Is President Biden's Climate Disclosure Rule on the Right Path?

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[**Cover Slide 1**]

What a difference a year makes. Today oil and gas prices are high. U.S. shipments of liquefied natural gas to Europe are now greater than Russian exports there. And most Americans see the rise in gasoline prices to be a direct result of the Biden Administration's 2021 commitment to end production of fossil fuels.

Last year, in the name of climate change, the federal government--and some state governments--did much to impede American oil and gas production. They blocked pipelines, delayed exports, cancelled lease sales, and slowed permits. Yet global emissions of carbon dioxide reached an all-time high: 36.3 gigatons.[i] The world is showing no stomach for dramatic reductions in the use of oil and gas. Rising prices and demand forecasts prove it.

The problem is population. Since 1960, while the concentration of CO2 in the air has increased from 310 to 410 parts per million,[ii] the world population has increased from 3 billion to 8 billion people.[iii] Five billion additional people have been sustained directly and indirectly by using fossil fuels for energy, medication, clothing, shelter, and dramatically increased agricultural productivity.

Some in America are loathe to admit this, but the year 2021 was a global referendum on the worldwide Green New Deal. "Voting" by the energy choices they made every day, eight billion people gave the plan to rapidly end oil and gas a massive vote of no confidence.

[**Slide 2:**] And what is that plan? "Net zero." "Net zero," as defined by the United Nations, means "cutting greenhouse gas emissions to as close to zero as possible." The "plan" is to shift rapidly away from fossil fuels to renewable energy, primarily wind and solar power. The U.N.'s eye is fixed on reducing emissions.

[**Slide 3**] Here's the riddle. How do we eliminate emissions when even the most ardent advocates of abandoning fossil fuels are using more now than they did before? The International Energy Agency's recent Global Energy Review shows it. IEA laments, "the world has not heeded the call for a sustainable recovery from the Covid-19 crisis."

[**Slide 4**] The world will continue not to heed that call, the US EIA forecasts. The world will consume 3 million bpd more liquid fuels in 2024.

[**Slide 5]** The riddle means there is no plausible plan to eliminate GHG emissions. The Global Carbon Project reported this year that to reach zero emissions by 2050, the world **yearly** must cut 1.4 gigatons of CO2 more than the year before.[iv] 1.4 gigatons was about the amount of the COVID cut in 2020. To be clear, from today's level, that's 1.4 gigatons by year's end, 2.8 gigatons by the end of 2023, 4.2 gigatons by the end of 2024, and so forth. This is not going to happen, and the war in Ukraine has eliminated any doubt about it.

Here's the core of the problem. Demand for fossil fuels is increasing, and the current concentration of CO2 in the air is approaching 420 ppm. Some experts say we need to reduce the concentration to 350 ppm to avoid disruptive climate change. How?

What condemns the current plan is the Intergovernmental Panel on Climate Change's acknowledgement that even if the world stopped all industrial GHG emissions tomorrow, there would be no noticeable drop in temperature for thirty years.[v]

Will eight billion people deprive themselves for the next thirty years to achieve net zero, as urged in the 40-page IPCC Summary in its 2022 Report? They won't.

And they shouldn't. Because hundreds of other scientists who wrote the substance of the IPCC's 3,675-page report largely agree on a word barely mentioned in the Summary: reforestation. While the world is (1) gearing up to reduce emissions, (2) developing non-carbon fuels, and (3) expanding carbon capture and storage, vastly expanded reforestation can alter the dynamic in the atmosphere now.

A better focus would be removing carbon already in the air, because the current pathways to net zero ignore the needs of the eight billion. And the U.N. projects population will not level off until 2100 at 11 billion people.

To be sure, wind and solar power will continue to grow their share of global energy, and non-carbon sources of power will increase, but they cannot keep up with population growth. And even in the best case, unlike oil and gas, the minerals

needed for wind and solar do not provide fertilizer for crops or medication for the sick.

[**Slide 6**] Instead, in the United States we are focused on the Securities and Exchange Commission's proposed rule to compel companies to disclose "climate risks." The SEC estimates its rule will impose $10 billion in administrative costs on business each year.

