

Kopernik Global Investors presents **The Antidote to Correlation Webinar**



Topic: E.S.G.
March 2021



Kopernik
Global Investors, LLC



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Alissa Corcoran, CFA

Analyst & Director of Research

Alissa Corcoran is the Director of Research and Analyst covering the health care and metals & mining sectors for Kopernik Global Investors. Previously, Alissa was an analyst for Vinik Asset Management. Prior to joining Vinik Asset Management, she worked as a research associate for a genetics lab and for various non-profit organizations.

Alissa earned her bachelor of science in biochemistry from Bates College and MBA from the University of Southern California Marshall School of Business. Alissa has received the Chartered Financial Analyst designation.



David Iben, CFA

Chief Investment Officer and Lead Portfolio Manager

David Iben is the Chief Investment Officer of Kopernik Global Investors and is the sole Portfolio Manager of the Kopernik Global All-Cap strategy, Lead Portfolio Manager of the Kopernik Global Unconstrained strategy, Co-Portfolio Manager of the Kopernik Global Long-Term Opportunities strategy and Co-Portfolio Manager of the Kopernik International strategies. He is the Managing Member, Founder and Chairman of the Board of Governors of Kopernik Global Investors.

Dave earned his bachelor's degree from University of California, Davis, and his MBA from the University of Southern California Marshall School of Business. He has received the CFA designation and is a member of CFA Institute and CFA Society of Tampa Bay.

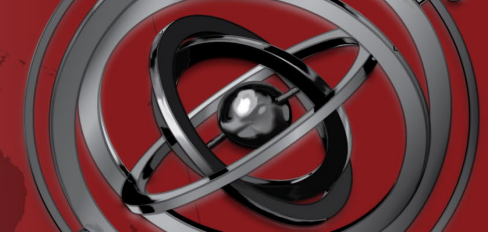


Neda Yarich

President

Neda Yarich serves as President of Kopernik Global Investors and chair of the Investment Oversight Committee. She is responsible for the business strategy and management of the firm's non-investment activities. Neda was previously Chief Administrative Officer. Prior to that, she was an assistant portfolio manager and research associate covering the consumer discretionary sector, and chair of the management committee at Kopernik Global Investors.

Neda earned her bachelor of science degree in finance and marketing from California State University, Northridge and a Certificate in Business Excellence from Columbia University.



A DIFFERENTIATED APPROACH TO ESG



What interests us about Mikolaj Kopernik (better known by the Latin spelling Nicolaus Copernicus) is that he trusted his own observations instead of accepting what “everyone” thought to be true.

Our Plan Today:

- ESG is important
- ESG is not black and white
- A passive approach to ESG is sub-optimal, thoughtless, potentially dangerous
- Give examples as to why
- A constructive approach should prove profitable as well as positive

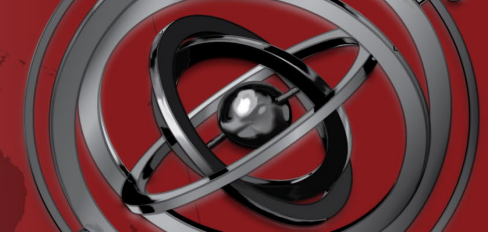
BERKSHIRE HATHAWAY MEETING, 2007



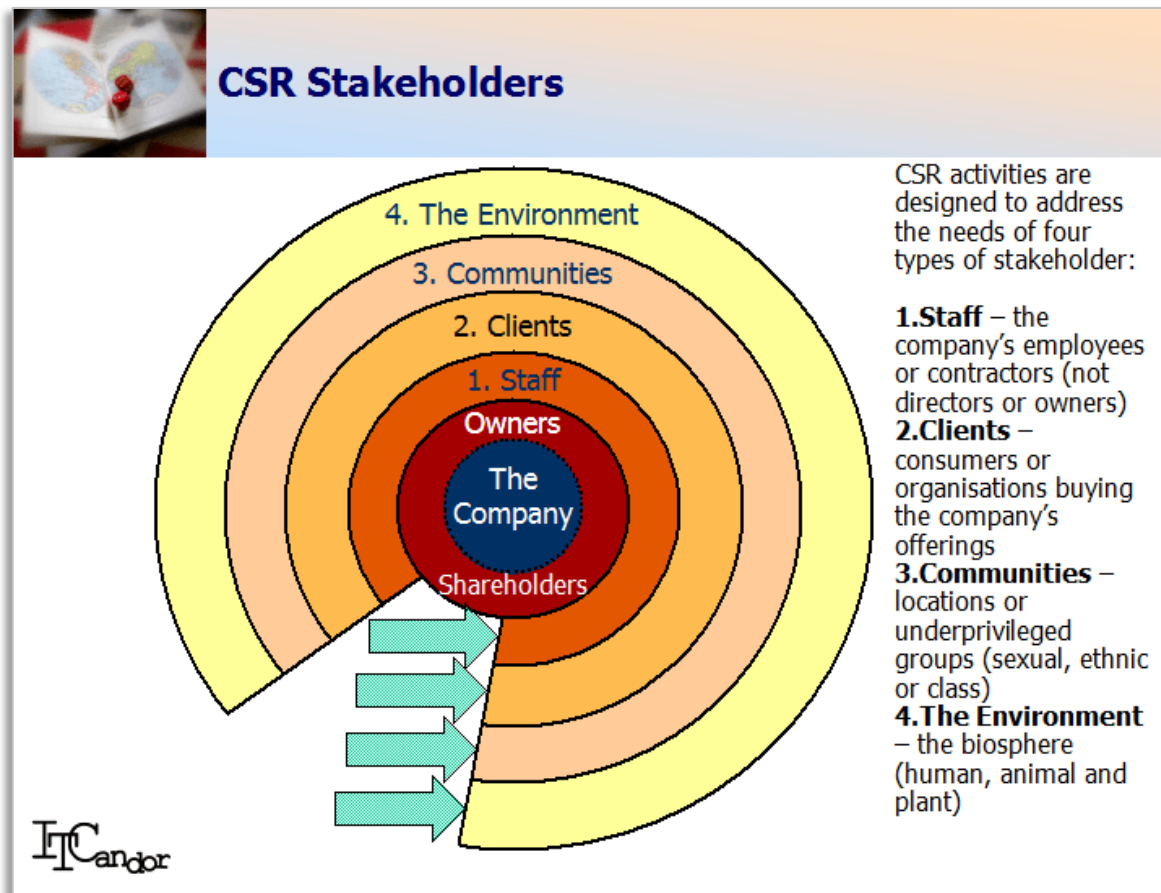
Source: www.mrss.com



Source: www.cnbc.com



COMPANIES THAT INTEGRATE ESG INTO THEIR BUSINESS MODELS MAY BE ABLE TO SUSTAIN A COMPETITIVE EDGE



Source: www.itcandor.com



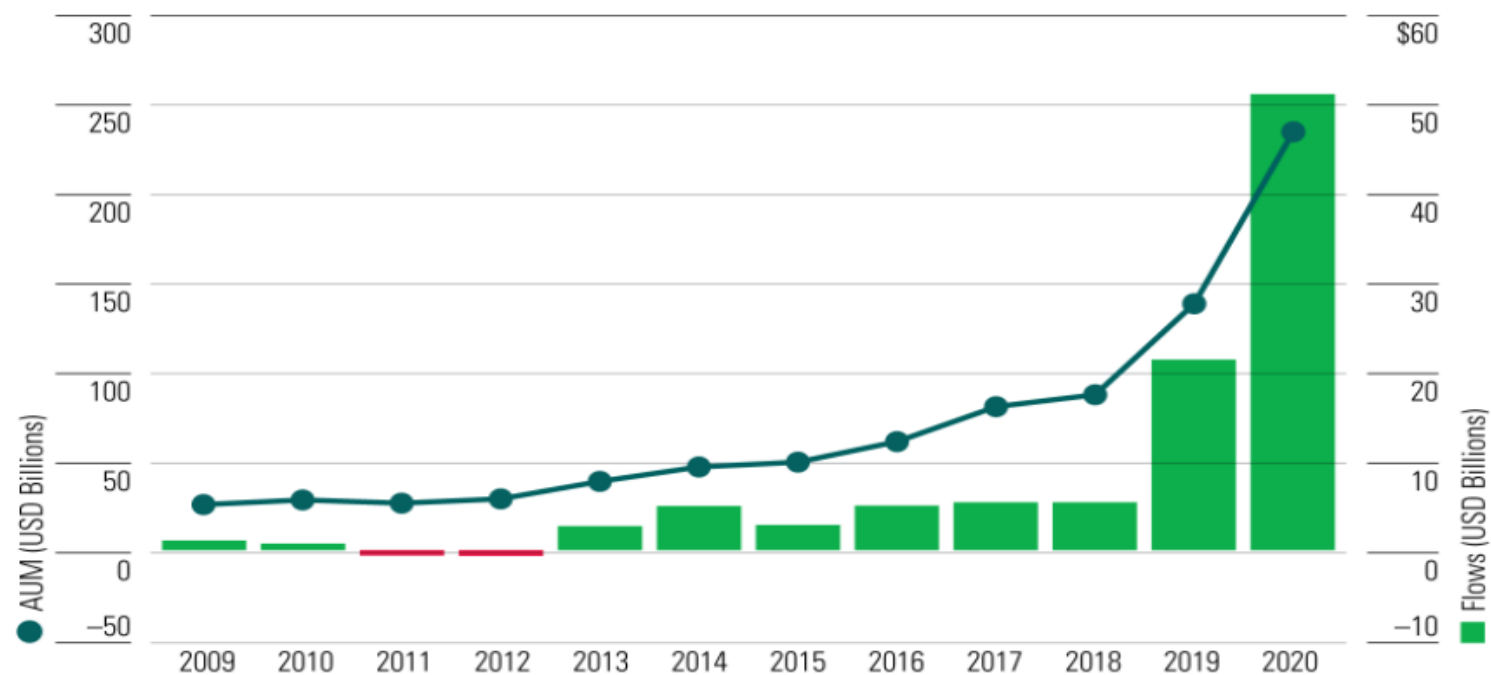
THE POWER OF INDEPENDENT THOUGHT

“The test of a first-rate intelligence
is the ability to hold two
opposed ideas in mind
at the same time and still
retain the ability to function”

-F. Scott Fitzgerald

GLOBAL ESG INFLOWS ARE MASSIVE: 2020 WAS A RECORD YEAR FOR ESG FLOWS

Sustainable Funds Annual Flows and Assets



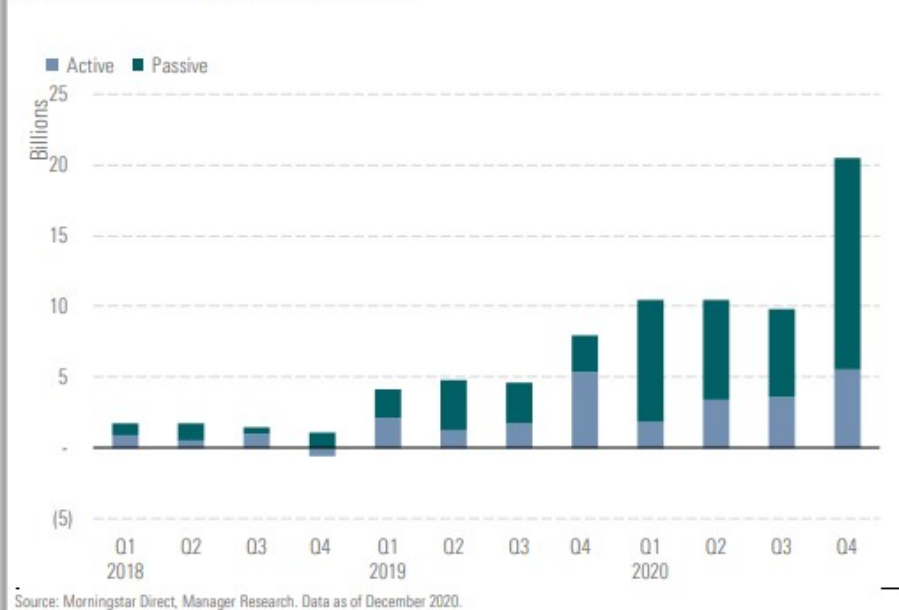
Source: Morningstar. Data as of 12/31/2020.

Includes Sustainable Funds as defined in Sustainable Funds U.S. Landscape Report, Feb. 2020.

Includes funds that have been liquidated; does not include funds of funds.

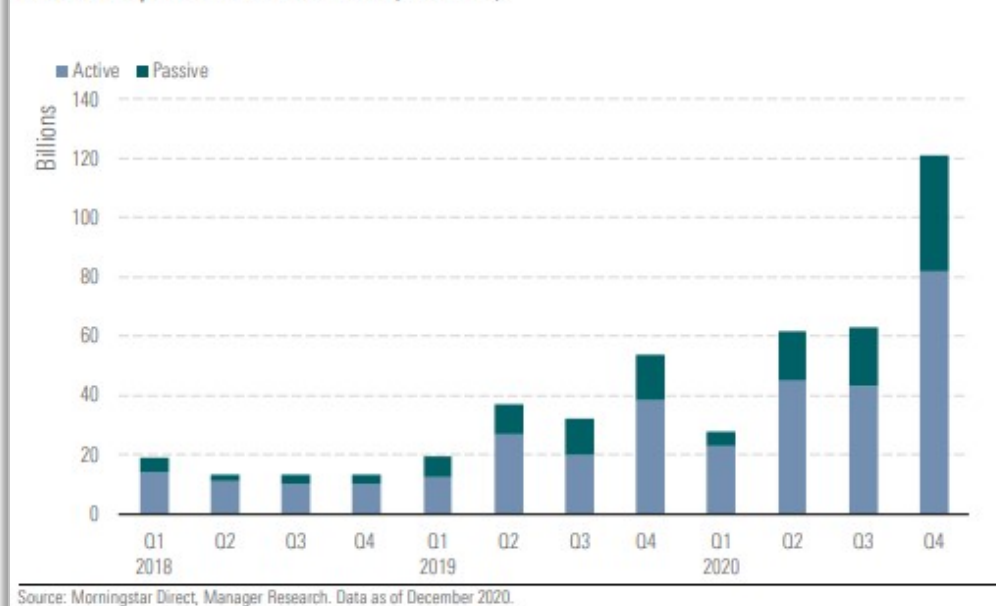
PASSIVE IS GROWING QUICKLY, PARTICULARLY IN THE U.S.

Exhibit 9 U.S. Sustainable Fund Flows (USD Billion)

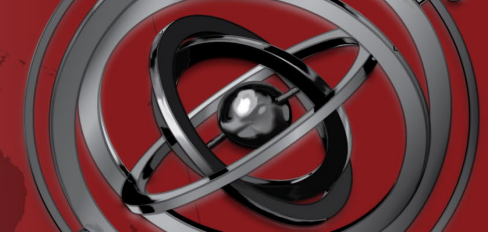


Especially in the U.S.

