for a 'health cigarette', which concluded that "the illusion of filtration is as important as the fact of filtration".

² From 2019 EPA study "Future of Hog Waste to RNG," found at <https://www.epa.gov/sites/default/files/2019-03/documents/future-of-hog-waste-to-rng.pdf>

³ From 1995 report in FAIR, "TV Lets Corporations Pull Green Wool Over Viewers' Eyes," available at <https://fair.org/extra/tv-lets-corporations-pull-green-wool-over-viewers-eyes/>

⁴ <https://tobaccotactics.org/>

The tobacco industry's deception carried into its aggressive advertising strategies, which often featured [doctors](#) smoking cigarettes, presented the idea that smoking cigarettes was healthy, and reinforced the idea that there was uncertainty in the scientific and public health communities as to tobacco's causal role in lung cancer and other diseases.⁵ The tobacco industry wielded disinformation in addition to its political power, as it fought successfully for decades to block legislation granting federal agencies broad regulatory powers over the industry.

The industry's investments in disinformation helped to maintain plausible deniability and retain and recruit smokers, maintain profits, and forestall the passage of the most significant regulation of tobacco products for more than forty years after publication of the Surgeon General's 1964 report. Only in 2009, when Congress passed the Family Smoking Prevention and Tobacco Control Act, was the Food & Drug Administration given sufficient power to regulate tobacco product labeling and cigarette design, and assigned the mission of reducing tobacco-related death and disease.⁶ In the intervening years, Americans continued to be sickened by smoking and secondhand smoke, and to die at a rate of more than 440,000 deaths per year, or more than 19 million American deaths between 1964 and 2009.⁷ Through the decades Big Tobacco has remained highly profitable worldwide and in the U.S. In 2008, for example, Philip Morris' worldwide profits totalled \$16.8 billion in 2008 alone.⁸ Despite significant declines in the number of cigarettes sold and the rate of tobacco use in the U.S. adult population [has declined from 42.4% in 1965, 30.1% in 1985, 20.9% in 2005 and 13.7% in 2018](#)] from roughly 21% in 2005 to 14% in 2019, the Wall Street Journal reports that U.S. tobacco company operating profits rose 77% from 2006 to \$18.4 billion in 2016.⁹

Today, one pernicious effect of Big Tobacco's disinformation campaign remains. The impression of safety created by cigarette filters and advertising about those filters appears to entice smokers to inhale the smoke more deeply into their lungs.¹⁰ As a consequence, according to the Office of the

⁵ <https://www.cnn.com/2017/05/24/health/gallery/tobacco-health-claims-history/index.html>

⁶ From 2019 FDA "Achievements in Tobacco Regulation Over the Past Decade and Beyond," found at <https://www.fda.gov/news-events/fda-voices/achievements-tobacco-regulation-over-past-decade-and-beyond>

⁷ <https://www.hhs.gov/surgeongeneral/reports-and-publications/tobacco/consequences-smoking-factsheet/index.html>

⁸ <https://www.nytimes.com/2009/05/06/business/06tobacco.html>

⁹ <https://www.wsj.com/articles/u-s-tobacco-industry-rebounds-from-its-near-death-experience-1492968698>

¹⁰ <https://www.hhs.gov/surgeongeneral/reports-and-publications/tobacco/consequences-smoking-factsheet/index.html>

Surgeon General, “smokers today have a higher risk of developing lung cancer than did smokers in 1964.”

1970s to the present – Plastics/Packaging Manufacturers & Greenwashing

Shortly before the first Earth Day in [1970](#), when millions of protesters took to the streets for the first ever Earth Day and Coke and Pepsi began replacing their returnable glass bottles with plastic ones, even as concern about litter and single-use plastics in particular was high, and growing.¹¹ President Richard Nixon himself complained of, “new packaging methods, using materials which do not degrade.”¹² Efforts to stop the flow of single-use plastic litter at its source -- the manufacturers -- gained momentum, as Congress debated a bill to ban all non-returnable containers, and Hawaii banned all plastic bottles. [*Id.*]