In short, our current national policy is based on insufficient information and a lack of perspective. I'll now give you the information you need and share some ideas on what oil and gas producers should advocate.

First, the problem is population. [**Slide 7**] Consider four sets of numbers that we can measure directly. My baseline year is 1960. There's a correlation.

For CO2 concentration, we've risen from 310 ppm to 410 ppm.

Average surface temperature has risen 1.4 degrees Fahrenheit.

Average sea level has risen 5 inches.

[**Slide 8**] And global population has increased—from three billion to eight billion people. The rate of population growth is slowing worldwide, but death rates will not eclipse birth rates until 2100.

Because of oil and gas, agricultural productivity keeps increasing. Merely mouthing the words "sustainable agriculture" will not feed the hungry. The Netherlands is about to learn.

[**Slide 9**] Here's a specific illustration showing that what is perceived as a climate problem is really a population problem. Insurance losses from extreme weather events have risen. In a May 17, 2022, article in Bloomberg News, reporter Dean Scott's headline was "Realtors, Insurers Lament Climate, Clean Energy Inaction." Mr. Scott pointed to a recent federal agency PowerPoint to argue "climate impacts drove costs to a record $764.9 billion" over the last five years.

[Slide 10] Here's that slide from the National Oceanic and Atmospheric Administration portraying the number and cost of "disaster events."

What does this slide show? Droughts (burnished gold on the bottom) and wildfires (orange) show no change. Floods (dark blue) are comparable to 1997.

The big increases are in severe storms and hurricanes. Why? Because more people and more property are in the storm tracks than 40 years ago.

[Slide 11] So far, historical analysis shows the increases have "been caused primarily by rising coastal populations and the increasing value of infrastructure in coastal areas." When analysts adjusted the loss data to account for higher population and property value, they found no real change in cost from disaster events.

[Slide 12] The IPCC agrees. Increased frequency and intensity of storms, which are the predicted results of climate change, have not yet been shown to cause the increased economic loss.

[Slide 13] Obviously, just as growing population drives insurance losses, it also drives emissions. China has massive emissions. But per citizen, China emits the same as the developed West.

What is the growing population doing about energy consumption? Let's start with Americans.

[**Slide 14**] All of us, including activist investors, environmental groups, and law professors, have increased American residential and transportation consumption by 8% from Covid year 1 to Covid year 2. Most of those increases were not powered by renewable energy.

[**Slide 15**] In fact, over the next 30 years, fossil fuels for electric power are not going away in America, even with impressive growth in wind and solar energy. Fossil fuels will still dominate the energy mix, from 41 to 45% in 2050.

[**Slide 16**] The same will be true around the globe.

But wait? Aren't we on track to provide nearly all energy from wind and solar by 2050? Let's start with today. Despite COVID, American installation of wind and solar generation facilities still grew significantly.

[**Slide 17**] Wind installed capacity grew from 106 gigawatts in 2019 to 135 gigawatts in 2021, an increase of 27 percent. Our actual generation of electricity from wind grew from 296,000 to 380,000 gigawatt-hours, an increase of 28 percent.

[**Slide 18**] Solar installed capacity grew from 61 gigawatts in 2019 to 95 gigawatts in 2021, an increase of 55 percent. Actual generation grew from 107,000 to 164,000 gigawatt-hours, an increase of 54 percent.

Adding wind and solar together, America's installed capacity grew from 167 gigawatts in 2019 to 230 gigawatts in 2021, an increase of 38 percent. That is very encouraging.

But let's put it in perspective. There are two ways to measure the contribution of wind and solar. One is to measure their share of total electricity generated. But the climate pledge is net-zero emissions from all energy uses by 2050, not just electric generation. So we also need to consider their share of what is called "primary energy."

[**Slide 19**] Let's start with electricity generated. In 2021, wind and solar were 12 percent of generated electricity. By 2050, even if Congress extends the production tax credits for wind and solar, the two will be 38 percent. That's a tripling of wind and solar generation, but fossil fuels will still provide over 40 percent of our electricity.

[**Slide 20**] And wind and solar won't be enough to supplant the use of gasoline for vehicle transportation. Of the 15 million new vehicles to be sold in 2050, 11 million will still use gasoline. And for now, on a life-cycle basis, gas-electric hybrids reportedly still have a smaller carbon footprint than electric vehicles.

