



A Public Awareness Campaign

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POLICYMAKER'S ISSUE KIT

Facts and Responses for a More Measured, Analytical,
and Moral Approach to Our Nation's Energy Policies

Issue #1

RENEWABLES REPORT CARD

The promise of renewable energy has been cited long enough to warrant an objective review of how well its claims have been realized. By any reasonable measure, the report card has received a failing grade.

TALKING POINTS

- **Renewables represent a very weak cost benefit ratio**

After spending tens of trillions globally on renewable energy over the past 20 years, as of 2023, the world has realized only a 3.8% reduction in fossil fuel use, from approximately 86% to 82%, as a percentage of all energy produced.^[1] Over this same time period, the overall use of fossil fuels around the world has increased 41%, and coal use has gone up approximately 55%.^[2] If the goal has been to greatly reduce dependence on fossil fuels, this is a stunning failure and very poor return on investment.

- **Demand for fossil-based energy continues to increase**

For instance, it was anticipated that the worldwide demand for coal reached a record high in 2023, exceeding 8.5 billion metric tons for the first time in history, despite efforts to reduce its usage.^[3]

- **Renewable energy is not carbon-free**

Building the massive infrastructure needed for renewable power generation will require an enormous investment. One megawatt of onshore wind capacity, for example, requires hundreds of tons of steel and concrete, itself requiring hundreds of tons of coal.^{[4][5][6]} According to the International Energy Agency (IEA), to reach renewable energy goals, the supply of materials like lithium, graphite, and nickel will need to increase by 4200%, 2500%, and 1900%, respectively. The mining and industrial activity involved in extracting these minerals will require enormous amounts of fossil fuels to be mined, processed, and transported.^[7]

- **Renewables require much more land than fossil fuels**

The buildout necessary to achieve renewable energy goals will require new transmission lines, charging stations, wind turbines, solar farms, and battery storage facilities – all of which will require increased land use. By some estimates, renewables will require 10 times more land area than fossil fuels per unit of power produced. This means deforestation, increased mining, and other activities that are not as environmentally friendly as the proponents of renewables assert.^{[8][9][10]}



QUESTIONS TO PREPARE FOR

Isn't transitioning to renewable energy much better for the environment?

Not when the transition itself will create more emissions, more mining, and more land use, that could be better used for agriculture, forestry, and plantings that naturally mitigate CO2 levels in the atmosphere. Renewables like wind and solar are located in remote areas, far from established transmission lines. The reality behind connecting renewables to the grid now in place translates into the vastly more expensive, impractical, and environmentally questionable costs incurred.

Aren't renewables easy to bring online?

No, it's not plug-and-play. For solar and wind to provide the majority of U.S. electricity by 2035, the existing transmission capacity may need to triple in size to bring remote solar and wind power to the grid. That could mean installing up to 10,100 new miles of transmission lines each year, starting in 2026.^[10] Comparatively, only 4,000 miles of transmission lines were installed or upgraded in the U.S. in 2023.^[11]

BOTTOM LINE

Many of the goals established for renewable energy remain aspirational at best, and will take decades to become a realistic solution. So far, renewables have earned a failing grade.

Sources:

- [1] Fraser Institute: *Reliance on fossil fuels remains virtually unchanged despite trillions for 'clean energy'*
- [2] Mark P. Mills, Manhattan Institute: *The Energy Transition Delusion: A Reality Reset*, August 2022.
- [3] IEA: *Coal 2023*
- [4-6] U.S. Department of Energy, National Renewables Energy Laboratory: *Renewable Energy Materials Properties Database: Summary* (August 2023).
- [7] IEA: *The Role of Critical Minerals in Clean Energy Transitions*.
- [8] Dave Merrill, Bloomberg: *The U.S. Will Need a Lot of Land for a Zero-Carbon Economy*.
- [9] North American Electric Reliability Corporation: *2022 Long-Term Reliability Assessment*.
- [10] Kevin Rackstraw, Coho: *No Transmission, No Transition: Delivering Clean Energy Depends On A Modernized Grid*.
- [11] Federal Energy Regulatory Commission: *FERC State of the Market Report: The Need for Transmission*.