The plastics manufacturers fought back by lobbying to block the new bills, and by suing, usually through front groups such as the Society of Plastics Manufacturers, to void new laws. As the industry (e.g., DuPont, Monsanto, Dow, Mobil, Exxon) produced steadily more disposable plastics, it defended its product and business model with the vigorous promotion of two new messages. The first message was a deflection of blame:

citizen-consumers — not manufacturers — were the source of the plastic litter problem. The industry promoted this message through front groups, including nonprofits such as Keep America Beautiful, which was founded and funded by the likes of Coca Cola, Pepsi, Dow, and Mobil. On Earth Day, 1971, Keep America Beautiful ran advertisements that read: “People start pollution. People can stop it.” A drumbeat of similar messages continues today, with Keep America Beautiful identifying the need to “Stop littering” as its first goal.



¹¹ <https://www.bbc.com/future/article/20200420-earth-day-2020-how-an-environmental-movement-was-born>

¹²

<https://www.theguardian.com/environment/2018/nov/13/the-plastic-backlash-whats-behind-our-sudden-rage-and-will-it-make-a-difference>

The second message was that recycling -- not a ban on plastics manufacturing -- was the modern solution to the national disgrace of plastic litter and swelling landfills. Beginning in the mid-1980s, plastics trade groups promised that the industry would be able to recycle up to 25% of its bottles, and 25% of polystyrene food packages, by 1990. **Plastics manufacturers** used the promise of recycling though they knew it was a mirage, to confuse and soothe Americans' increasing concern about plastic litter. According to [internal records](#), plastics industry officials knew as early as the 1970s that recycling was not a sustainable solution to plastic pollution. For the plastics and packaging industries, the money spent on greenwashing was well worth it. The greenwashing campaign redirected responsibility for the litter and mounting problem of old plastic to citizens and municipalities, and it worked. Today, more than 70 years after pointing the finger at individuals, the plastics manufacturing industry is still going strong, and has grown to a market value of more than half a trillion US dollars per year.¹³

But no amount of greenwashing can change the essential problem with used plastic: no one wants it, and yet it does not go away. That leaves the planet, wildlife, and people bearing the costs of the plastics industry's profit, which is why today more than 8 million tons of plastics wind up in our oceans every year¹⁴, why our oceans soon could contain more tons of plastic wasted than fish¹⁵, and why the average person today is estimated to be ingesting as much as a credit card-sized amount of microplastics every week -- in food we eat, the water we drink, and the air we breathe. [EN: *Ibid.*]



¹³ <https://www.statista.com/topics/5266/plastics-industry/>

¹⁴

<https://www.fastcompany.com/90671110/why-we-can-no-longer-ignore-the-crisis-of-plastic-buildup-in-the-ocean>

¹⁵ <https://www.unep.org/interactive/beat-plastic-pollution/>

2000s to the present – Big Oil

When it comes to climate change, the science is clear. But like the tobacco and plastics industries before it, the oil and gas industry has sought to maintain the status quo. For years they flooded the public dialogue around climate change with knowingly false "science" and PR in order to continue pushing a product they knew was having a devastating impact on the livability of the planet.¹⁶ In fact so pernicious was the disinformation that came from Fossil Fuel companies that Attorneys General around the country, including Minnesota's Keith Ellison, have brought civil suits alleging massive fraud and deception by them against the public.¹⁷

Today, Americans are flooded with images of windmills and solar panels, as oil and gas companies seek to insert themselves into the solution, and desperately deflect the blame for profiting from the sale of the very fossil fuels that created the climate crisis. BP recently rebranded to present itself as "beyond petroleum," and Exxon pretends it will be producing renewable, carbon-neutral oil from algae.¹⁸ Both Exxon and BP are still among the "supermajor" oil companies in the world, and their product is not coming from algae. As we run out of time to take the necessary action on climate change, Big Oil continues to rake in profits, bringing in nearly \$2 trillion in profits between 1990 and 2020.¹⁹

Today – Climate change, Mining, "Critical Minerals," and the Antofagasta-Twin Metals PR campaign

The catchphrase is "clean energy transition." America's new direction, charted at last in Washington, D.C., seeks to respond to the problem of climate change, find solutions, and transition to a clean energy economy. This cresting wave of societal change is cause for celebration, and for caution. Many industries, including mining companies, now seek to make themselves look essential to the nation's success and survival.