[**Slide 21**] Now let's look at total energy use. In 2021 70% of U.S. primary energy came from fossil fuels. Only 5% came from wind and solar. It took decades and many billions of dollars to get to 5 percent. If other factors remain equal, the predicted tripling of wind and solar generation suggests that the 5 percent will become 15 percent by 2050.

[**Slide 22**] The U.S. EIA forecasts by 2050, half the world's primary energy will <u>still</u> come from oil and gas. 70% from oil, gas, and coal. By 2050, just 27% will be renewables (all forms, not just wind and solar).

Long term, the greatest impediment to a total switch to wind and solar is the availability of copper, cobalt, lithium, and rare earth minerals to meet exploding demand. Demand for lithium will rise to 280% of known lithium reserves, for cobalt to 423% of known cobalt reserves.

[**Slide 23**] America lacks these minerals. Not China: read the slide.

Much of Chinese production and processing of polysilicons for solar panels are provided by enslaved Uyghur Muslins.

[**Slide 24**] The U.S. has sanctions in place, and companies are having difficulty getting the facts to know whether their shipments comply with law. For details, see the client alert on the screen.

[**Slide 25**] And none of our environmental organizations supports more mining. American lithium mining is currently trivial. The EPA has recently moved to block the Pebble Mine in Alaska, a massive deposit of copper. Even renewables are gummed up. Quebec hydroelectric power still cannot make it into New England because lawsuits have blocked the transmission line through Maine, though the Maine Supreme Court ruled for the power line this month.

Yes, we are not on a path to achieve net zero by 2050. See the slide for EIA's key takeaways.

[**Slide 26**] The result? EIA says global CO2 emissions will rise from 33 gigatons per year now to 43 gigatons per year in 2050. Remember this number: each year, that's 330 million tons more than the year before. 330 million.

We won't significantly reduce GHG emissions in the near or mid-term. How do we get to 350 ppm?

Our government thinks a big part of the answer is the Securities and Exchange Commission's 500-page proposal making publicly traded companies identify climate risks. The IPCC's 2022 Report has identified 130 individual "climate risks." That's a massive menu for a company to examine.

What's a climate-related risk? To the SEC, it's the collection of adverse things that "climate-related conditions and events" might do to the company. § 229.1500(c). These are things like the risk of a carbon tax or the new methane tax under the Inflation Reduction Act. Or the risk that oil and gas assets will become "stranded" as the world abandons fossil fuels. Other risks include higher floods and longer droughts.

If the rule is adopted, you must disclose these risks if they might have a "material impact" on your business. And you must disclose your so-called Scope 1 emissions (what your company emits), your Scope 2 emissions (what the electric power company emits to give you electricity), and maybe your Scope 3 emissions (what your buyers emit when they consume your product). You must discuss your carbon offsets, if any. Finally, you must have independent verification of emissions and offsets amounts.

I have only two issues with the SEC's proposal. First, the justification for the rule is poorly reasoned. Second, key components of the rule cannot be met. In other words, it's a bad idea, but at least it will be poorly implemented.

First, the justification. The SEC's idea is to give investors, before investing, a uniform way to review climate risks across companies. But the market already offers ESG scores for companies, a number like a credit score. At least six companies, including Standard & Poor's and Bloomberg, provide these. True, their criteria are not identical. But the assessments are based on projections and subjective judgments anyway. What is wrong with relying on climate scores?

The SEC says ESG scores are fine for unsophisticated investors, but clever businesses can manipulate the score-making. 87 FR 21429M. Sure, but will unsophisticated investors be able to understand the reports in the form the SEC wants? Very doubtful. Disclosures will read like environmental impact statements. Unsophisticated investors will continue to use climate scores.

The largest institutional investors, like BlackRock, State Street, and Vanguard, appear to be proponents of this rule. But earlier this year, BlackRock and State Street advised companies of what they expect to see in reports. They expect companies to follow the 74-page recommendations of the Task Force on Climate-Related Financial Disclosures and discuss how companies will remain viable under "likely decarbonization pathways." 87 FR 21425L. The big institutional investors already know what they need.

