

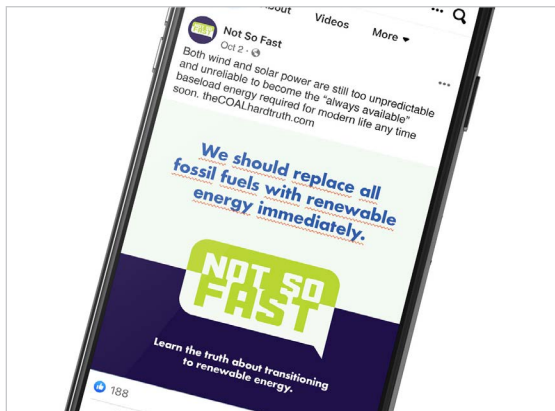


WHY COAL MATTERS

Media Kit

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 moving too quickly 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 measured, analytical, and moral approach to our nation's energy policies.



A BRIEF HISTORY OF COAL

Coal is formed from organic material—specifically plant life that lived in swampy forests millions of years ago. This carbon-rich plant matter was then subjected to intense geological forces from being buried under layers of rock and earth. Over time, heat and immense pressures transformed this plant life into a sedimentary rock we call coal. Think of an ancient battery storing carbon energy from the sun deep underground.



For centuries, coal has been used for heating and other applications. Coal mining became a major industry in Britain in the 16th century, as forests were depleted and wood for fuel was becoming scarce. ^[1] The Industrial Revolution introduced coal on a large scale as it powered steam engines, in addition to its key role in making steel. Coal has historically been and continues to be the leading source of electricity generation around the world, accounting for approximately 35% in 2022. ^[2]

Coal is a building block of modern life. From essential materials including steel and cement to components of water filtration and fertilizers that provide clean water and food, and the electricity that reduces global poverty—all are produced with the assistance of coal—either for its carbon, as an upstream material, or as a source of energy.

A BRIEF HISTORY OF COAL

Over the past several decades, governments have placed considerable focus on regulating and developing technologies to reduce emissions from power plants with industry participation and remarkable success. Additionally, advancements in carbon capture and storage are actively being developed to enable coal to continue to serve in its traditional role as a reliable source of dispatchable, baseload power, but with significantly reduced or even net-negative CO₂ emissions.



Promising R&D efforts are focused on other opportunities within the coal value chain, such as the prospect of taking advantage of coal's unique chemistry for use as a feedstock to innovate advanced materials. Coal is now being used in the research and development of high-performance materials for aerospace, military, battery storage, building materials, and other high-technology applications.

Still today, the U.S. has the most abundant coal reserves of any country in the world, ^[3] and this valuable natural resource has great potential to provide energy security, alleviate poverty, facilitate infrastructure buildout, and innovate domestic manufacturing.

As the world pursues a decarbonized economy, one thing seems certain: coal will be relied upon as part of an orderly energy transition in the decades to come.

WHY COAL IS HERE TO STAY

Coal Matters

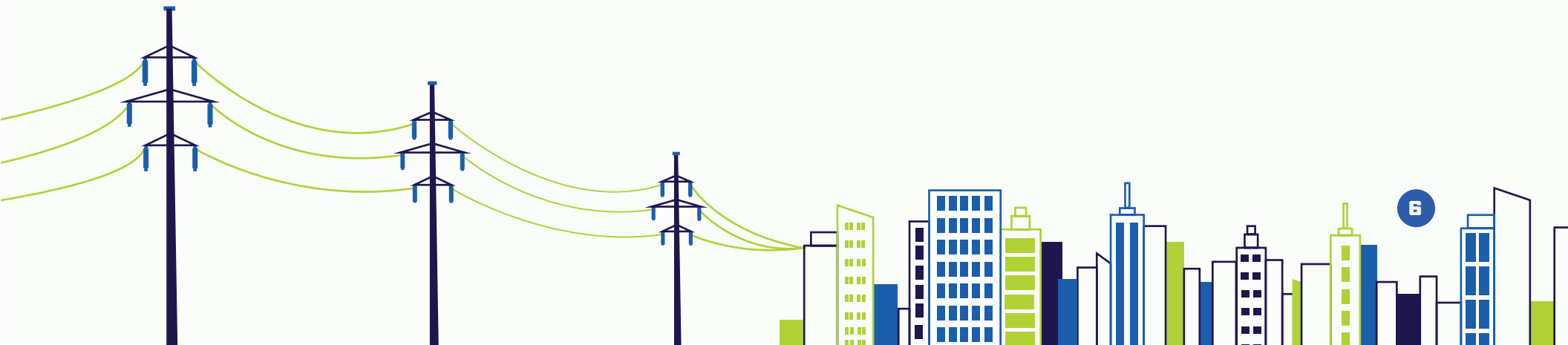
As the world explores and develops alternative types of energy, we'll still need coal as a dependable and dispatchable baseload source of electricity, as well as a key resource for infrastructure development, clean water, and nutritious food. In fact, many of the timelines being mentioned by policymakers to remove coal and other fossil fuels from society are proving to be unrealistic, especially when you consider the following:

- 1 **National Security & Energy Independence**
- 2 **Human Rights & Global Poverty**
- 3 **Building a Renewable Energy Infrastructure Requires Coal & Other Fossil Fuels**
- 4 **Unintended Negative Consequences**

WHY COAL IS HERE TO STAY

1 Our National Security & Energy Independence

- In times of high energy demand such as periods of extreme weather, renewables like wind and solar are intermittent and unreliable forms of power, especially compared to storable and dispatchable energy sources like coal that can provide months of dependable, on-site energy supply and quickly adjust to fluctuating demand. ^[4]
- The U.S. is becoming increasingly dependent on foreign countries for key minerals and components to build and maintain the massive infrastructure required to realize a “net-zero” world. ^[5]
- Many of these countries have much lower workplace and environmental standards than the U.S.