Issue #2

IMPACT ON NATIONAL SECURITY

The appeal of renewables as a way to save the world ignores or minimizes the very real dangers and disadvantages such a strategy poses to the security and continued economic progress of the United States.

TALKING POINTS

- **Grid stability threatened**

The reliability of our power grid is critical to our most basic needs for survival. Our homes, schools, hospitals, businesses, industries, and governments all stop functioning without a steady flow of electricity. But, to reach established net-zero goals by 2050, fossil-fuel power plants are being retired much faster than dispatchable and dependable replacement sources are being developed^[1].

- **Expert warnings issued**

The U.S. coal fleet totals about 180,000 megawatts (MW) of electric generating capacity^[2], but utilities have announced plans to retire 60,000 MW of coal-fired generating capacity by 2028, making it imperative to act to prevent a grid reliability crisis. North American Reliability Corporation (NERC), the Federal Energy Regulatory Commission (FERC), grid operators, and state public utility commissions have issued dire warnings regarding premature coal retirements and the possibility of such a crisis.^[3]

- **U.S. energy independence weakened**

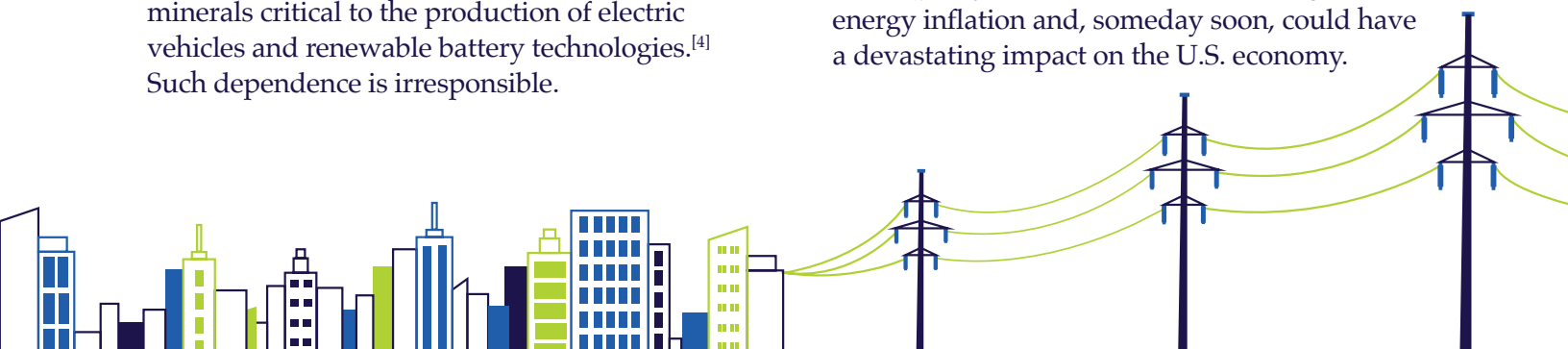
Transitioning to a renewable energy future significantly diminishes our national security and energy independence. Moving to a renewable-dominant electrical grid will greatly increase U.S. dependence on foreign nations, many of which have lower standards of safety and sustainability. China, for example, controls roughly 90% of the market for refining rare earth minerals critical to the production of electric vehicles and renewable battery technologies.^[4] Such dependence is irresponsible.

- **The day of energy inflation reckoning is coming**

By government subsidizing renewable energy, the natural laws of supply and demand are being bypassed artificially. As a result, the effects of inflation due to renewable energy have yet to be fully experienced in the marketplace, but they will, eventually. Taxpayer-funded subsidies over the past 20 years or so have approached \$5 trillion, but renewables still only represent about 5% of the world's total energy output.^[5] These inflationary pressures will be felt across the U.S. economy.

- **The rising tide of energy inflation**

As energy markets continue to be circumvented with artificial subsidies and incentives for weaker renewables, the full consequences of energy inflation looms large. However, we might not be waiting long to experience the results. PJM, a large Regional Transmission Organization (RTO), held its most recent power capacity auction in July 2024, resulting in prices more than 800% higher than recorded a year earlier. Energy prices for power plants landed at \$269.92 per megawatt-day, compared with \$28.92 per megawatt-day just the year earlier.^[6] Capacity auctions are mandated events that balance consumer pricing protections with market reliability, capacity, and transmission considerations. PJM's July auction provides clear evidence that moving away from affordable fossil fuels—and rushing too quickly to intermittent and low-capacity renewables—will drive significant energy inflation and, someday soon, could have a devastating impact on the U.S. economy.