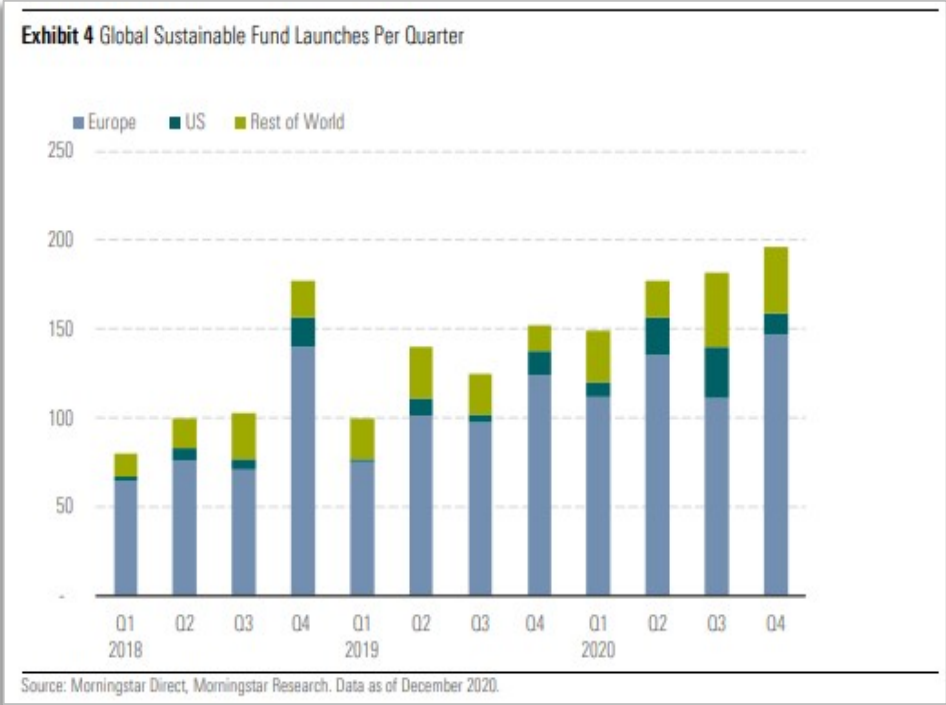
Exhibit 5 European Sustainable Fund Flows (USD Billion)



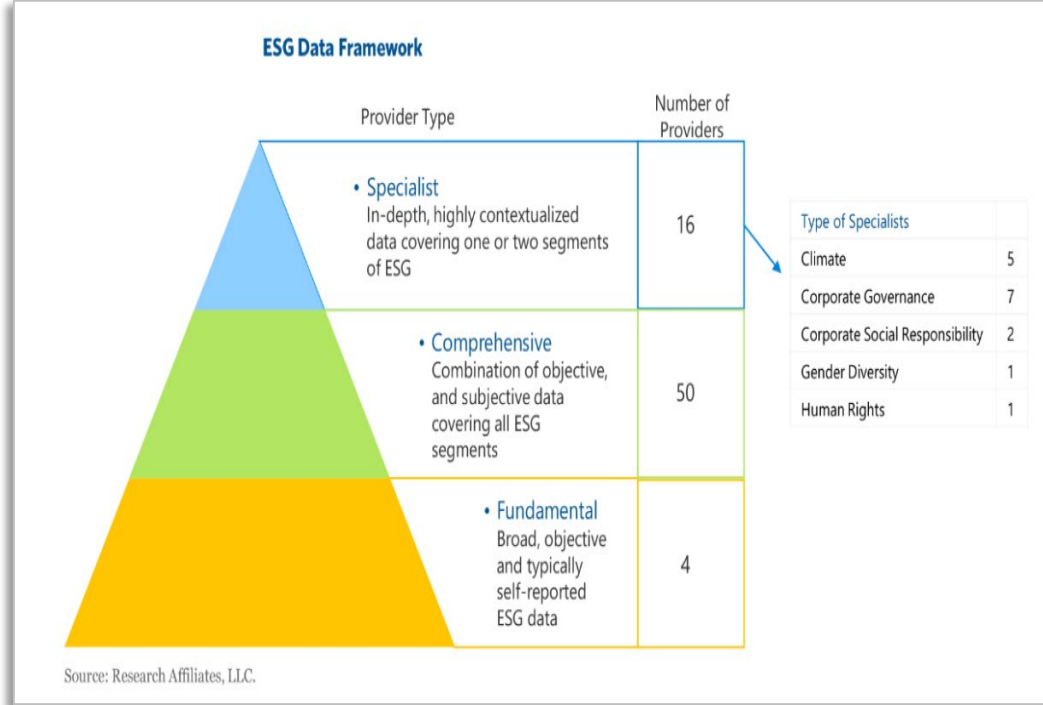
Active is still more popular in Europe



AS OF Q4 2020, THERE WERE 4,153 SUSTAINABLE FUNDS GLOBALLY AND 70 DIFFERENT ESG RATINGS AGENCIES



Source: Morningstar

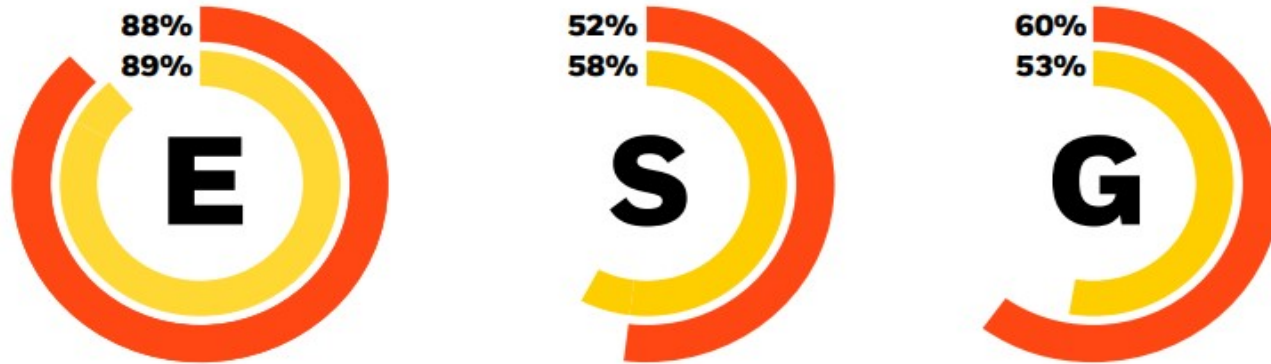


Source: Research Affiliates



ACCORDING TO A BLACKROCK SURVEY, MOST INVESTORS CARE MOST ABOUT THE 'E' IN ESG

07 Please rank the focus of your sustainable investment activity to date.
— And please rank the likely focus of your sustainable investment activity over the next 3-5 years.



● Focus to date ● Likely focus over next 3-5 years

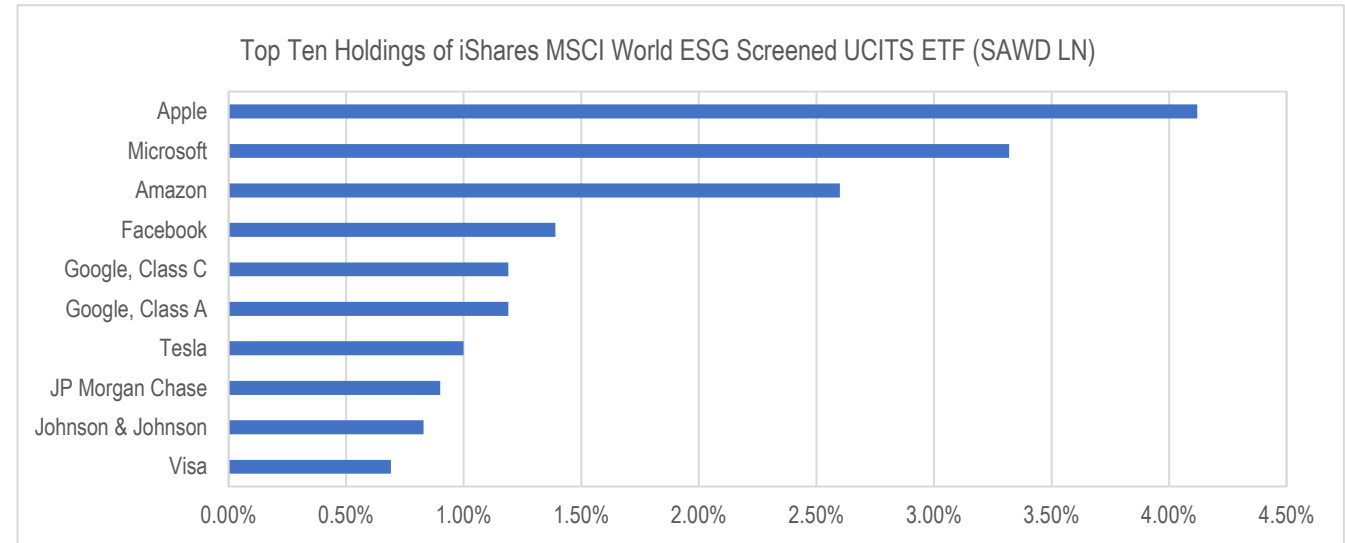
Respondents were asked to rank each option. Represents the top two priorities among those that currently or plan to focus on E, S, or G priorities. Base: Respondents who currently focus on E, S, or G priorities (298). Respondents who to plan to focus on E, S, or G priorities in future (324). BlackRock Global Client Sustainable Investing Survey. July - September 2020. For illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

HOW DO ESG FUNDS ALLOCATE CAPITAL?

MANY ESG FUNDS RELY ON RATING AGENCIES

Industry	Representative ESG Fund
Information Technology	20.4%
Consumer Discretionary	14.0%
Financials	13.5%
Health Care	11.4%
Industrials	10.0%
Communication Services	9.4%
Consumer Staples	7.4%
Materials	5.2%
Utilities	3.2%
Energy	2.9%
Real Estate	2.7%

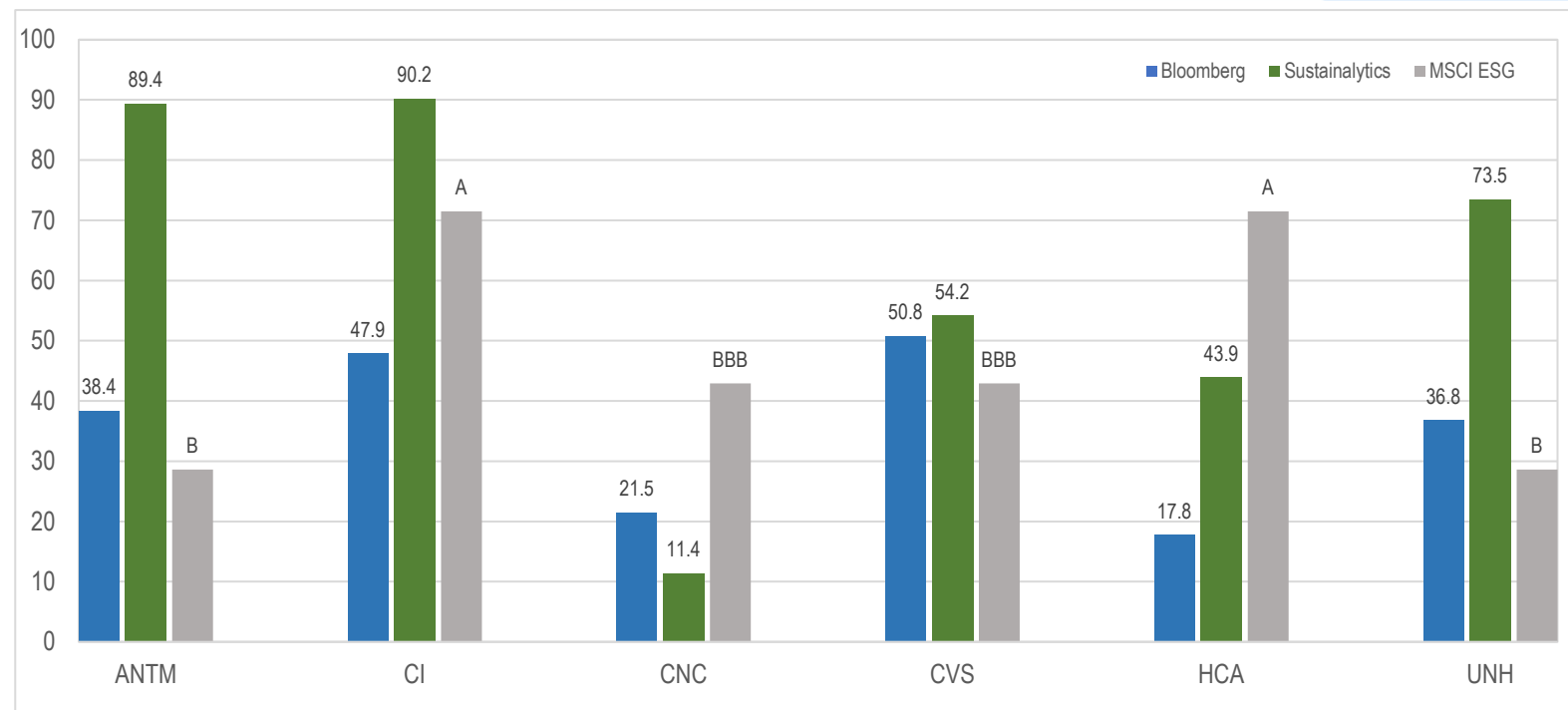
Source: MSCI



Source: Bloomberg

ESG RATINGS VARY CONSIDERABLY. WHICH SCORE SHOULD ONE USE TO INVEST?