WHY COAL IS HERE TO STAY

2 Human Rights & Global Poverty

- Coal remains essential for meeting the basic needs of billions of people around the world. Denying these populations affordable energy would have severe ethical and moral consequences.
- Developing nations simply cannot experiment with renewables as their primary means of power, so without continued access to coal, petroleum, and natural gas, millions will be condemned to unnecessary poverty.
- These societies have a right to realize the immense benefits of fossil fuels—benefits that far outweigh the consequences of not utilizing fossil fuels as a proven and essential driver of economic development.
- Additionally, in the global push to lower greenhouse gas emissions, the U.S. only accounts for approximately 14% of global energy-related CO₂ emissions.^[6] Greenhouse gas emissions are prevalent all over the world, across all sectors of the global economy. Therefore, climate challenges demand innovative and economy-wide solutions.



WHY COAL IS HERE TO STAY

3 Building a Renewable Energy Infrastructure Requires Coal & Other Fossil Fuels

- To build the massive infrastructure needed for renewable power generation, an enormous amount of materials and energy will be required. For example, steel is indispensable to the production of wind turbines. On average, one megawatt of onshore wind capacity requires hundreds of tons of steel and concrete, which require hundreds of tons of coal to produce. ^[7]

100+
METRIC TONS

The amount of coal needed to generate one megawatt of power with onshore wind turbines

Sources: U.S. Department of Energy, National Renewable Energy Laboratory: *Renewable Energy Materials Properties Database: Summary (August 2023)* (Figure 3, page 8)

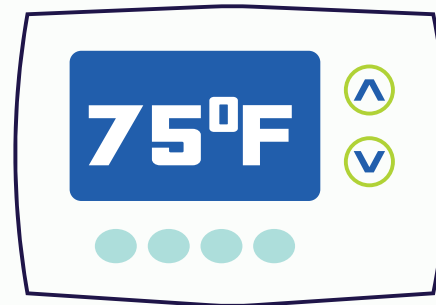
Gulhan Ozbayoglu, Comprehensive Energy Systems: *Energy Production From Coal*, doi:10.1016/B978-0-12-809597-3.00341-2



WHY COAL IS HERE TO STAY

4 Unintended Negative Consequences

- Achieving net-zero emissions by 2050 will require far more than reducing our reliance on fossil fuels. Scenarios modeling this aspirational goal call for alarming changes to our freedoms and lifestyles, such as travel restrictions, ridesharing in urban areas, lower speed limits, and regulating thermostats. ^[8]



ENERGY BY THE NUMBERS

774
MILLION

The estimated number of people worldwide without access to electricity

Source: IEA: [World Energy Outlook 2022](#) (Page 164)

2.8
MILLION

The number of acres of mined land that have been restored by U.S. mining companies

Source: National Mining Association: [Reclamation](#)

70%

The percentage of Americans concerned that moving to variable sources of power (such as renewable energy) too quickly is making the electrical grid less reliable

Source: NMA: [Americans Concerned About Grid Reliability, Urge Caution in the Transition](#)

3000
POUNDS

The amount of coal the average U.S. citizen indirectly uses in a single year

Source: Minerals Education Coalition: [Mineral Usage Statistics](#)

35%

The percentage of the world's total electric power supply generated by coal in 2022

Source: Energy Institute: [Statistical Review of World Energy 2023](#) (Page 53)

ECONOMIC BENEFITS OF COAL

Coal positively impacts the U.S. economy from both employment and revenue standpoints. The coal industry provides approximately 90,000 direct jobs with an average income of roughly \$93,000 nationwide. For every direct coal mining job, 2.24 indirect and induced jobs are created, totaling approximately 200,000 additional jobs. The coal industry provides long-term career opportunities in roles ranging from construction and operations to a variety of technical fields including engineers, geologists, and scientists. ^[9]



There is an abundance of coal in the U.S., making it a homegrown energy source. Domestic coal mines provide almost all of the fuel used by coal-powered, electric-generating units in the U.S., strengthening our position in the world. In 2022, the U.S. coal industry generated \$20 billion in sales and paid \$8 billion in direct wages and salaries. ^[10]

A NEW NARRATIVE IS BEGINNING TO EMERGE

A global transition to renewable forms of energy is well underway, but what are the consequences of rushing to renewables? Are we moving too quickly to a future filled with tradeoffs? Is it even feasible to achieve the aspirational timelines for economy-wide decarbonization without serious risks?