¹⁶

<https://www.theguardian.com/business/2021/apr/19/a-great-deception-oil-giants-taken-to-task-over-greenwash-ads>

¹⁷ <https://www.law.nyu.edu/centers/state-impact/issues/climate-action/suits-against-oil-companies>

¹⁸ <https://www.eenews.net/articles/lawsuits-target-exxons-social-media-green-washing/>

¹⁹

<https://www.theguardian.com/business/2020/feb/12/revealed-big-oil-profits-since-1990-total-nearly-2tn-bp-shell-chevron-exxon>

Swarms of mining companies are looking to attach themselves to clean materials and clean energy, including companies with mine proposals that offer inconsequential benefits, and pose a serious risk to American clean water and beloved crown jewels on America's public lands.

Greenwashing Near Minnesota's Boundary Waters

Twin Metals in Minnesota, a wholly-owned subsidiary of the mining conglomerate Antofagasta PLC based in Santiago, Chile, is using the same playbook to push its risky mine next to America's most popular Wilderness. Twin Metals presents its proposed sulfide-ore copper mining project, which sits on the edge of the Boundary Waters Canoe Area Wilderness, as essential for the nation's ambitious plans for a clean economy and upgraded infrastructure. This is classic greenwashing. While Twin Metals claims that a massive sulfide-ore copper-nickel mine, situated on the edge of the nation's most visited wilderness area, would mitigate the impacts of climate change and put us on a path toward a greener future -- this couldn't be further from the truth.



In August 2021, marketing strategists working on behalf of Antofagasta PLC sent a press release to every newsroom in Minnesota, describing their plans to use electric vehicles for their proposed mine on the edge of the Boundary Waters.²⁰ In the same breath, the company reiterated their unfounded claim that by putting this cherished wilderness on course for environmental disaster and building a sulfide-ore copper-nickel mine near the Boundary Waters, the U.S. would be in a better position to build basic green infrastructure such as solar panels. If the mine is built, they claim, the United States will be bound for a future powered by clean energy. It's an exaggeration of the facts and overlooks the truth behind the numbers.

Metal mining is the most polluting industry in the United States. The metal mining sector accounts for 44 percent of hazardous releases (1.49 billion pounds) each year in this country, which were primarily in the form of on-site land disposal, according to the Environmental Protection Agency

²⁰ <https://www.twin-metals.com/press-release/twin-metals-minnesota-commits-to-electric-vehicle-fleet/>

(EPA).²¹ Sulfide-ore copper mining on the edge of a world-renowned canoe country wilderness area abundant with pure water, is particularly dangerous. Twin Metals proposes to mine trace amounts of copper and other metals that are bound up in sulfide-bearing ores. When these ores are exposed to water or oxygen, they produce sulfuric acid — the same chemical as battery acid — that forms a leachate of acid, sulfate, and heavy metals such as arsenic and mercury called acid mine drainage. This type of mining is inherently polluting. It always pollutes surrounding air and water with toxic heavy metals, nitrates, and sulfate. Though Twin Metals claims its method of ore processing will remove most of the sulfide minerals, and not produce acid rock drainage, the EPA publicly recognizes that the Duluth Complex is, in fact, acid generating.²²



The reality is this: the mine will always pollute surrounding air and water with toxic heavy metals, nitrates, and sulfides that will impact the health of the wildlife and those in the community who enjoy this irreplaceable outdoors. Twin Metals cannot say with absolute confidence that its mine would not generate acid mine drainage. Twin Metals' deposits are located in an intensely water-rich area near the shores of the South Kawishiwi River and Birch Lake - immediately upstream of the

Boundary Waters, and in deposits that are immediately adjacent to the Boundary Waters. The surface and groundwater from Twin Metals deposits flow directly into the Boundary Waters.