[**Slide 27**] Then why the rule? The SEC's reason boils down to this. The SEC has an intuition investors might want to see:

> Registrants' emissions and exposure to potential transition risk, as well as whether they have in place emissions targets with credible pathways of achievement.

87 FR 21425L. Maybe, but I've found no evidence in the SEC's preamble either supporting that intuition or showing investors will find the proposed disclosures useful.

The obvious goal here is to force companies to "do good" for the climate. But the SEC is not the EPA. Its only job is to protect investors. Do companies who "do good" also do well financially? The financial studies are inconclusive.

[**Slide 28**] In the meantime, how is the market coping without detailed climate disclosures? Markets often 'bake in" risks in share prices. Has the market already baked in climate risks? Yes. The SEC even mentions it.

> Increased mandatory ESG disclosure is associated with aggregate stock price movement. … with firms disclosing large GHG emissions experiencing price declines.

87 FR 21429R. And an article by Professor Pedro Matos of the University of Virginia's Darden School of Business points to another study concluding carbon risk is largely already priced into markets.[vi] Investors see emissions levels as the real test for climate risk. If that is enough for investors, why should the SEC require a company to disclose more than that?

In sum, the justification for imposing $10.2 billion in annual costs is weak.

Now, what about implementing the rule? SEC is following its well-worn path of independent verification of the data public companies report. But until now, the focus has been on independent review of financial data already in the audited company's financial records. Emissions and offset data are different. They are not in those financial records.

Here's the three-part problem. First, because emissions and offsets are not financial data, CPAs cannot attest to their accuracy.

Second, the SEC wants verified reports on a company's offsets, but the traditional carbon offset verifiers are already overwhelmed. This takes a little explaining. Bear with me.

[**Slide 29**] Currently, seven or so organizations certify offset projects. Right now, the existing supply of certified offsets is limited. I'll show you.

[**Slide 30**] The two longest-serving and most-used offset certification entities are Verra and SustainCert. Together, over the last 20 or so years, worldwide they have certified reductions totaling about 1.1 Gigatons of CO2e. Not per year; total. During that 20-year period, humans have emitted worldwide at least 500 Gigatons. Twenty years: **500 emitted; 1** certified.

Globally, last year industrial emissions of CO2 were 36 gigatons. The Global Carbon Budget estimates about 10 of those were from oil and gas. If 5 gigatons

were from publicly traded companies, verifying offsets for those 5 is a 100-year project for our top-tier verifiers.

Third, the SEC wants independent verification of a company's GHG emissions. But the consultants who already prepare company analyses are not going to meet the criterion of "independence." How long before we can double the number of consultants to verify annual SEC reports? Or will a cosmetics company have to hire in-house emissions engineers so that their current outside consultants become independent?

This rule will not work. Except for litigators. But will the rule reduce planetary temperature? If not, the rule should be withdrawn. There are cheaper, faster solutions.

Specifically, we should finance projects removing carbon already in the air while reducing the carbon intensity of what we consume.

[**Slide 31**] We're investing in Carbon Capture and Storage. The great success story here is Equinor's Sleipner project offshore Norway. Equinor recently reached 1 million tpy of injected CO2. In two years, Chevron's Gorgon project in Australia has captured 2.5 million tons per year. At least two years away, the Summit project in North Dakota aims to capture 9 million tons per year.

One thousand Sleipners, or 400 Gorgons, or 111 Summits are needed to capture 1 gigaton per year. As of last year, the Global CCS Institute identified 27 operational CCUS projects in the world, capturing less than four one-hundredths of a gigaton per year.

In the long term, the USGS estimates the U.S. can store over 3,000 gigatons of CO2, 80 years' worth of global emissions. Global storage estimates are higher.

For now, though, one gigaton per year through CCS is achievable by the next decade, but much investment is needed.

There is much we can do in the meantime. Let's better understand the problem.

Earth has a carbon cycle. Each year nature releases about 800 gigatons of carbon dioxide through natural processes.[vii] "Natural processes" include us breathing. Each time we exhale, we emit 40,000 parts per million of carbon dioxide. If I did the math right, each year humanity exhales about 2.24 gigatons of CO2.