To eventually become the dominant source of energy in the U.S., wind and solar power projects must be able to reliably meet the demands of our economy, which arguably depends on energy more than any other factor. This requires substantial investment, infrastructure buildout, and the commercialization of new technologies that are currently in experimental stages of development.

As the *Not So Fast™* campaign title suggests, CONSOL Energy and our industry proponents are urging people to more cautiously consider the tradeoffs and potential harms of indiscriminately abandoning fossil-fuel-based sources of energy, like coal. In fact, we see a future where abated and innovative fossil-fuel-based power works together with renewable forms of energy without compromising our prosperity, health, or the environment.

MEDIA INQUIRIES

Your interest and inquiries are welcome. Subject matter experts are available for media interviews and to speak to groups about various aspects of the energy industry, including innovation and new technologies, sustainability, U.S. energy policy, coal mining operations, and other opportunities.

Please contact us.

Jeff Krakoff, Krakoff Communications

Email: jeffk@krakoffcomm.com

Phone: 412-275-3187

Follow us on social.



theCOALhardtruth.com

ABOUT CONSOL ENERGY



Headquartered in Canonsburg, Pennsylvania, CONSOL Energy is an independent, U.S.-based producer and exporter of high-quality bituminous coal for industrial, metallurgical, and power generation applications. We and our predecessors have been mining coal, primarily in the Appalachian Basin, since 1864. Our corporate culture continues to be based upon the three core values that successfully guided CONSOL Energy throughout its history: Safety, Compliance, and Continuous Improvement.

At CONSOL Energy, we strive to be the most responsible coal company in the world. Our approach to sustainability is underscored by our dedication to compliance, ethical business practices, and the communities where we live and work. We believe long-term utilization of our high-Btu coal is essential in the quest to expand access to affordable and reliable electricity throughout the world. We are committed to employing technology and innovation across our operations that will further enhance employee safety, reduce our environmental footprint, increase operational efficiencies, and support continued coal production into the future.

As a result of this unrelenting focus on our core values and a commitment to sustainability, CONSOL Energy is positioned to Fuel the World for a Better Tomorrow.

CHECK THE FACTS

- [1] World History Encyclopedia: [Coal Mining in the British Industrial Revolution](#)
- [2] Energy Institute: [Statistical Review of World Energy 2023](#) (Page 53)
- [3] EIA: [Today in Energy](#)
- [4] NMPP Energy: [Understanding the Term 'Dispatchable' Regarding Electricity Generation](#)
- [5] IEA: [The Role of Critical Minerals in Clean Energy Transitions](#)
- [5a] Center for Strategic & International Studies: [Building Larger and More Diverse Supply Chains for Energy Minerals](#) (Page 1)
- [5b] U.S. Department of Energy: [Solar Photovoltaics – Supply Chain Deep Dive Assessment](#) (97% of world's production of silicon wafers occurs in China, a country with documented human rights violations and an unpredictable trade relationship with the United States. See pages iii and iv)
- [5c] U.S. Department of Energy: [Wind Energy – Supply Chain Deep Dive Assessment](#) (See Figure 4 on page 15 – U.S. imports of Wind Specific Equipment)
- [5d] IEA: [Energy Technology Perspectives 2023](#) (Page 107 – Figure 2.10, negative trade balances for U.S., page 82 – U.S. imports 2/3 of its PV modules, page 108 – U.S. is a major net importer of refined minerals and aluminum....by contrast, U.S. is a net exporter of fossil fuels, other similar references throughout report.)
- [5e] Katie Sweeney, National Mining Association, Congressional Testimony: [Unleashing American Energy, Lowering Energy Costs, and Strengthening Supply Chains](#)
- [6] IEA: [CO2 Emissions in 2022](#)
- [7] Gulhan Ozbayoglu, Comprehensive Energy Systems: [Energy Production from Coal \(2018\) 788-821. doi:10.1016/B978-0-12-809597-3.00341-2.](#) (Chapter 3.19.1.1.2, page 791. 0.77 tonne of coal per tonne of steel translates to 83 tonnes of coal in steel per MW of onshore wind capacity. Chapter 3.19.1.1.3, page 792. 0.2 – 0.45 tonne of coal per tonne of cement translates to 82 – 184 tonnes of coal per MW of onshore wind capacity. Total tonnes of coal per MW of onshore wind capacity = 165-266 tonnes of coal)
- [8] McKinsey & Company: [The net-zero transition: What it would cost, what it could bring](#)
- [8a] IEA: [World Energy Outlook 2021 – Chapter 3](#) (Pages 158 – 162)
- [8b] IEA: [World Energy Outlook 2022 – Chapter 3](#) (Pages 157 – 162)
- [8c] IER: [The Challenges and Costs of Net-Zero and the Future of Energy](#)
- [9] National Mining Association: [The Economic Contributions of U.S. Mining, 2021](#)
- [10] U.S. Coal Exports: [Boosting America's Economy](#)

CONSOL is committed to meeting the nation's and world's energy demands by focusing on solutions that achieve energy security while finding ways to responsibly reduce greenhouse gas emissions.