Company	Sector	Weight	ESG Score		E Score		S Score		G Score	
			Provider 1	Provider 2	Provider 1	Provider 2	Provider 1	Provider 2	Provider 1	Provider 2
Apple	Technology	3.52%	0.41	0.43	0.69	0.96	0.10	0.42	0.54	0.19
Amazon	Cyclical	2.82%	0.23	0.07	0.25	0.13	0.15	0.20	0.51	0.06
Walmart	Cyclical	1.03%	0.72	0.35	0.64	0.77	0.61	0.10	0.73	0.42



Source: Research Affiliates LLC, Bernstein

OFTEN ESG RATINGS FAIL TO CAPTURE MATERIALITY

(Love That) Dirty Water—The Standells



*Solvay Plant near
beach in Rosignano*

*Solvay's plant
discharges waste
into the sea.*



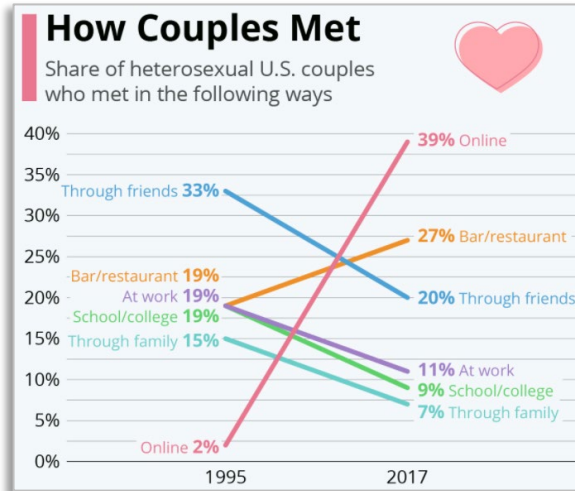
Source: Financial Times



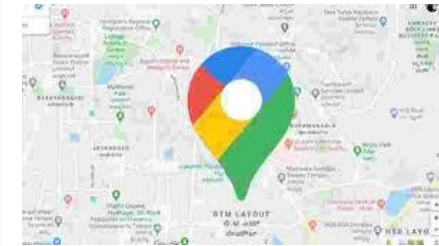
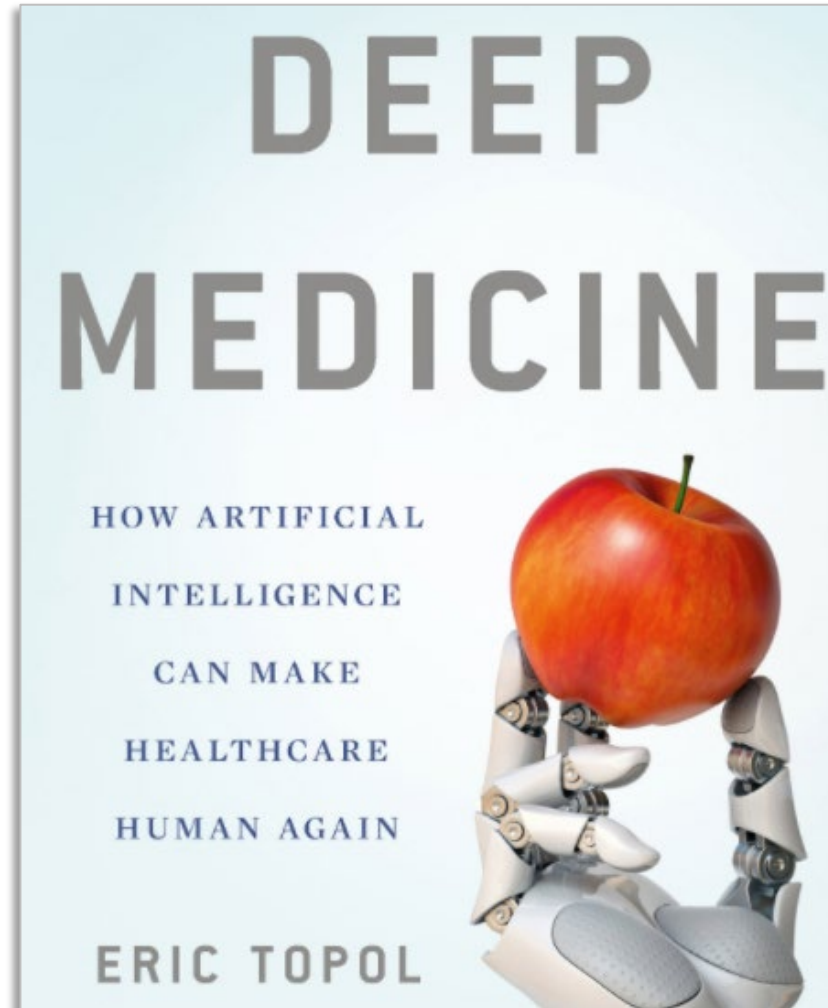
HOW DOES KOPERNIK INTEGRATE ESG? THROUGH RIGOROUS THOUGHT AND EFFORT

- Kopernik is a UNPRI signatory
- Send letters to companies we own every year
- Vote our proxies, differing from ISS when appropriate
- Engage with management teams to understand ESG risks
- Integrate ESG risks into company valuation **relying on independent analysis**

TECHNOLOGY HAS NO DOUBT CHANGED HOW WE LIVE

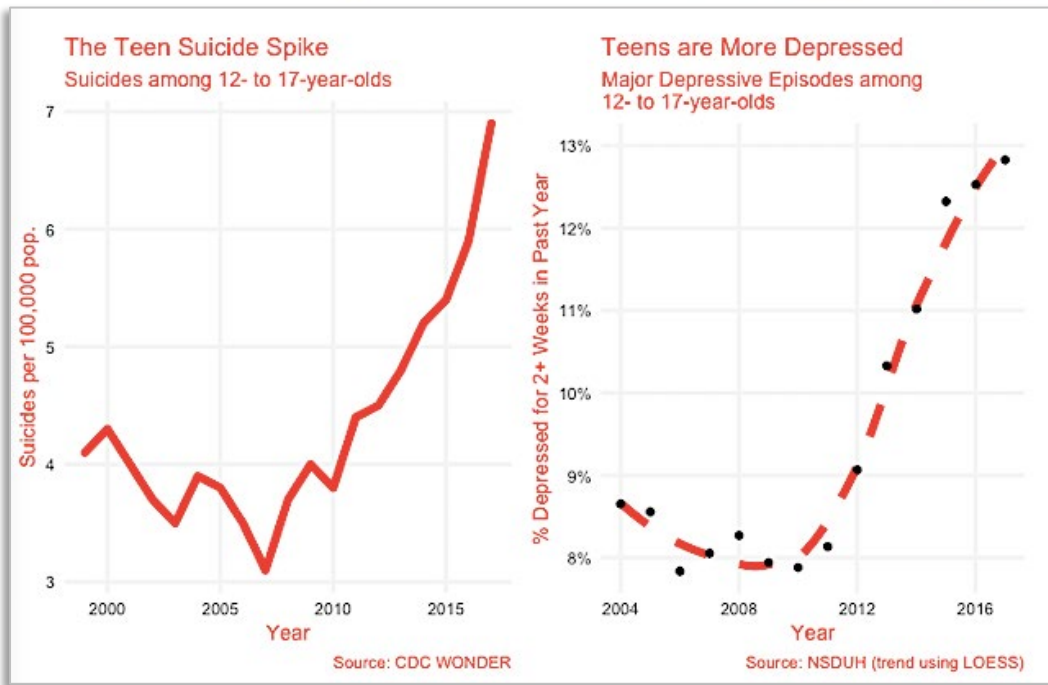


BookMyWriting.com



BUT IS THERE ALSO A DOWNSIDE TO THIS INNOVATION?

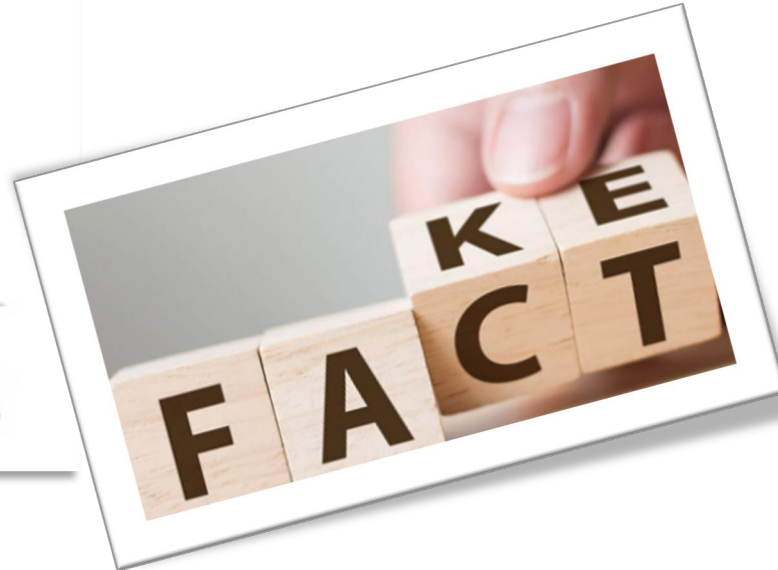
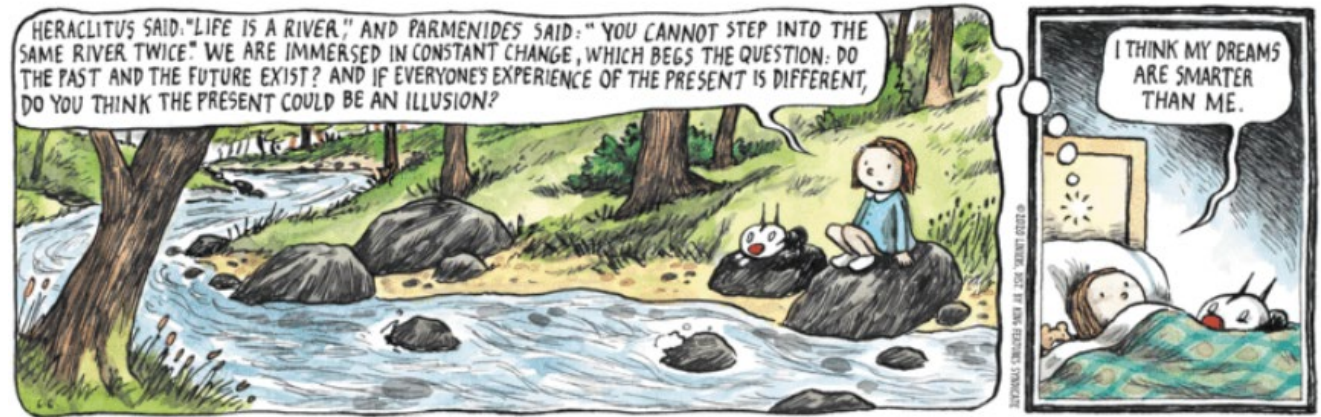
Zits by Jerry Scott and Jim Borgman



BUT IS THERE ALSO A DOWNSIDE TO THIS INNOVATION?



Macanudo by Liniers



NOT TO MENTION...TECHNOLOGY'S EGREGIOUS GOVERNANCE PRACTICES...

Company	Stock Compensation as % of Annual Revenue	Annual Stock Compensation (USD millions)
Snapchat	40%	\$686
Uber Technologies	33%	\$4,596
Snowflake	30%	\$78
Workday	24%	\$859
Atlassian	19%	\$313
ServiceNow	19%	\$313
Zoom Video Communications	12%	\$73
Autodesk	11%	\$362
Salesforce.com	10%	\$1,785
Shopify	10%	\$159
Broadcom	10%	\$2,185
Vmware	9%	\$1,017
Vertex Pharmaceuticals	9%	\$361
Pinduoduo	9%	\$370
Nvidia	8%	\$844

Source: Barrons

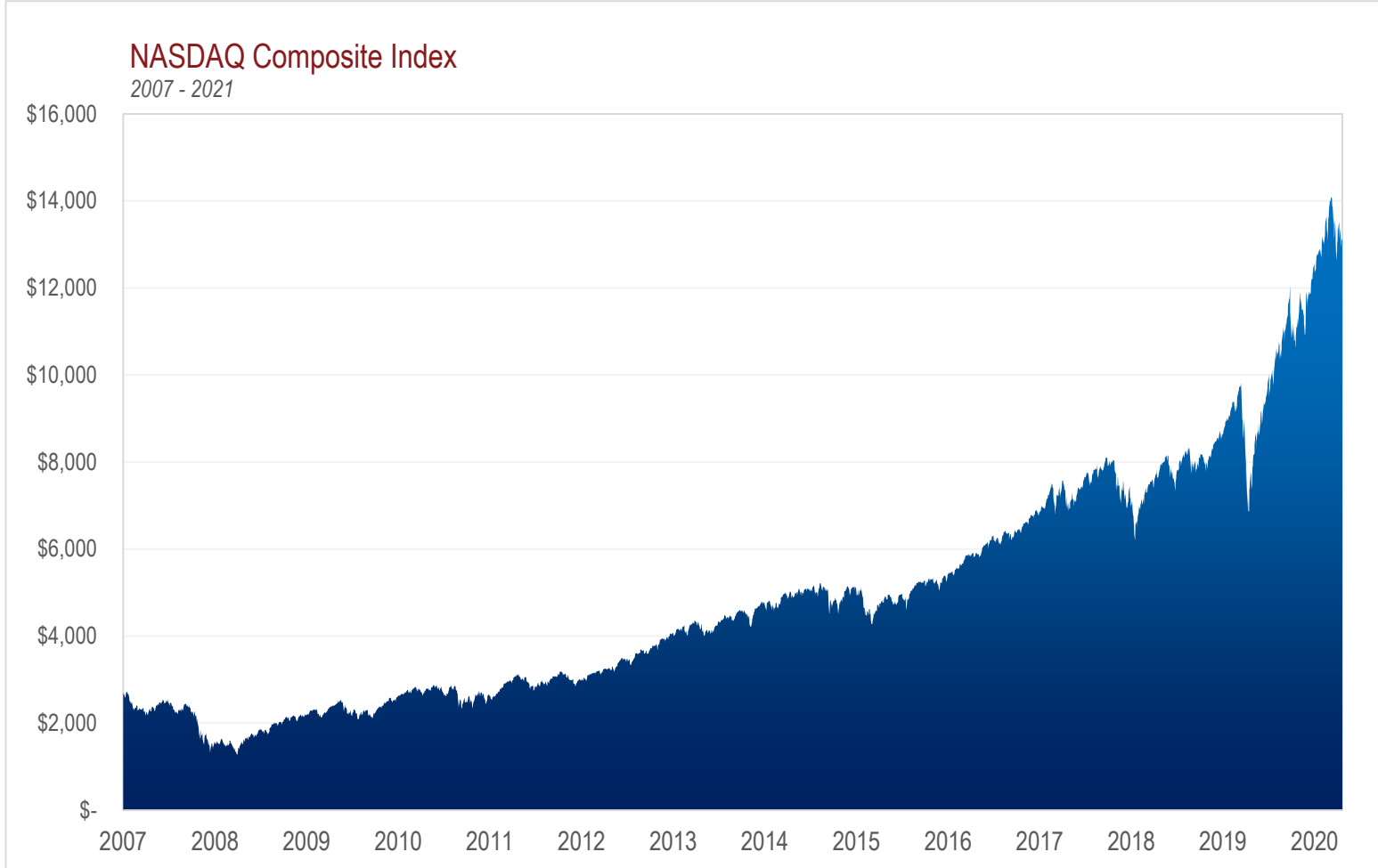


Source: ISS

WE'VE SEEN THIS BEFORE



THE NASDAQ ISN'T PRICING IN SUSCEPTIBILITY

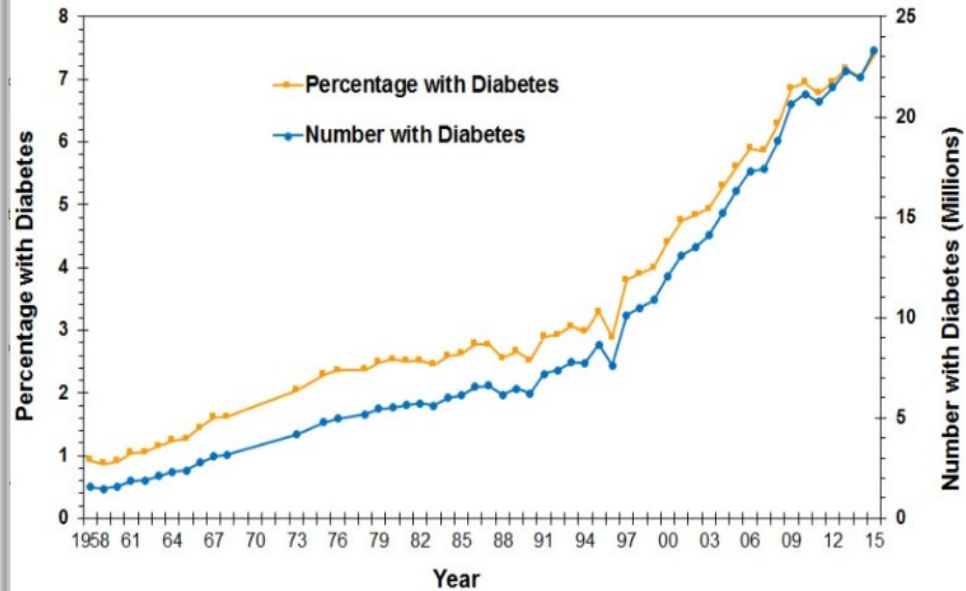


CONSUMER STAPLE & DISCRETIONARY PRODUCTS ADD CONVENIENCE TO OUR LIVES



BUT THERE IS A COST

Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2015



CDC's Division of Diabetes Translation. United States Diabetes Surveillance System
available at <http://www.cdc.gov/diabetes/data>