QUESTIONS TO PREPARE FOR

Why do fossil fuels assert an ability to provide a competitive advantage to the U.S.?

Coal is the indispensable American resource. Affordable, abundant, and dispatchable, coal has enormous reserves in the U.S., enough to safely and cost-efficiently power the economy far into the future. On the other hand, according to the Electric Power Research Institute (EPRI), reaching the stated goal of decarbonizing the grid by 2035 would require 900,000 MW of new wind and solar power, 80,000 MW of new nuclear capacity, and 200,000 MW of hydrogen-fueled turbines,^[7] at a combined cost of \$1.7 trillion.^[8] Meanwhile, the cost of coal for electricity has remained relatively flat for the past 15 years.

Why isn't a transition to renewables a wise national security strategy?

The health, vibrancy, and growth of the U.S. economy depend on reliable and affordable energy. Fossil fuels have proven their ability to provide this for decades. Conversely, renewables have a much lower accredited capacity value, a measure of how dependable an electricity source is when demand peaks. The PJM Interconnection assigns a capacity value of 86% for coal-fired generation, 83% for natural gas, but only 25% for wind and 13% for solar. Simply put, renewables are not reliable enough – and the infrastructure to support them has not materialized yet – to meet the growing demand for electricity, and therefore pose a risk to the economy and national security.

BOTTOM LINE

A reliance on renewables is not only impractical and prohibitively expensive, it represents a real and significant threat to American national security.

Sources:

- [1] PJM Interconnection: *Energy Transition in PJM: Resource Retirements, Replacements & Risks* (Pages 5, 6).
- [2] U.S. Energy Information Administration: *Annual Energy Outlook 2023*.
- [3] North American Electric Reliability Corporation: *2018 Long-Term Reliability Assessment*.
- [4] IEA: *The Role of Critical Materials in Clean Energy Transitions*.
- [5] Mark P. Mills, Manhattan Institute: *The Energy Transition Delusion: A Reality Reset*, August 2022.
- [6] Reuters: *PJM power auction results yield sharply higher prices*
- [7-8] America's Power: *Coal Facts*.

Issue #3

HUMAN RIGHTS & GLOBAL POVERTY

Coal stands as the essential source of energy for the world. It is responsible for lifting economically disadvantaged nations into participation in the global economy, establishing a higher standard of living and enabling a deeper commitment to human rights the world over.

TALKING POINTS

- **Coal is the most abundant source of electricity worldwide**

Coal provides 35% of the world's electricity ^[1]. Coal is also one of the most affordable and available energy sources on earth. Coal produces 61% of China's electricity, and 74% of India's, providing a higher standard of living for the nearly 3 billion people living in those two nations.^[2] The people there have every right to advance as they see fit. Their situation centers more on acquiring the basic needs of survival, with environmental concerns not ranking quite as high.

- **Coal represents a prime means of economic growth for developing countries**

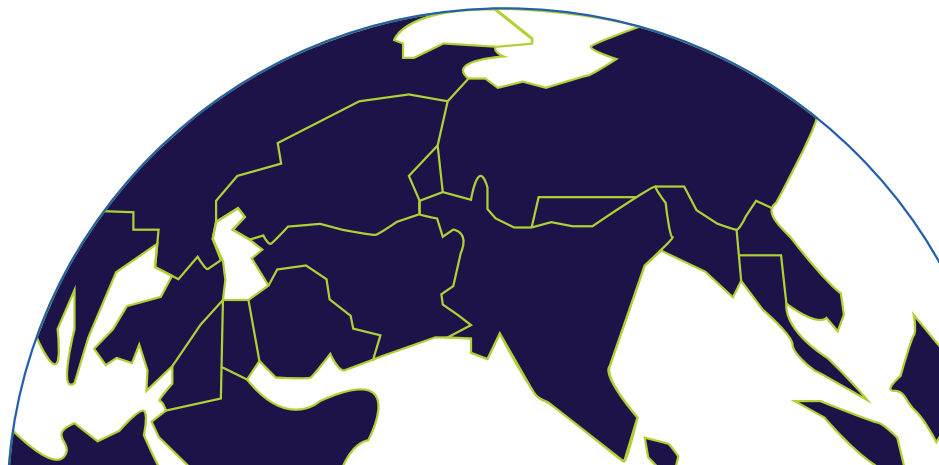
With some 774 million people in the world still without electricity, the need for abundant, affordable coal is obvious.^[3] Without coal to provide electricity, developing countries will struggle to rise from poverty and improve their quality of life.^[4] Denying these populations of affordable energy would have severe ethical and moral consequences.