Every mining company proposing a new mine speaks of innovation, science, necessity, jobs and the future. Thus far, none has demonstrated how to conduct hard rock mining operations without damaging the surrounding ecosystem and landscape, including water. A perfect example of this is the 2014 Mount Polley copper mine disaster in Canada, where a large tailings storage facility suddenly and catastrophically failed and released millions of cubic meters of toxic mine waste into nearby lakes and rivers that provided critical wildlife habitat and recreation opportunities for the surrounding community. The mine operator's claims of innovation and modern designs looked good

²¹ The 2019 Environmental Protection Agency TRI chemical releases by industry sector, available at <https://www.epa.gov/trinationalanalysis/releases-chemical-and-industry>

²² December 1994 EPA study "Acid Mine Drainage Prediction," available at <https://www.epa.gov/sites/default/files/2015-09/documents/amd.pdf>

on paper, yet less than 24 hours after the Mount Polley disaster, Brian Kynoch, the CEO of Imperial Metals, owners and operators of the Mount Polley mine, told stunned community members: "If you had asked me two weeks ago if that could happen, I would say it couldn't happen."²³ When the Mt. Polley mine opened in 1997, it was touted as a modern mine with technology too advanced to fail. It took only 18 years for the mine to fail. A subsequent investigation determined that a flawed design and miscalculation of the makeup of the soil were the two main causes of failure. Mt. Polley is but one of many examples of modern mines failing horribly, despite official predictions of success.²⁴ Twin Metals would have us forget our history and build another risky mine in the wrong place.

In September 2021, President Joe Biden declared that climate change has become "everybody's crisis" as he visited areas flooded by Hurricane Ida. For Twin Metals to claim that it is an environmentally friendly enterprise in the midst of this crisis is simply not true. The company has two main tactics for distracting us from the harmful reality of its mine. First, Twin Metals was quick to point out that by employing an electric vehicle fleet at the mine they could reduce onsite greenhouse gas emissions by an estimated 65 percent. Notwithstanding this supposed decrease, the proposed Twin Metals mine is expected to produce more than 27,500 tons of emissions through mining activities such as blasting, crushing, and heating alone. What Twin Metals also fails to mention in its greenwashed press release is how much electricity the mine would require. More than 781,400 metric tons of carbon dioxide that would be emitted annually from electricity used to operate the proposed Twin Metals mine.

In its second go-to distraction, Twin Metals proposes a type of waste storage called dry stacking, a method that removes much of the water from mine tailings or waste to form a sand-like material. The waste storage facility would encompass 430 acres and reach 130 feet in height. It would be located within one-quarter of a mile of Birch Lake, upstream from the Boundary Waters. Twin Metals' promotion of dry stacking is a smokescreen created to hide the fact that it originally proposed storing its waste outside the Boundary Waters watershed for the express purpose of protecting the Boundary Waters from acid mine drainage. After the State of Minnesota rejected this plan, Twin Metals moved its toxic waste facility into the watershed and to the location next to Birch Lake, now - suddenly - calling its toxic storage facility benign when nothing could be further from the truth.

²³ From CBC article "Mount Polley mine tailings spill: Imperial Metals could face \$1M fine," available at <https://www.cbc.ca/news/canada/british-columbia/mount-polley-mine-tailings-spill-imperial-metals-could-face-1m-fine-1.2728832>

²⁴ J. Kuipers, P.E., A. Maest, Ph.D., 2017. Comparison of Predicted and Actual Waters Quality at Hardrock Mines, available at https://earthworks.org/publications/comparison_of_predicted_and_actual_water_quality_at_hardrock_mines/

A 2016 study²⁵ published by the National Institutes of Health focuses on windblown dust and contamination from mine tailings. The report finds that “wind, erosion, transport and deposition of windblown dust from anthropogenic sources, such as mine tailings impoundments, can have significant effects on the surrounding environment. The lack of vegetation and the vertical protrusion of the mine tailings above the neighboring terrain make the tailings susceptible to wind erosion.”

Dust generated by a Twin Metals storage facility would contain heavy metals and sulfur. As wind sweeps the dust into nearby lakes and rivers, the contaminants would harm the environment in and near the Boundary Waters. Leachate from a wet dry stack facility would flow into nearby surface and groundwater. And once pollution flows into the Boundary Waters, it is unlikely to be fixed, remediated, or mitigated because of the absence of roads and the prohibition of any mechanization. In fact, in 2018 the Minnesota Department of Natural Resource determined that the so-called “dry-stack” tailings method is inappropriate for the wet climate of northern Minnesota. The DNR based its determination on the increased likelihood of acid-generation when the stack is wet and increased fugitive dust emissions when the stack is dry, all resulting in the transmittal of pollutants.²⁶ Dry stack tailings storage facilities in modern mines in similar climates have an unbroken record of water quality degradation.