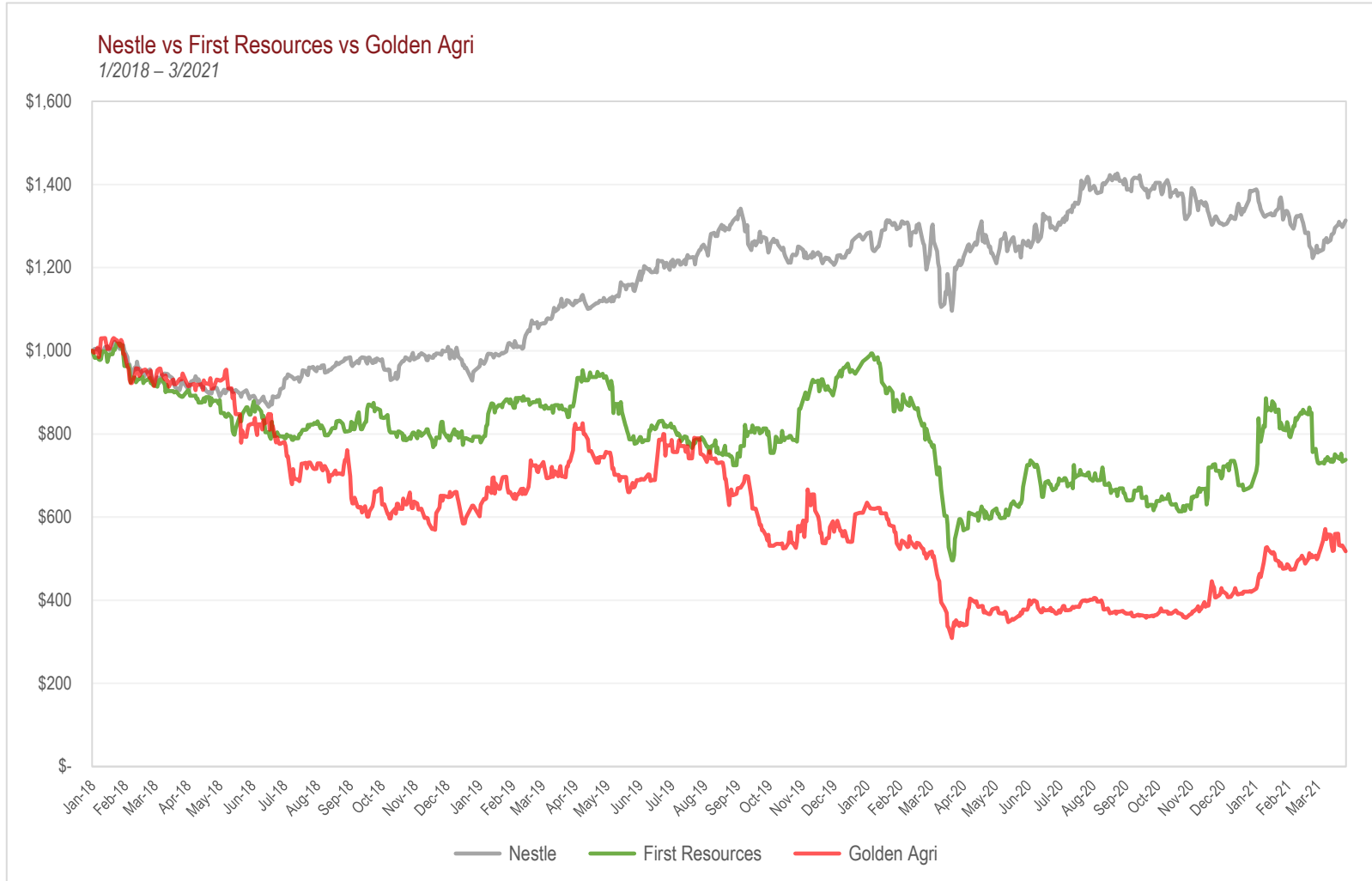




THE COST TO THE OCEANS

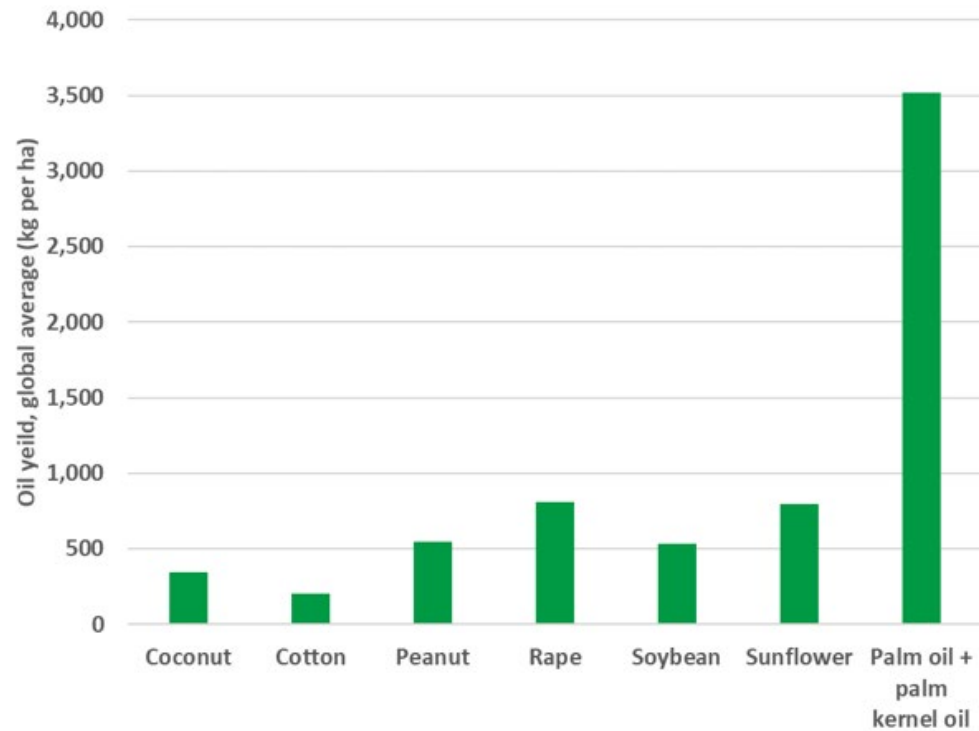


NESTLE VS. FIRST RESOURCES AND GOLDEN AGRI



NOT ALL FARMING IS THE SAME

Figure 1 Average yields of edible oils per hectare, 2018/2019



Source: [USDA](#)

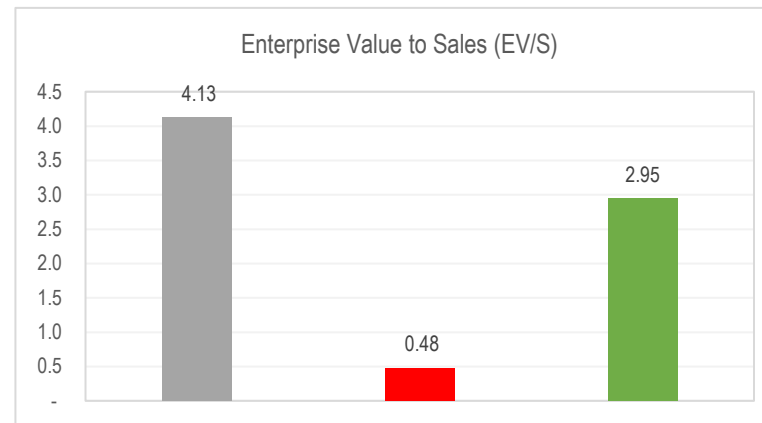
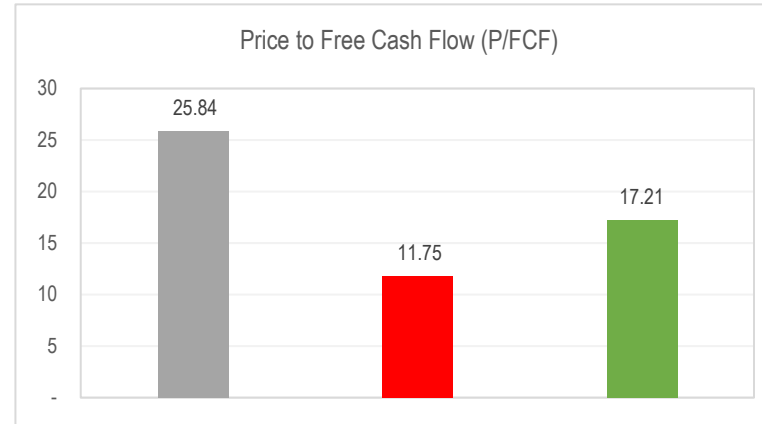
Many Palm oil companies have signed onto the “No Deforestation, No Peat and No Exploitation Policy”.

Golden Agri is close to achieving 100% traceability

Palm Oil has one of the highest yield per hectares compared to other edible oil crops, making it more land efficient.



NESTLE VS. FIRST RESOURCES AND GOLDEN AGRI



■ Nestle ■ Golden Agri ■ First Resources



Nestlé S.A. is a Swiss multinational food and drink processing conglomerate corporation headquartered in Vevey, Vaud, Switzerland. It is the largest food company in the world, measured by revenue and other metrics, since 2014.



Golden-Agri Resources is a Singaporean palm oil company. It is listed on the Singapore Stock Exchange since 1999. In May 2015, its market capitalization was \$4.1 billion. Franky Widjaja, of the Sinar Mas family is its CEO.



First Resources Limited is a Singapore-based palm oil producer. The Company is involved in cultivating oil palms, harvesting the fruit bunches, and milling them into crude palm oil (CPO) and palm kernel. The Company operates through two segments: Plantations and Palm Oil Mills, and Refinery and Processing.

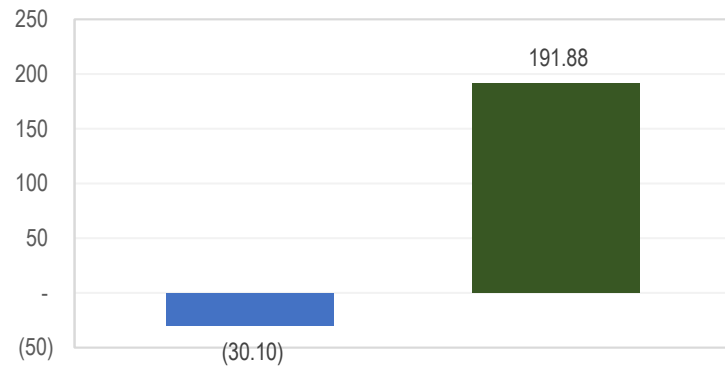
AGRICULTURE PROVIDES FRESH FOOD ALL AROUND THE WORLD



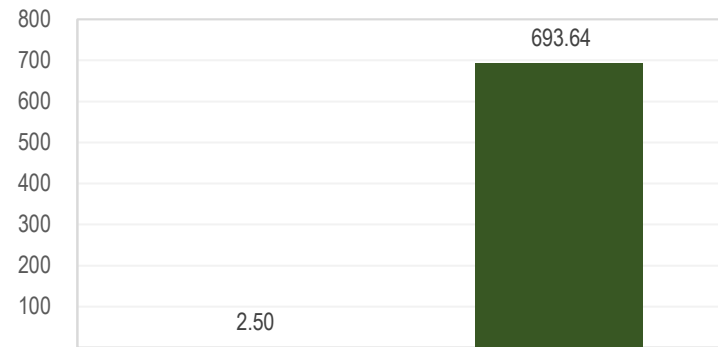
ASTARTA VS. STARBUCKS

■ Astarta Holding ■ Starbucks

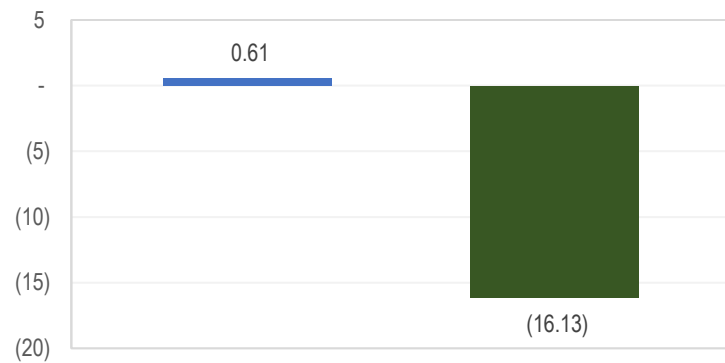
Price to Earnings (P/E)



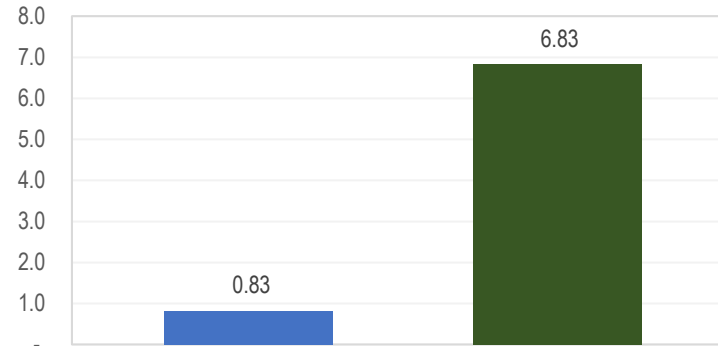
Price to Free Cash Flow (P/FCF)



Price to Book (P/B)



Enterprise Value to Sales (EV/S)



A decorative header featuring a stylized world map in shades of red and white on the left, and a metallic atomic symbol on the right.

FINANCIALS PLAY A CENTRAL ROLE IN A FUNCTIONING ECONOMY AS AN INTERMEDIARY BETWEEN SPENDER AND SAVER



Doesn't it make them better citizens? Doesn't it make them better customers? You...you said...what'd you say just a minute ago? They had to wait and save their money before they even ought to think of a decent home. Wait! Wait for what? Until their children grow up and leave them? Until they're so old and broken-down that they...Do you know how long it takes a working man to save \$5,000?"

-George Bailey to Mr. Potter



BUT...