But the land and the ocean take more carbon dioxide out of the atmosphere than they release. The Global Carbon Budget for 2021 estimated that land and ocean combined removed about 22 gigatons of CO2 more than they released (p. 1919) and that the growth in the net removal had increased over the prior decade. (p. 2020).

Nature removes some significant part of the industrial emissions of carbon dioxide. Last year it removed 22 of the 36 gigatons of CO2 we emitted. That capacity to remove is important for national policy. We need to increase what the carbon cycle can remove.

Let forests do the work. Of course, we must consider (1) protecting older forests, (2) starting forests where none were before, (3) improving farming practices, (4) restoring vegetation in deserts as they are in Niger, Israel, Saudi Arabia, and China's Gobi Desert, and (5) increasing the capacity of global grasslands to retain CO2. All these also increase the soil's storage of methane. All must be on the table, but for now I'll talk re-forestation.

The U.S. Forest Service and the Bureau of Land Management should cooperate with the state forestry management divisions to plant 2 billion trees per year into the future.

Sounds like a lot of trees, no? But in August 2019, in the northern Indian state of Uttar Pradesh, 1 million residents planted 220 million saplings in one day, USA Today reported. Planting two billion trees a year in the U.S. costs about the same as the SEC's climate rule: $10 billion a year.

[**Slide 32**] Can trees help? Sure. Remember humans will emit <u>each year</u> 330 million tons of CO2 <u>more</u> than the year before. That global increase can be more than netted out by two billion new trees planted each year. If each tree removes over its growing life an average of 50 pounds of carbon a year, with 2 billion trees that's 46 <u>million</u> metric tons each year. Repeat the planting process and by 2040, we'll near one gigaton per year.

Keep adding two billion trees a year after that and, with carbon capture and storage projects then online and with reducing emissions to lower levels, by 2050 we're finally reducing concentrations in the air **significantly**. If many nations join, the reductions can occur sooner. China's already ahead of us here too, averaging 3.5 billion trees a year.

Uttar Pradesh showed adding two billion trees a year is feasible. Those new trees are **a fraction** of the three trillion trees on the Earth.

In 2019, using 20 years of NASA satellite data, an article in the journal *Nature Sustainability* reported that of the earth's already vegetated lands, one third are getting greener and only five percent are getting browner. That is why the Global Carbon Project could find that in recent years the net removal of CO2 from the air has increased. More vegetation is an effective tool.

A study published in the journal *Science* concludes that Earth's ecosystems could support another 2.2 billion acres of forests; and if we planted half a trillion trees, we could remove an extra 205 gigatons of CO2 from the air.

Consider this.

[**Slide 33**] Tonight, one third of humanity will cook dinner burning wood chips or dung. The IEA seeks to replace those fuels with Liquefied Petroleum Gas. Not under "net zero," we don't.

On the one hand, then, the "net zero' campaign stops climate change only by increasing widespread global poverty. On the other hand, widespread reforestation, implementing CCS, maintaining nuclear power, and swifter development of fuels like hydrogen are surer remedies than the global poverty that "net zero" leads to.

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[i] Iea.org/reports/global-energy-review-co2-emissions-in-2021-2.

[ii] research.noaa.gov/article/ArtMID/587/ArticleID/2742/Despite-pandemic-shutdowns-carbon-dioxide-and-methane-surged-in-2020.

[iii] Population.un.org/wpp/Publications/Files/WPP2019_Voume-I_Comprehensive-Tables.pdf.

[iv] Global Carbon Project at p. 1920.

[v] The evidence "suggests that if all anthropogenic emissions were reduced to zero immediately, any further warming beyond the 1ºC already experienced would likely be less than 0.5ºC over the next two to three decades[.]" IPCC, Special Report Global Warming of 1.5ºC (2018) p. 66, available at https://www.ipcc.ch/sr15/chapter/chapter-1.

[vi] Matos p. 9

[vii] 210 gigatons of carbon, per The Global Carbon Budget project, times a conversion factor of 3.664 for carbon to carbon dioxide (per Global Carbon Budget 2021 p. 1921) equals 805 tons of carbon dioxide.