- **Non-fossil fuel sources are impractical**

Many emerging nations cannot afford the cost or resources required to adopt modern and more costly – not to mention less reliable – sources of energy, like nuclear or renewables. Instead, these nations need to be practical and realistic, working to establish a consistent and economical baseline of energy production and distribution – which means using coal to walk before they can run.

- **Coal is a central component of basic infrastructure**

Coal is a vital raw material for making steel and cement, two of the most necessary and prevalent construction materials in the world. Roads, buildings, bridges, sewers, railroads, cell towers, dams, and basic infrastructure in general are only possible with the help of coal. Developing nations need to build their infrastructures to participate in the global economy, which means they need access to plentiful and affordable coal.



QUESTIONS TO PREPARE FOR

Isn't it morally wrong to rely on fossil fuels in the developing world?

To the contrary. Developing nations have a moral right to realize the tremendous societal and economic benefits of fossil fuels – benefits that far outweigh the consequences of not using fossil fuels as a proven and essential driver of economic development and a higher standard of living for all people.

Does having U.S. based companies supply fossil fuels to the developing world mean the U.S. is abandoning its leadership role in addressing CO2 emissions?

No. While the U.S. accounts for only 14% of global energy-related CO2 emissions ^[5], the fact remains that greenhouse gas emissions are prevalent all over the world. These challenges will continue to require comprehensive study and solutions, but the immediate need for developing nations to build their infrastructures and economies is even more pressing. If not done responsibly, it could condemn millions to crushing poverty without hope.

BOTTOM LINE

To enable a greater commitment to human rights, and to lift developing nations out of poverty, coal must be an essential player worldwide. The benefits of coal obviously far outweigh the potential negatives of emissions.

Sources:

[1-2] Energy Institute: *Statistical Review of World Energy*.

[3] IEA: *World Energy Outlook 2022*.

[4] World Coal Association: *Coal—Energy for Sustainable Development*

[5] IEA: *CO2 Emissions in 2022*.

Issue #4

THE REALITY OF NET ZERO

The changes required to achieve “net zero” goals threaten a number of essential American freedoms, while the increase in the cost of providing energy could slow economic growth significantly.^[1] It is not as simple as you might think.

TALKING POINTS

- **Achieving net zero emissions means massive behavioral changes**

Achieving “net zero” emissions goals by 2050 will require much more than reducing reliance on fossil fuels. Scenarios modeling these incredibly aspirational goals include a daunting number of serious and alarming lifestyle changes^[2] being considered by governments worldwide, such as:

- Restrictions on travel
- Imposed ridesharing in urban areas
- Lower speed limits on major highways
- Regulation of thermostats in homes, offices, and other structures