Global banks regularly pay large fines for infractions

Aussie Banks: bribe-taking, document falsification, lying to regulators, charging fees to dead people

UK-Bank laundering money for Sinaloa drug cartel which is responsible for 10,000s of deaths in Mexico

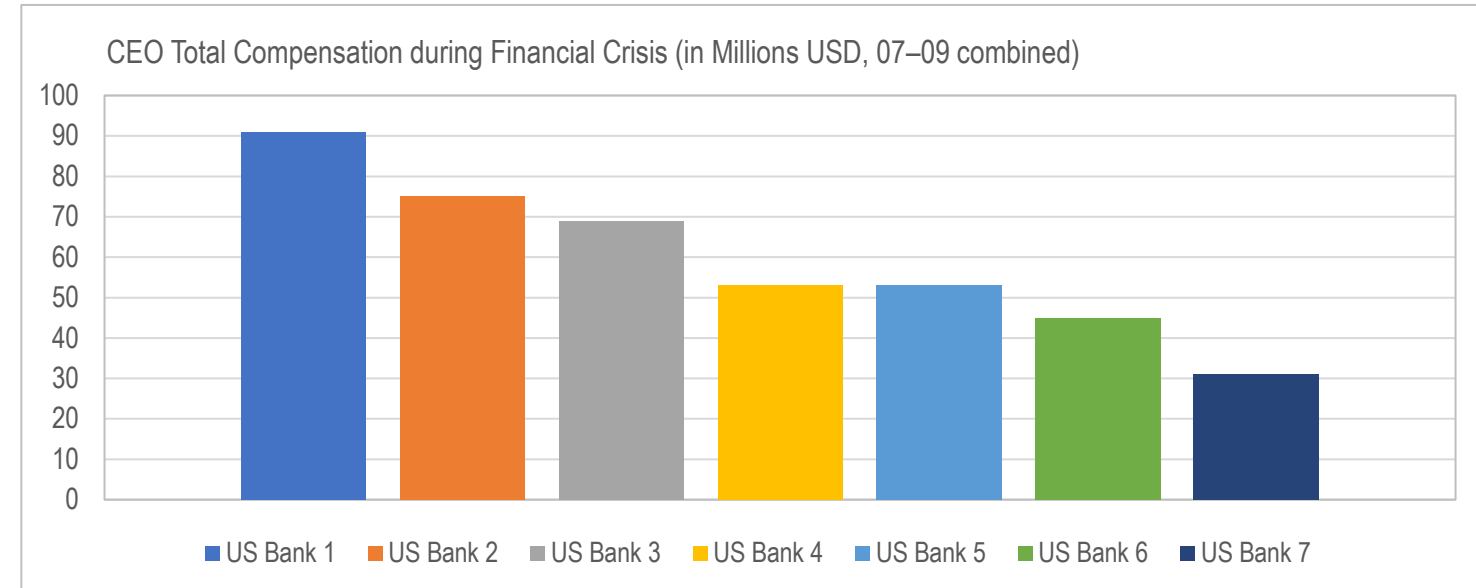
Multiple globally operating banks fined for manipulating LIBOR

WireCard: 1.9bn. EUR on balance sheet "missing". CEO in prison for fraud, CFO disappeared

Panama Papers: Large banks found to have helped the wealthiest evade taxes via illegal offshore shell corps.

Large US-Bank settles for \$3bn. over fake accounts created without clients' consent to hit aggressive sales targets

Most CEOs of US banks neither were laid off nor resigned as a result of the financial crisis.

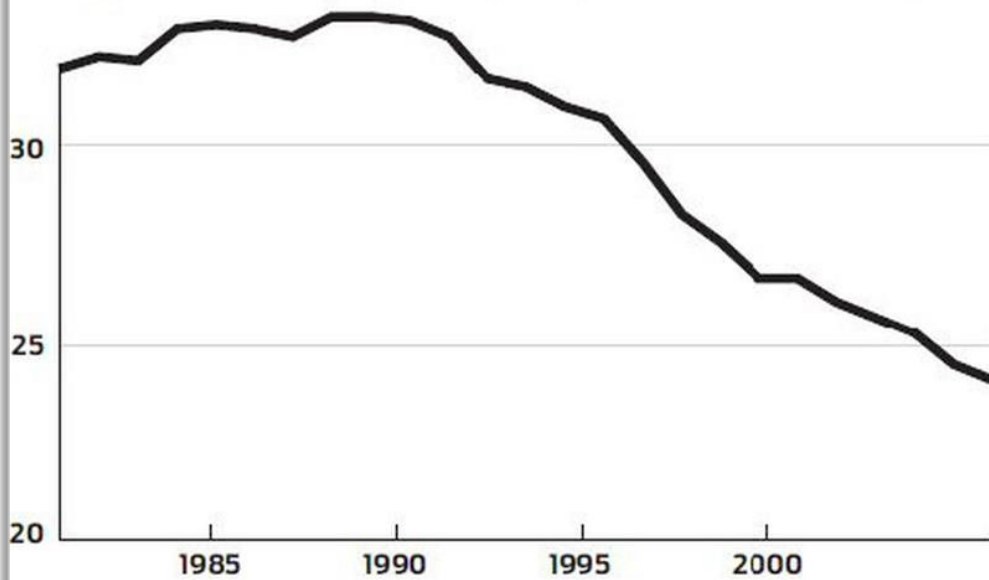


Source: Mother Jones

ADVANCES IN HEALTH CARE TECHNOLOGY HAVE HELPED PEOPLE'S LIVES

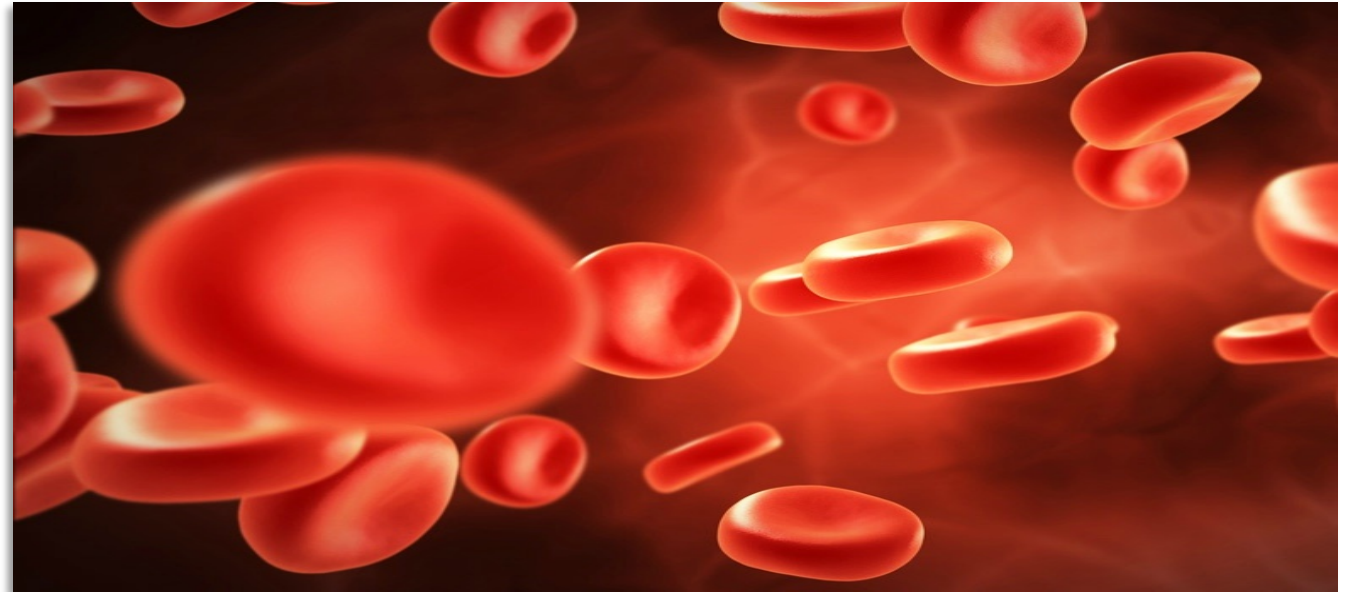
MORTALITY RATES ON A STEADY DECLINE

Up until about 1989, the breast cancer mortality rate had stayed mostly flat. But since then, the rate has dropped 27 percent, a dramatic decrease in deaths. This graph shows the number of deaths per 100,000 over the course of 25 years.



Advances in screening and therapies have led to better treatment of breast cancer

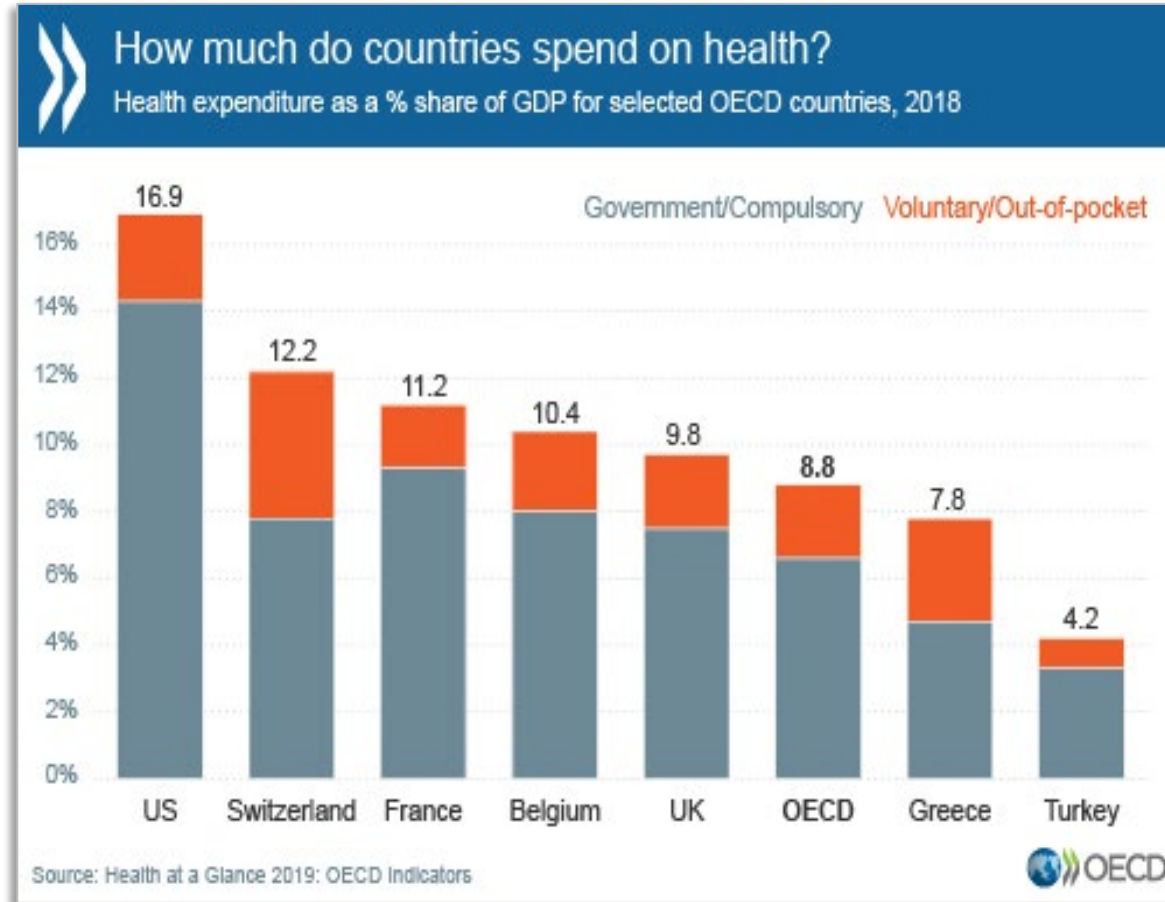
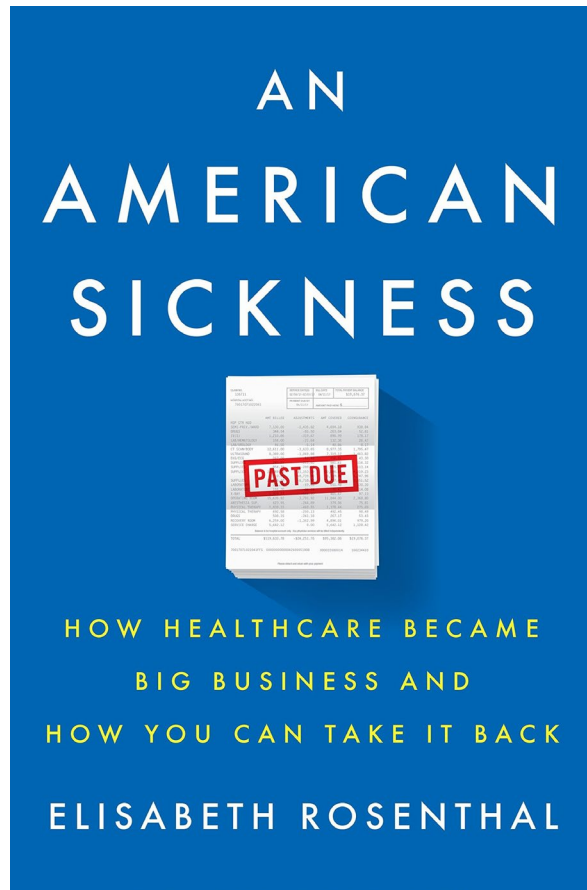
Source: AL.com



Hemophilia treatments have extended life expectancy close to 6 decades

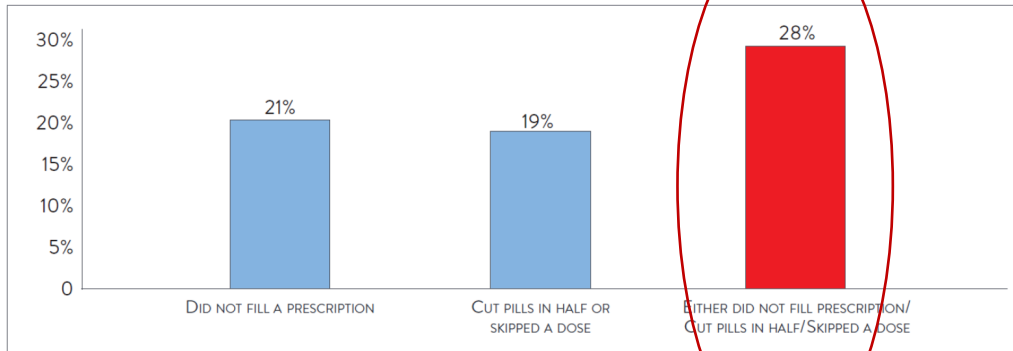
Source: Hemophilia News Today

BUT HEALTHCARE COSTS IN THE U.S. ARE OUT OF CONTROL AND FRAUD IS RAMPANT



PRESCRIPTION DRUG COSTS ARE PARTICULARLY EGREGIOUS

Did not Fill a Prescription, Cut Pills in Half or Skipped a Dose Due to Concerns About Cost



Source: 2020 Poll of Illinois Adults, Ages 18+, Altarum Healthcare Value Hub, Altarum's Consumer Healthcare Experience State Survey

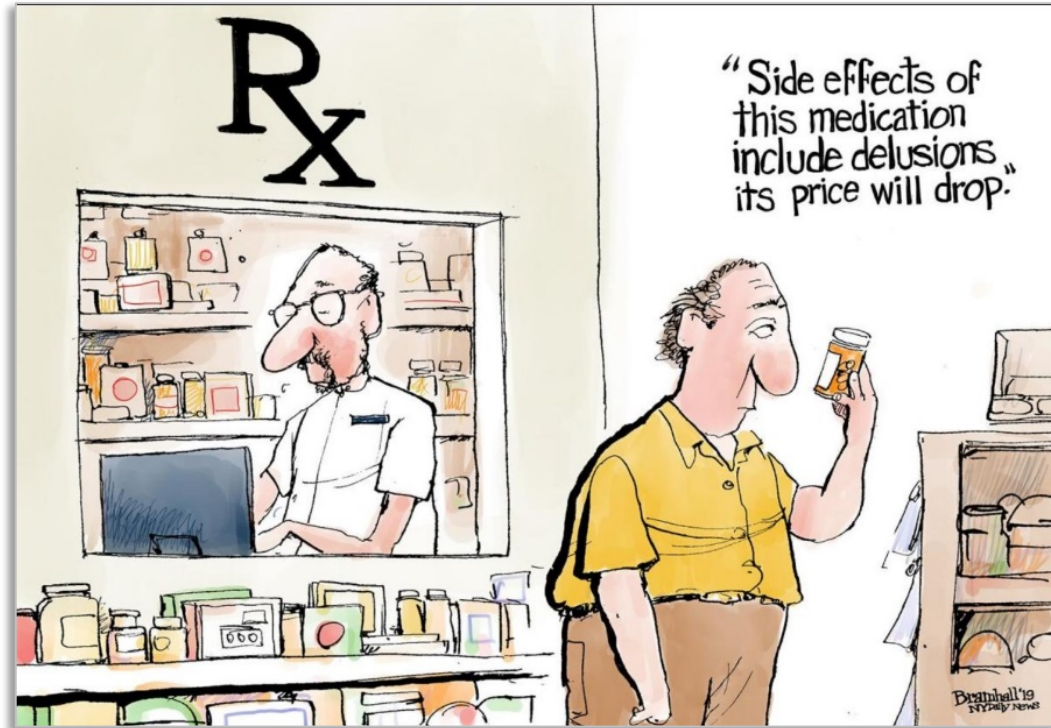
Source: Altarum

U.S. PER CAPITA SPENDING ON RETAIL PRESCRIPTION DRUGS: 1960-2016



Source: Kaiser Family Foundation.