Twin Metals fails to demonstrate how either electric vehicles or dry stack storage would render its mine any less of a high risk proposition. Neither distraction shows how Twin Metals could design, build, operate, and maintain post-closure a sulfide-ore copper mine on the edge of the Boundary Waters that would absolutely not pollute or degrade water quality. The water quality of the Boundary Waters watershed is assessed by the Minnesota Pollution Control Agency as excellent and immaculate.²⁷ State and federal laws prohibit any degradation of water quality in the Boundary Waters, a 1.1 million acre national wilderness area of 1,100 interconnected lakes, rivers, streams, and wetlands. Twin Metals greenwashing is a blatant attempt to hide the fact that it proposes a highly toxic type of mining adjacent to America’s most visited wilderness area - an area containing lakes and rivers that are among the cleanest water in the nation. In addition, nearly two square miles of forest land will be destroyed for the mine. All manner of heavy machinery, electric or diesel powered, will be used to clear this forestland, which poses a risk of bringing in invasive species near

²⁵ From 2016 report by US National Library of Medicine National Institutes of Health “Windblown Dust Deposition Forecasting and Spread of Contamination around Mine Tailings,” available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5658141/>

²⁶ From 2018 MN DNR Fact of Findings report “Northmet Project – Dam Safety Permits,” available at https://files.dnr.state.mn.us/lands_minerals/northmet/dam-safety/04-dam-safety-fof.pdf

²⁷ <https://www.pca.state.mn.us/sites/default/files/wq-ws3-09030001b.pdf>

the Boundary Waters and takes away important forest habitat and wetlands that absorb carbon emissions.

Cartoons Don't Mask the Truth

Long before Joe Camel ever stretched across the pages inside any number of glossy magazines, Camel cigarettes emblazoned its print promotions with images of doctors smoking cigarettes. Once the surgeon general worked to educate the public on the hazards of smoking, Camel and other tobacco companies only turned up the dial. And to do so, they got cute. Joe Camel, with his dark sunglasses and leather jackets, became something hip, or so the vision went, a character younger generations could relate to. Twin Metals recently launched their own version of this with 'The Wolf Gang,' a trio of cartoon wolves who boast of their interest in having a mine on the edge of a pristine wilderness. Cobi, for example, the lone female member of the Wolf Gang, says "she's always looking for new forms of clean energy to protect the environment."²⁸

While Twin Metals primarily intends to mine copper and nickel, it would also collect cobalt, palladium, platinum, gold and silver. Indeed, as Cobi from the Wolf Gang would surely tell us, many of these metals are required for a clean energy economy and the expansive power grid in this nation. However, the deposits Twin Metals seeks to develop are low grade - less than 1% of the ore contains metals and would generate insignificant amounts of metals. Based on 2019 figures from the U.S. Geological Survey and on Twin Metals' own production projections, a Twin Metals mine would provide amounts equal to only 2.3% of copper consumption, 3.6% of nickel consumption, and 1.5% of cobalt consumption in the U.S. annually.²⁹

Twin Metals would produce copper and nickel concentrates, an intermediate product that must be smelted and refined before it becomes pure copper and nickel. The U.S. has no nickel smelters. The three copper smelters in the U.S. have no capacity to process Twin Metals concentrates and are vertically integrated with mines under the same ownership. According to documents filed by Antofagasta and Twin Metals with the Minnesota Department of Natural Resources³⁰, the

²⁸ From Twin Metals 'Learning Center' tab, available at <https://www.twin-metals.com/learning-center/meet-the-wolf-gang/>

²⁹ From 2019 USGS report available at <https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-copper.pdf>

³⁰ From Minnesota DNR filing Scoping Environmental Assessment Worksheet produced by Twin Metals Minnesota, available at <https://files.dnr.state.mn.us/input/environmentalreview/twinmetals/pd/tmm-revised-project-proposal-description-march-2021.pdf>

concentrates would be shipped abroad, with all signs leading to low-cost smelters in China where Antofagasta currently ships metals from its South American mines. The refined metals then would be sold on the world market.