- **Achieving net-zero will require massive increases in materials mining**

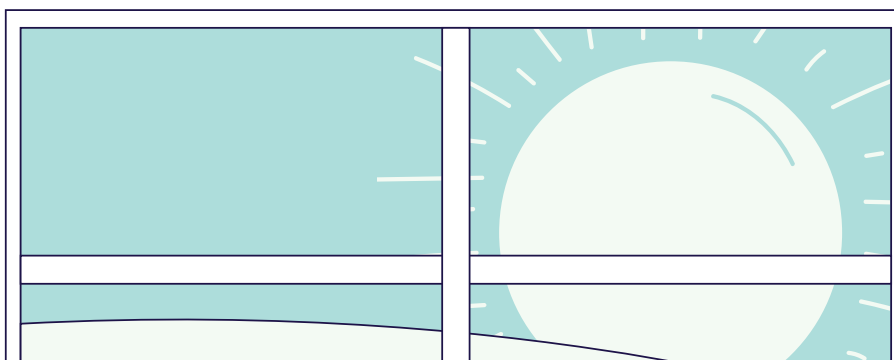
A decrease in coal mining, as fossil fuel usage to generate electricity is lessened, will lead to a massive increase in the mining of other materials, mostly in nations with lower environmental and workplace standards than the U.S. Such mining operations would need to increase between 400% and 4,000% over the next two decades^[3]. Plus, mining operations take an average of 16 years to ramp up and produce results, further adding to the impracticality of relying on renewables.

- **Renewables trigger significant energy inflation**

Energy security equates to national security, because the entire economy requires affordable, reliable, and easily accessible electricity. U.S. residential electricity costs have risen over the past 20 years.^[4] Those rates should have declined because of the flat cost of natural gas and coal, which together supplied nearly 70% of electricity during that period.^[5] Instead, electricity rates have gone up due to renewable infrastructure spending. Imagine if the trillions spent on renewable energy – with astoundingly poor returns on that investment – had instead been spent on further abating existing fossil fuel-based energy sources.

- **Decarbonization is a worthy process, and much progress has already been made**

CO2 emissions from the U.S. are less than 20% of the world’s total, thanks to efforts made by many parties, including American utilities. Abated coal technologies will continue to play a critical role in the ongoing transition to more sustainable forms of energy, working with renewable sources to provide reliable energy while protecting our climate and meeting our energy needs.^{[6][7][8]}



QUESTIONS TO PREPARE FOR

Why doesn't the fossil-based fuel industry care more about emissions reduction?

The fact is that billions have been spent by the fossil-based fuel industry on research and implementation of clean-coal technologies to reduce emissions, with measurable positive results to date, and more to come. Emissions reduction consistently polls near the bottom of primary concerns to Americans, so in some meaningful ways, the fossil-based fuel industry has demonstrated an outsized level of investment and concern regarding emissions reduction.

Why can't renewables be the exclusive source of energy to reach net zero by 2050?

Moving to a total renewables energy profile is economically and logistically impractical. For instance, the wind industry would need to increase construction of wind energy plants by up to 10 times the current pace, pushing demand for certain materials above current global supplies.^[9] The lower reliability of renewable energy sources also could strain the grid now in place, while potentially leading to rolling blackouts. A responsible blending of fossil-based fuels and renewables remains the best option for a long-term affordable and reliable energy future.

BOTTOM LINE

Fossil fuels will continue playing a key role in reducing emissions, working with renewables as justified, to secure a long-term energy future that protects the planet without hampering freedoms or economic growth.

Sources:

[1,2] McKinsey & Company: *The net-zero transition: What it would cost, what it could bring*

[3] Mark P. Mills, Senior Fellow, Manhattan Institute: *Testimony Before the U.S. House Select Committee on the Climate Crisis*

[4,5] Mark P. Mills, Manhattan Institute: *The Energy Transition Delusion: A Reality Reset*, August 2022.

[6] World Coal Association: *Coal—Energy for Sustainable Development*

[7] Scott Foster, David Elzinga, United Nations: *The Role of Fossil Fuels in a Sustainable Energy System.*

[8] IEA: *World Energy Outlook 2022*, Page 417, Figure 9.3.

[9] U.S. Department of Energy National Renewable Energy Laboratory: *How Do We Inventory the Materials Needed to Build Wind and Solar Farms.*



About the Campaign

Not So Fast is an awareness campaign aiming to inform the public, corporate leadership, and U.S. policymakers about the economic hurdles, technical challenges, and societal consequences of hastily moving away from fossil-based natural resources, like coal, in favor of alternatives and intermittent sources of energy like wind and solar power. These unintended consequences underscore the many challenges of a decarbonized economy and the need for an orderly and realistic transition over decades to come. This campaign, sponsored by CONSOL Energy, advocates for a more measured, analytical, and moral approach to our nation's energy policies.

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