Source: Kaiser



PHARMACEUTICAL COMPANIES ARE NOT PRICING IN REGULATORY RISK

NYSE Arca Pharmaceutical Index
2010 - 2021

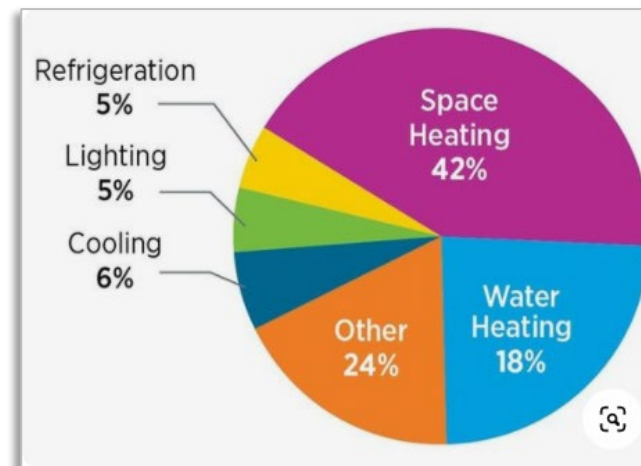




UTILITIES/ENERGY INCLUDING HYDROCARBONS TOUCHES MANY PARTS OF OUR EVERYDAY LIFE



Source: International Association of Oil & Gas Producers



EVERYDAY TECHNOLOGIES AREN'T POSSIBLE WITHOUT SOME FORM OF ENERGY



Google's data center in Oklahoma.



BUT THERE ARE CLEAR COSTS: EMISSIONS ARE VERY PROBLEMATIC



Source: Ivanhoe Mines

Toxic smog clouds future of urbanizing Earth

Nine out of 10 people worldwide breathe polluted air.

– UN World Health Organization, May 2018

Air pollution kills 7 million people a year.

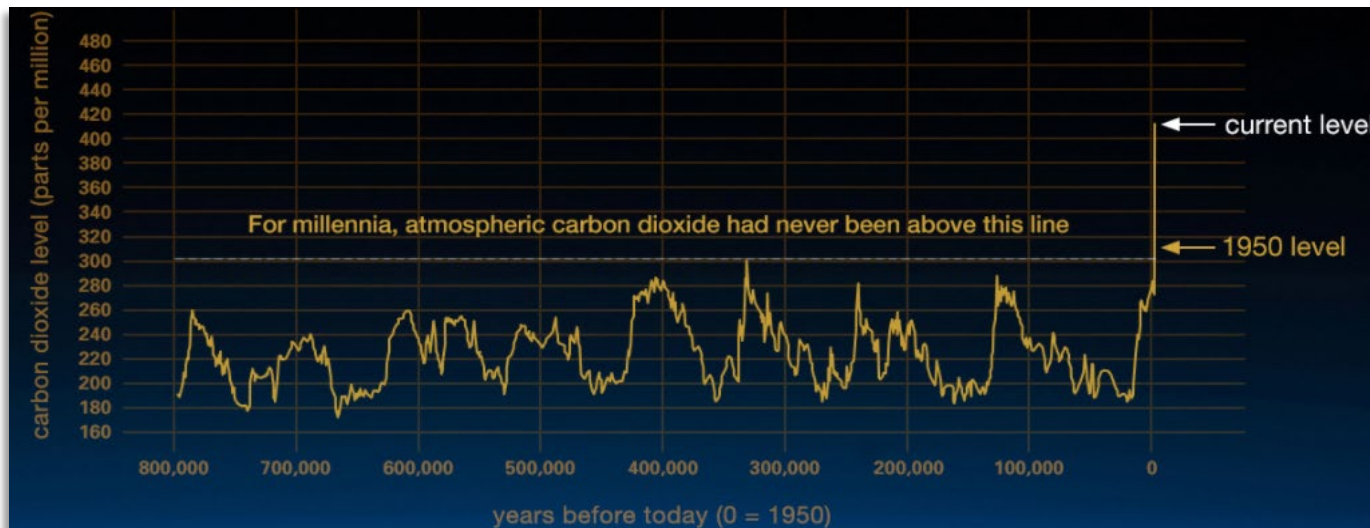
– UN World Health Organization, May 2018

Air pollution deadlier than smoking, war and AIDS, reducing worldwide lifespan by 1.8 years.

– University of Chicago, Nov 2018

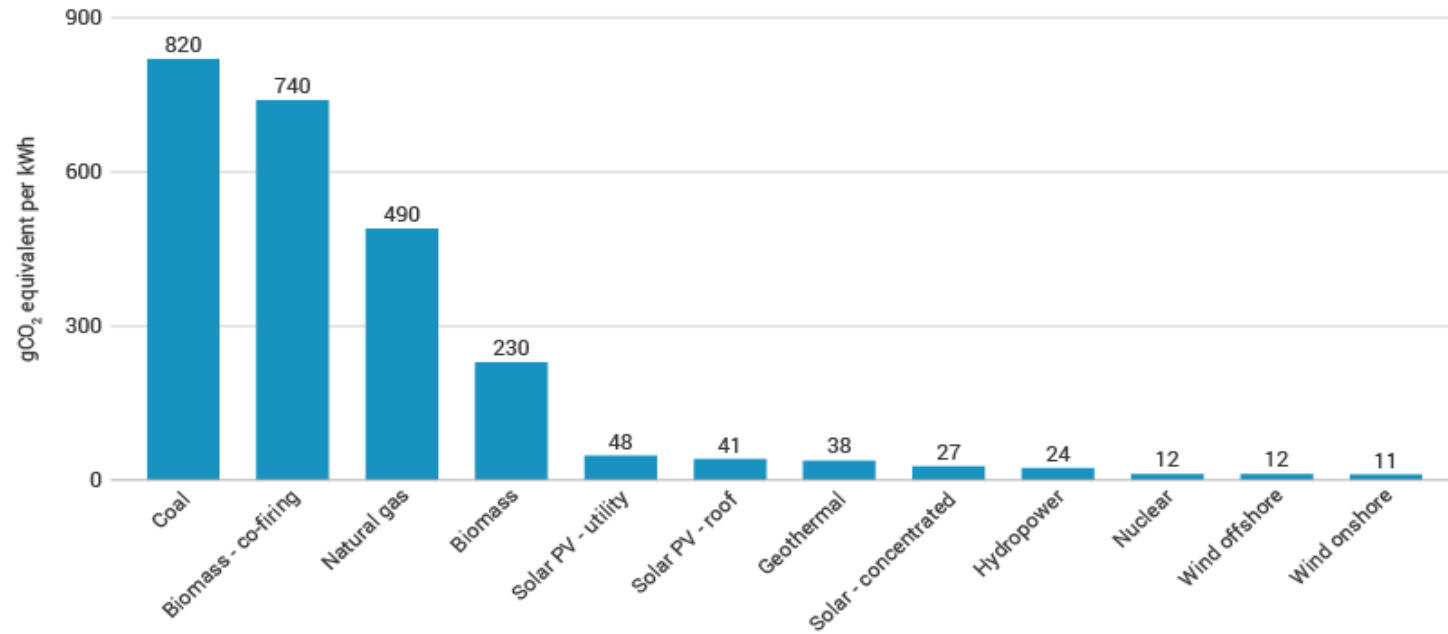
Air pollution deaths cost the global economy \$5 trillion annually.

– World Bank, August 2016



Source: NASA

EACH ENERGY SOURCE HAS POSITIVES AND NEGATIVES



Average life-cycle carbon dioxide-equivalent emissions for different electricity generators (Source: IPCC)





THE WORLD IS BULLISH ON ALTERNATIVE ENERGY: ALTERNATIVE ENERGY ETF (RENIXX) IS UP 4X SINCE 2016 WHILE URANIUM IS UP SLIGHTLY, AND NATURAL GAS IS DOWN

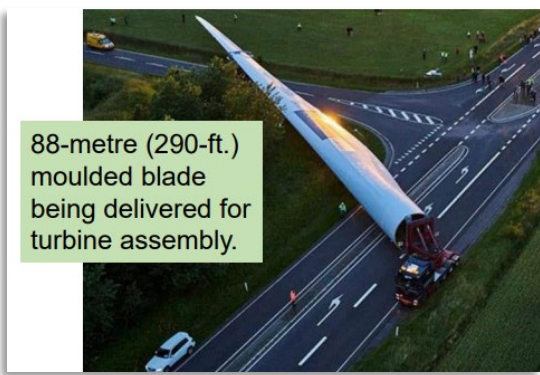
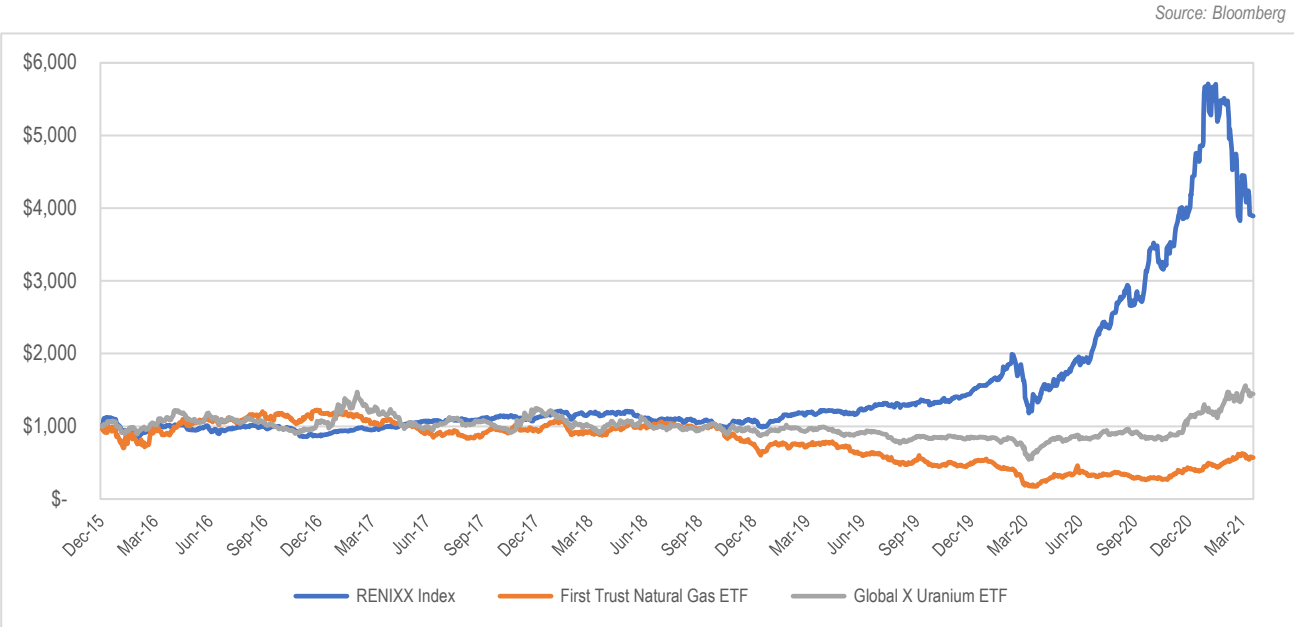
“Unfortunately, few people realize how energy intensive the “green transition” will be. As a result, much (if not all) of the carbon savings will be undone by generating the power in the first place.”

- Goehring and Rozencajg, 4Q 2020

“Early wind turbines are failing at much higher rates than expected, suggesting a 20 year useful life may be too long. Similarly, PV solar facilities are noticing higher performance degradation than expected...**Given the huge upfront energy needs of wind, solar and batteries, any performance disappointment could mean the difference between moderate carbon savings and net increases in carbon.**”