The supply chain of metals needed for the energy transition are copper, graphite, lithium, nickel and cobalt. While we need to have a secure supply chain for materials needed to address climate change, a Twin Metals mine would not meaningfully help in this regard. A better strategy, and one embraced by the Biden Administration,³¹ is to continue to work with our longstanding allies like Canada and Australia to secure the needed supply, and to focus on recycling these materials, an approach that is currently underutilized.

The Duluth Complex is indeed expansive — it stretches in an arc across northeastern Minnesota. However, even the most-mineralized rock averages less than 1% mineralization, meaning that due to the low grade character of the rock formation where Twin Metals plans to mine, less than 1% of the ore would be produced as copper, nickel, and trace metals. Waste rock would comprise the remaining 99%. This waste rock would be a source of water degradation for hundreds of years, and sulfates, sulfides, and heavy metals such as arsenic, copper, zinc, and other toxic metals would be an ever present threat to the Boundary Waters watershed in the form of contaminated liquid and dust.

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A Legacy of Clean Water

Copper-nickel and other forms of hardrock mining have a long legacy of water pollution across this country. The Environmental Protection Agency estimates that 40 percent of the watersheds in the western United States are contaminated by pollution from hardrock mines.³³ The waterways of the Boundary Waters and surrounding Superior National Forest are vastly interconnected with each

³¹ From the 2021 White House report “Building Resilient Supply Chains, Revitalizing American Manufacturing and Fostering Broad-Based Growth,” available at <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>

³² From David Chambers 2018 report “Potential for Acid Mine Drainage in the Duluth Complex Magmatic PGE Deposits” available at <https://earthworks.org/assets/uploads/2018/12/19-Chambers-Feb.-16-2018-AMD-Potential-in-the-Duluth-Complex-Magmatic-PGE-Deposits-CSP2-.pdf>

³³ From National Service Center for Environmental Publications, “Liquid Assets 2000 America's Water Resources at a Turning Point,” available at <https://tinyurl.com/wxrc72tr>

other and with groundwater, meaning groundwater pollution could spread from underground into surface waters, and continue for years, decades or centuries. With nearly a quarter of the Boundary Waters region made up of water, and its watershed is described as 'extremely clean' and 'immaculate' by the Minnesota Pollution Control Agency,³⁴ there is little room to debate whether a mine risking this type of damage belongs on the edge of this wilderness. The Boundary Waters is a place of endless outdoor recreational opportunities.



These remote forests are home to moose, wolves, lynx and dozens of other species. The deep, clear lakes of the Boundary Waters provide habitat to lake trout, northern pike, walleye and other fish.

And it is not just environmental advocates, canoe campers or the people of northeastern Minnesota who understand the value of the Boundary Waters. In a 2016 letter specific to the Twin Metals mine, then-Forest Service Chief Thomas Tidwell did not mince words when he said acid mine drainage would cause "serious and irreparable [sic] harm" to the Boundary Waters.³⁵ Acid drainage can be created in all phases of mining, Tidwell wrote in his letter to the Bureau of Land Management. When it does, there is no question this toxic waste will harm water quality. Furthermore, the water chemistry of the Boundary Waters and the surrounding Superior National Forest is poorly-buffered.

³⁶ This means newly introduced acid mine drainage would cause the pH of the waters to become very acidic, harming fish, wild rice, native plants and the many animals that rely on this clean water for survival. Discharged pollutants into these waters, all of which is Ceded Territory under the 1854

³⁴ From 2017 report by the Minnesota Pollution Control Agency titled "Rainy River-Headwaters Watershed Monitoring and Assessment Report," available at <https://www.pca.state.mn.us/sites/default/files/wq-ws3-09030001b.pdf>

³⁵ From 2016 USDA letter to Bureau of Land Management, available at https://www.savetheboundarywaters.org/sites/default/files/attachments/usfs_ltr_to_blm_no_consent_explanation_12-14-2016.pdf

³⁶ From 2016 report in Journal of Hydrology "Acid mine drainage risks – A modeling approach to siting mine facilities in Northern Minnesota USA," available at <https://earthworks.org/assets/uploads/2018/12/4-Myers-2016-Acid-Mine-Drainage-Risks.pdf>