- Goehring and Rozencajg, 4Q 2020

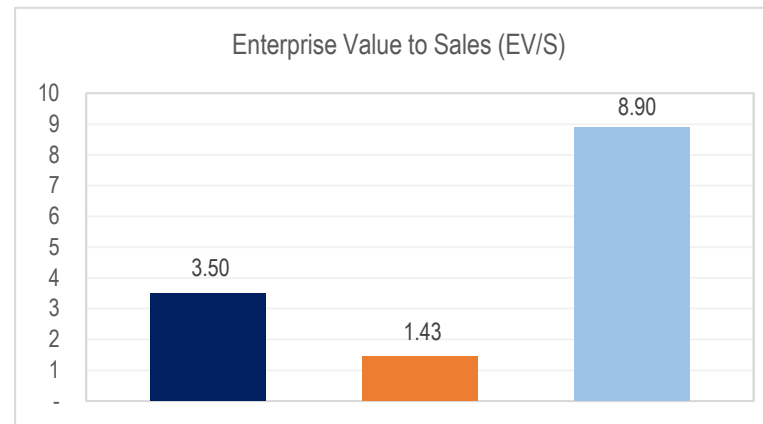
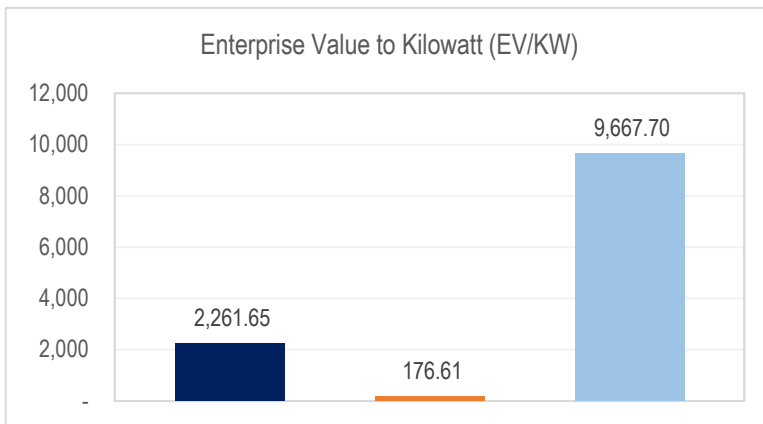
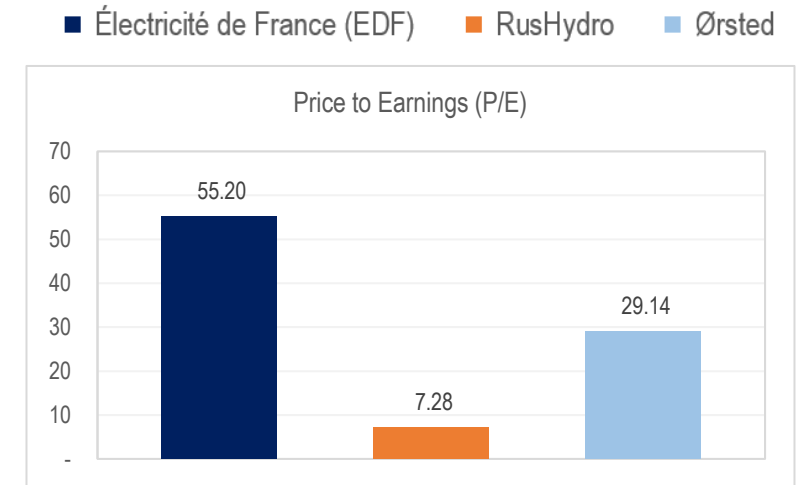
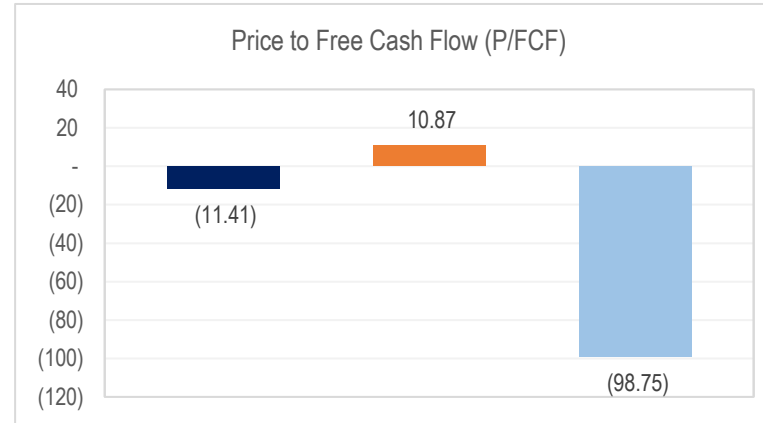
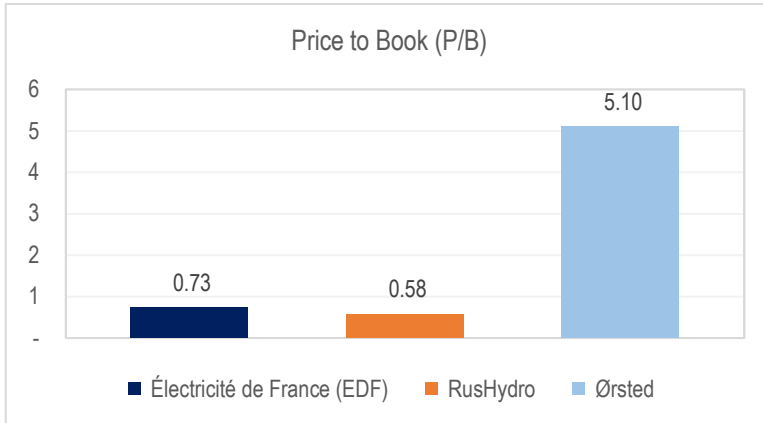
Further, wind and solar are incredibly land intensive and create a lot of waste.



88-metre (290-ft.) moulded blade being delivered for turbine assembly.



ØRSTED VS. EDF VS. RUSHYDRO



Électricité de France S.A., commonly known as EDF, is a French multinational electric utility company, largely owned by the French state.



RusHydro

RusHydro is a Russian hydroelectricity company. As of early 2012 it has a capacity of 34.9 gigawatts. It is the world's second-largest hydroelectric power producer and is the country's largest power-generating company and the largest successor to RAO UES.

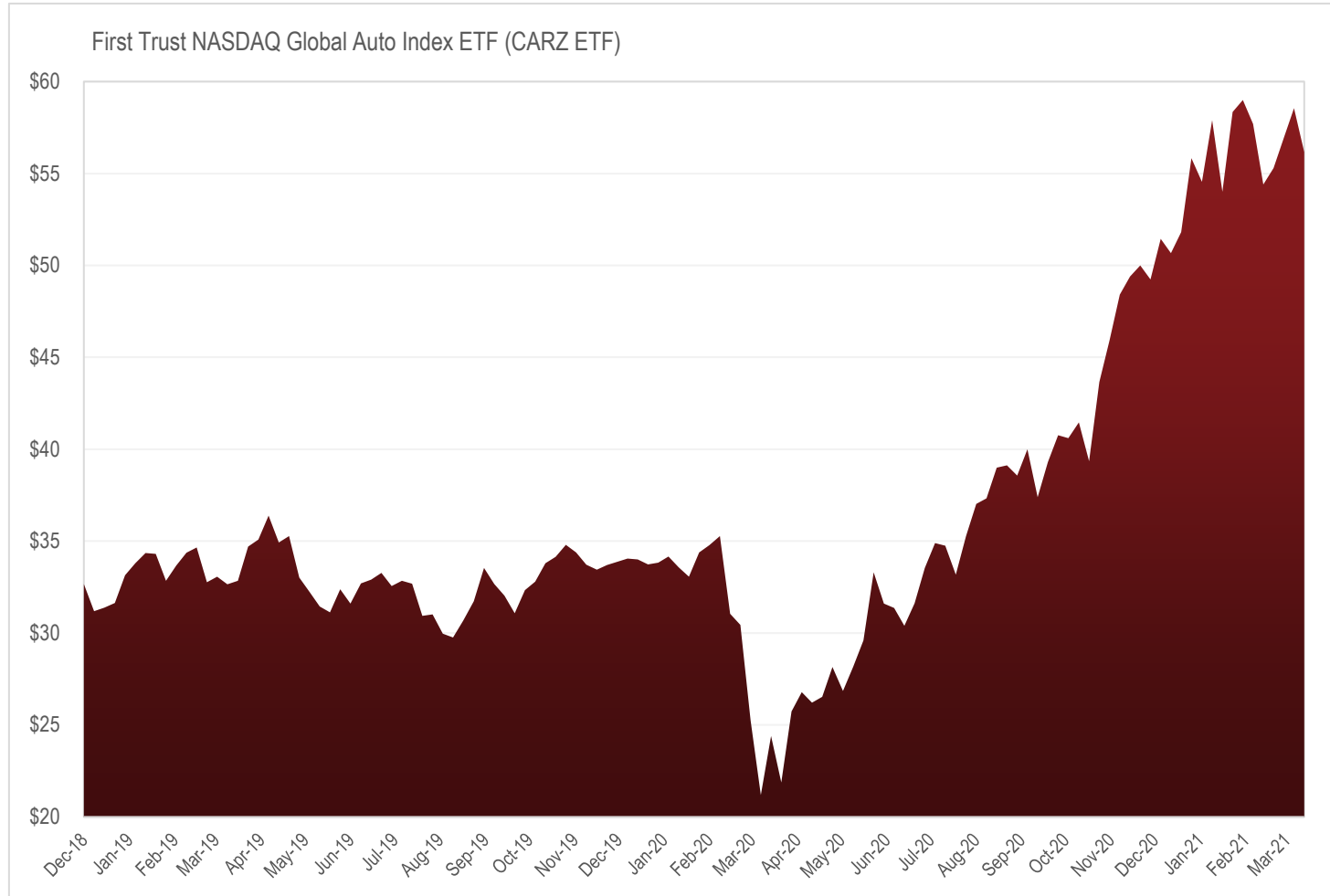


Ørsted A/S is a Danish multinational power company based in Fredericia, Denmark. It is the largest energy company in Denmark. The company adopted its current name on 6 November 2017.

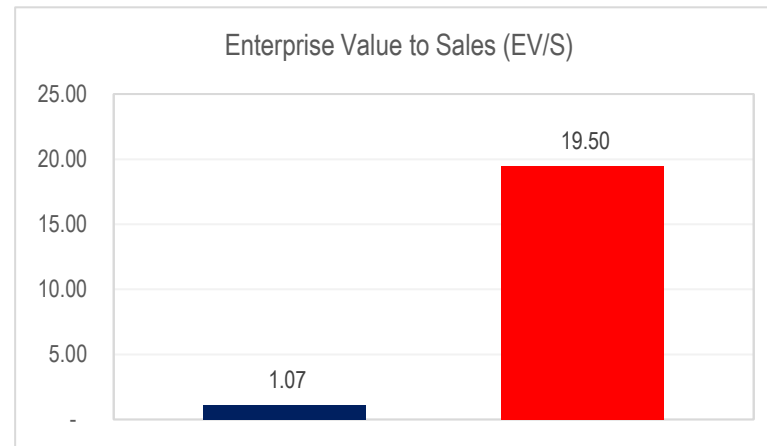
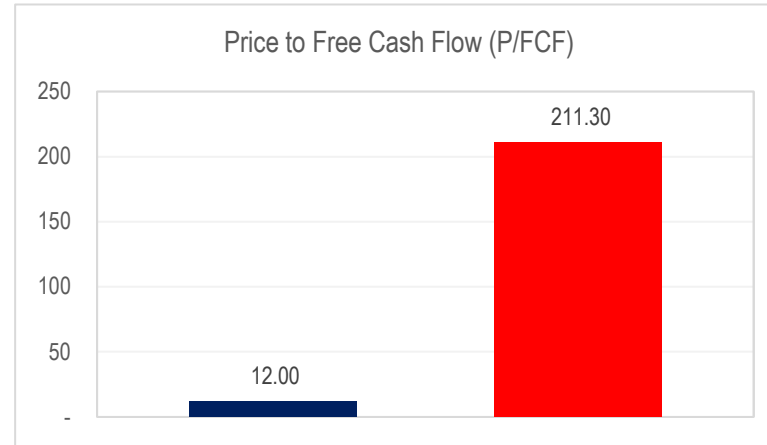
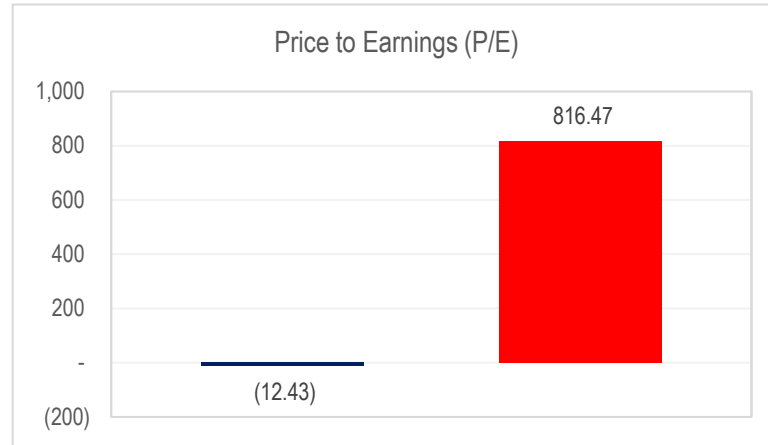
INDUSTRIALS: HARD TO IMAGINE LIFE WITHOUT MANY OF MODERN LIFE'S MANUFACTURED PRODUCTS



THE MARKET CAP OF AUTOS IS UP



GUANGSHEN VS. TESLA



■ Guangshen Railway ■ Tesla, Inc.



Guangshen Railway Co., Ltd. is the operator of Guangzhou-Shenzhen Railway, the 152-kilometre railway link between Guangzhou and Shenzhen in Guangdong, China. The company is engaged in railway passenger and freight transportation between Shenzhen and Pingshi and certain long-distance passenger transportation services.

Source: Bloomberg



Tesla, Inc. is an American electric vehicle and clean energy company based in Palo Alto, California. Tesla's current products include electric cars, battery energy storage from home to grid scale, solar panels and solar roof tiles, as well as other related products and services.

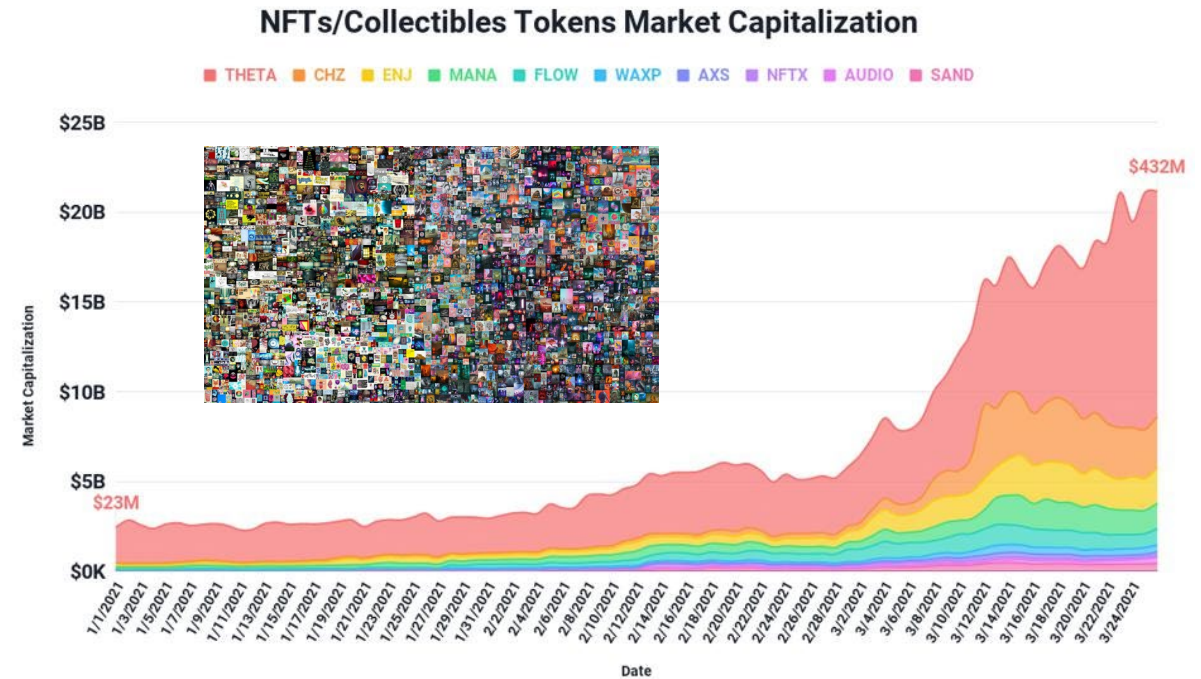
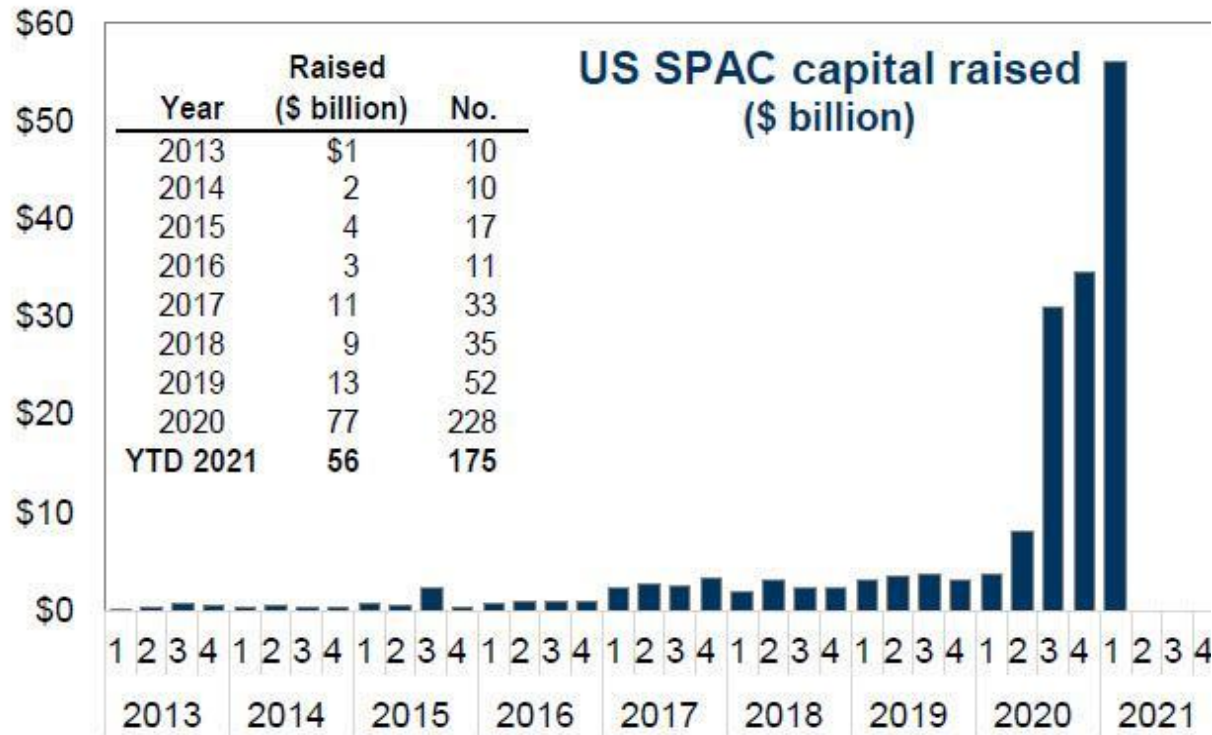
BUT THERE ARE ENVIRONMENTAL COSTS TO INDUSTRIAL ACTIVITY. AND, GOVERNANCE CAN BE LACKING...



- Despite having negative free cash flow, American Airlines bought back \$11.8bn worth of treasury stock between 2014-2018.
- Insiders were selling during this time
- American Airlines received billions of dollars in 2020

NFTs AND SPACS

Exhibit 1: SPAC IPO volumes have continued to surge in early 2021
as of February 26, 2021

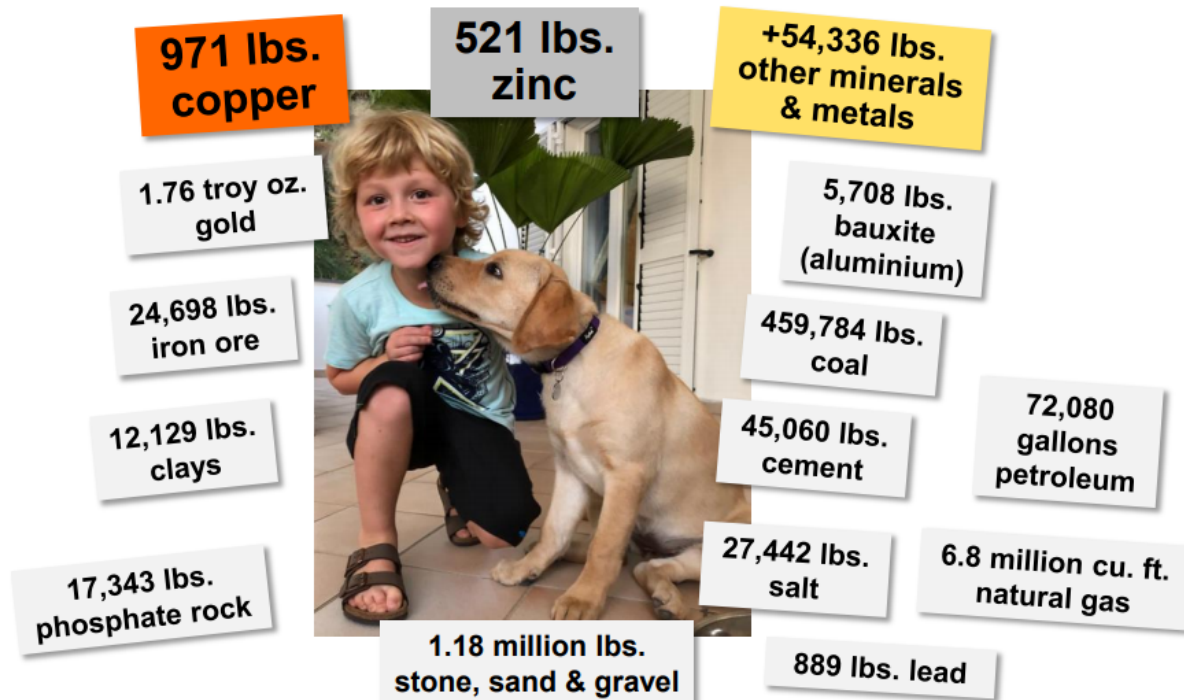


MATERIALS

Average American's lifetime use of resources

1,515 tons of minerals, metals and fuels per person.

Current U.S. population: 328 million.



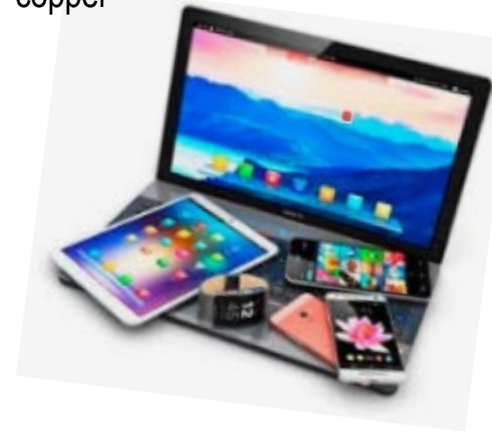
Source: Mineral Information Institute

Source: Ivanhoe Mines

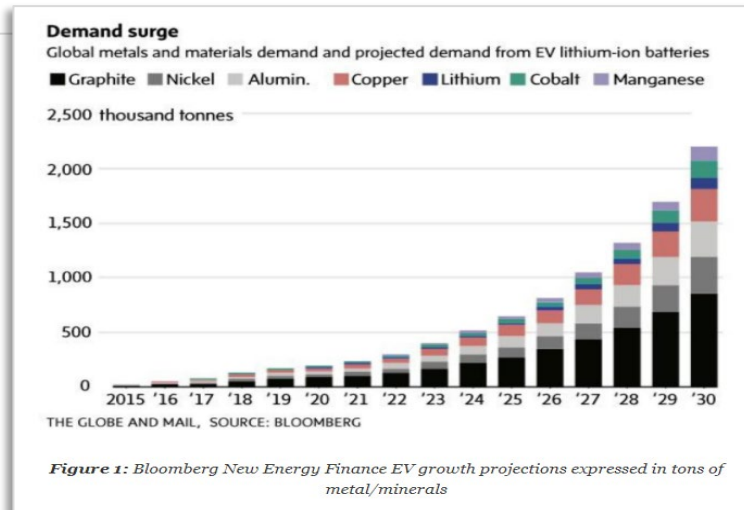
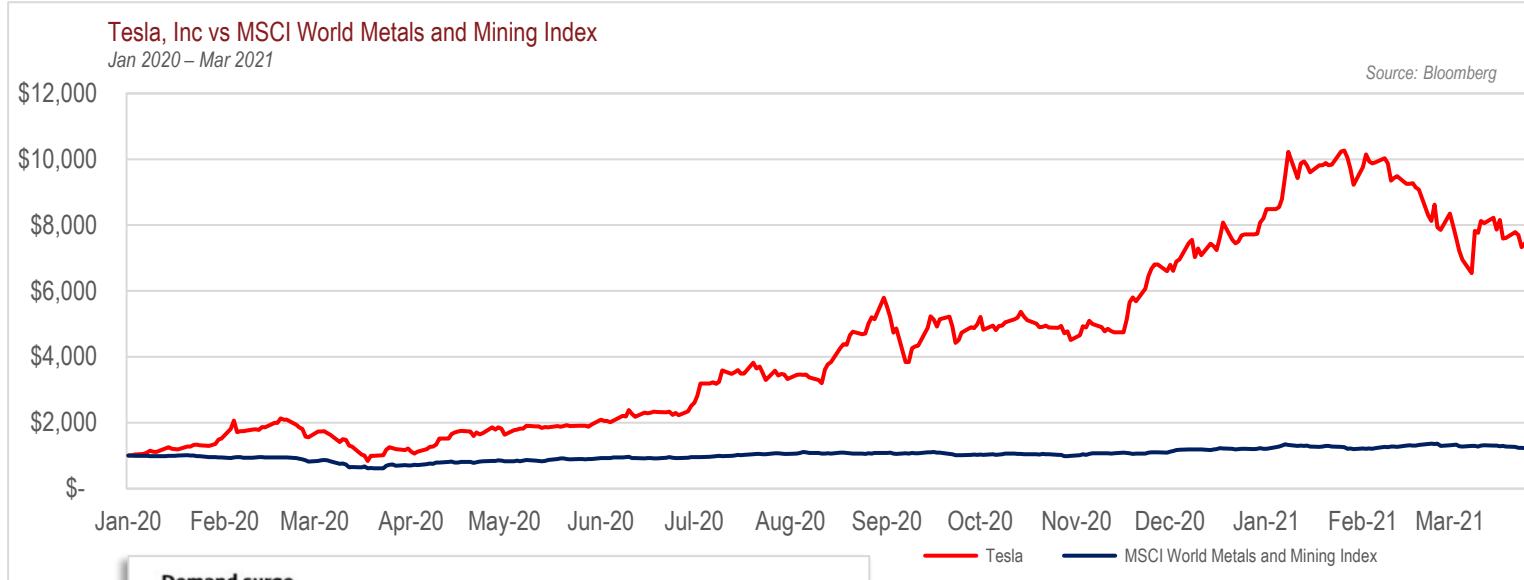


Building just a single 100MW wind farm requires ~30,000 tons of iron ore, 50,000 tons of concrete, 900 tons of plastics

There are no computers without copper



TRANSITIONING TO A GREEN ECONOMY REQUIRES A LOT OF MATERIALS



All-electric cars now use **four times more copper** than conventional gasoline-powered autos. Future, larger electrics could use much more.

FUTURE PLUG-IN ELECTRICS

(Bernstein projection for a generation of bigger, longer-range electrics)

360 lbs. / 163 kg



PLUG-IN ELECTRIC

240 lbs. / 109 kg



Tesla Model 3

HYBRID

88 lbs. / 40 kg



Hyundai Hybrid

GASOLINE

66 lbs. / 20 kg



Ford Mustang

Sources: BHP via ft.com (2016); Bernstein Research projection (2017).

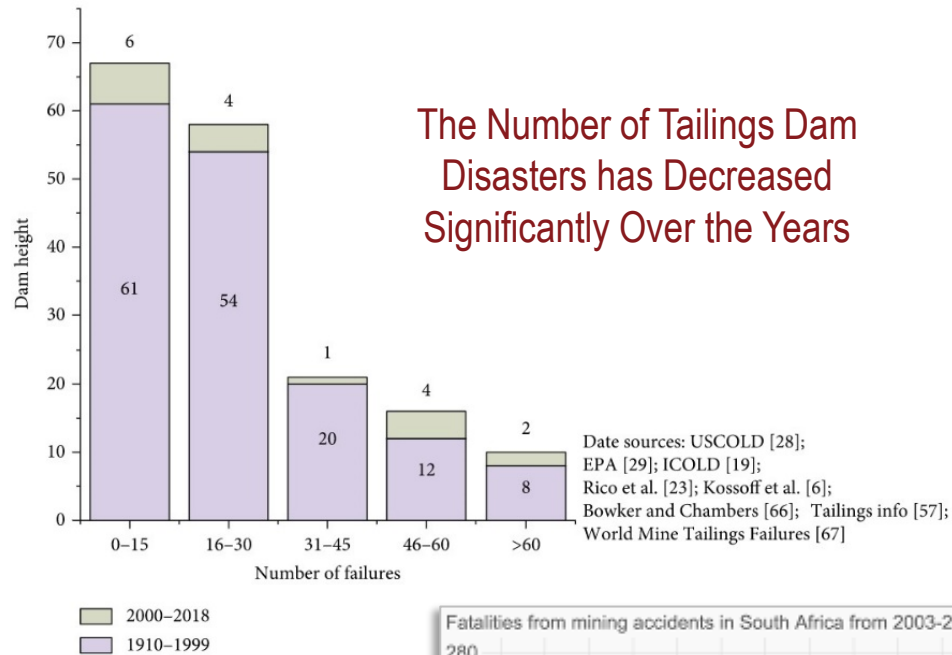


MINING AND PROCESSING OF MATERIALS CAN HAVE AN IMPACT ON THE ENVIRONMENT AND THE COMMUNITIES

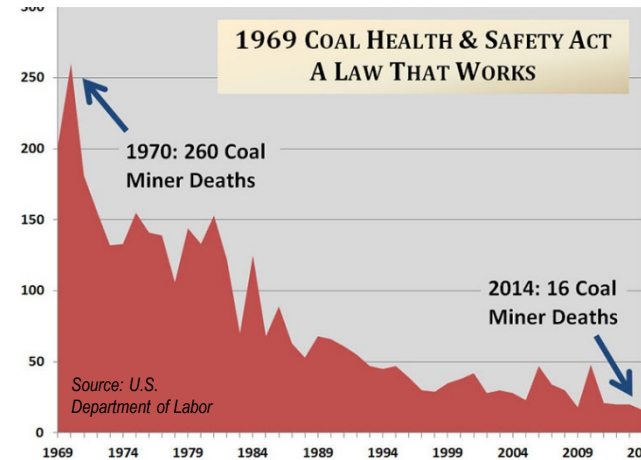


*"Well the good old days may not return, and rocks may melt and the sea may burn."
– Tom Petty*

MINING COMPANIES HAVE REDUCED THE NUMBER OF ACCIDENTS AND PROVIDED IMPORTANT COMMUNITY BENEFITS



Source: *Advances in Civil Engineering*
Source: *TheAtlas*



SUSTAINABLE FARMING, FINANCED BY IVANHOE'S COMMUNITY DEVELOPMENT EFFORTS

Dave and Alissa at Ivanhoe's
Kamoa-Kakula Copper mine,
Democratic Republic of the Congo, 2019



CONCLUSION



In Summary

It should be clear that ESG...

- Is important
- Is not black and white
- Engaging with companies could enact positive changes
- Shunning stocks and other forms of 'virtue signaling' likely won't affect positive change
- A thoughtless approach to ESG leads to massive market inefficiencies

"If I go and buy oil drillers, or if I buy Exxon, if I buy their shares on the secondary market, I haven't given them any money. The people who use oil have funded them, by driving cars, flying in planes and using plastics"

-Dillan Grice in the market NZZ



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