Treaty of LaPointe, would be contrary to the federal government's responsibilities³⁷ to the Bois Forte, Grand Portage and Fond du Lac Bands of Lake Superior Chippewa, and could violate Article IV of the 1909 Boundary Waters Treaty between the U.S. and Canada.³⁸

In May 2021, President Biden signed an executive order³⁹ announcing a vision to work collaboratively to conserve and restore the lands, waters, and wildlife that support and sustain the nation. The recommendations outline a realistic plan to conserve 30 percent of U.S. lands and waters by 2030 and calls for a decade-long effort to support locally led and voluntary conservation efforts across public, private, and tribal lands and waters in order to create jobs and strengthen the economy's foundation, tackle the climate and nature crises, and address inequitable access to the outdoors.

A key component of this plan could protect the Boundary Waters from toxic mining, and indeed action is underway. A study to determine whether a 20-year administrative moratorium on mining activity should be imposed on federal lands and minerals in the Rainy River Basin, which includes the Boundary Waters, is a critical step toward protecting this region for future generations. Equally as important is to note supportive legislation on Superior National Forest for a mineral withdrawal area. Even the protected area – more than 234,000 federal acres – would be only a small part of the entire Duluth Complex. In fact, the Superior National Forest mineral withdrawal area would remove from mineral development four of nineteen known deposits in the Duluth Complex.

Destructive sulfide-ore copper mining near the Boundary Waters – indeed within just several miles of the federally protected wilderness, as Twin Metals hopes to do – would forever alter the way the area looks, feels and is viewed globally. Despite dressed-up attempts by Twin Metals to show interest in the clean economy, a Twin Metals mine would be a major new source of air pollution, and cause millions of tons of new CO₂ emissions. More accurately, a Twin Metals mine is irrelevant (concentrates will be shipped overseas) and insignificant (mined amounts will be small) to the U.S. green economy transition. Ultimately, Twin Metals is simply the latest to use this nefarious approach to convince the public that its methods are rooted in progress rather than profit.

³⁷ Document from 1854 Treaty Authority titled “The Right to Hunt and Fish Therein; Understanding Chippewa Treaty Rights in Minnesota’s 1854 Ceded Territory,” available at <https://www.1854treatyauthority.org/images/ToHuntandFish.updated2020.pdf>

³⁸ From the Boundary Waters Treaty of 1909, available at <https://www.ijc.org/sites/default/files/2018-07/Boundary%20Water-ENGFR.pdf>

³⁹ From US Department of Interior “Biden-Harris Administration Outlines ‘America the Beautiful’ Initiative,” available at <https://www.doi.gov/pressreleases/biden-harris-administration-outlines-america-beautiful-initiative>

Conclusion

For as long as big business has sought to push its profits against the common good and public opinion, there have been massive PR campaigns designed to facilitate the motives of these special interests. And it is oftentimes the most toxic and dangerous industries that utilize this tactic, industries like Big Tobacco, Fossil Fuel interests, and international mining companies. Antofagasta's Twin Metals project is no different. By latching onto the very real need and public desire for cleaner energy and a healthier climate, this conglomerate seeks to convince Americans that its destructive project is worth the tremendous risk it poses to our nation's most visited Wilderness, and some of the cleanest water on earth. Fortunately, the public is wising up to these deceptions. Governments, analysts, non-profits, and others must remain vigilant to see these claims for what they are, and not allow real and urgent policy priorities to serve as cover for the exploitive interests of corporate greed.

Minnesota's Boundary Waters is an ecological marvel, a home to endangered species, pristine waters, and fragile and beautiful flora and fauna. It is an economic engine for the hundreds of small businesses and thousands of local workers in Northeast Minnesota, and the cornerstone of a sustainable and durable long term economy. It is woven into the cultural fabric of generations of Minnesotans and other Americans who make regular pilgrimages to experience its solace and wonder. And it is one of the most critical ecosystems for climate adaptation and resilience.

Twin Metals' claims as to the necessity of jeopardizing this priceless landscape for its risky copper mining project are hollow and don't stand up to scrutiny, as this report clearly shows.

The Biden administration has the opportunity to protect this priceless landscape now and forever. It should seize the chance to protect the Boundary Waters today, and for future generations.