



March 2, 2022

President Joseph R. Biden
The White House
1600 Pennsylvania Avenue, N.W.
Washington, DC 20500

President Biden,

Recent global events reveal yet another example of the high value the United States should be placing on maintaining ready access to dependable energy sources.

In Europe, natural gas prices more than doubled in the third quarter of 2021 while spot prices hit record highs. Just a little more than a year after Europe's natural gas prices were on par with prices in the U.S., Europeans now find themselves routinely paying nearly four times as much as the U.S. Prices have remained high into the winter, driving up costs of heating homes, manufacturing goods and generating electricity for European citizens.

As you are well aware, the key driver of this volatility is Russia, which supplies more than one-third of Europe's natural gas. As I write this, Russia has invaded Ukraine. It is no coincidence that this humanitarian crisis came to a head during the height of the winter heating season. This action has caused an immediate increase in the price of natural gas; natural gas prices in the United Kingdom have risen by more than 9 percent and in Europe by 13 percent.¹ Even though the UK receives only 3 percent of its natural gas from Russia, the global market responded dramatically to Russia's invasion, driving significant, broad economic impact. Experts predict continued volatility in prices due to the war.

The U.S. and European nations have responded to Russia's initiation of war on Ukraine by retaliating with economic sanctions. But, of course, Russia is in a position to counter those measures. It could cut off a key source of heat and energy for European homes, businesses and industries, which would drive the already high energy prices through the roof during the winter season when heat is needed to sustain life.

¹ Allen, Vanessa and Washtell, Francesca, "How Ukraine invasion could send cost of petrol to 170p a litre, push up energy bills by ANOTHER £700 and raise price of weekly shop," *Daily Mail*; Feb. 23, 2022. Downloaded from <https://www.dailymail.co.uk/news/article-10542533/Life-home-Ukraine-invasion-affect-Britain.html>

But what choice does Europe have at this moment given all the policy choices to date? Even the New York Times acknowledges, “Europe is living through an energy crisis, with soaring prices for natural gas and electricity.”²

U.S. consumers also have experienced increases in their electric and heating bills. Of course, one of the drivers is the fact that U.S. gas exporters are sending fuel to those in need in Europe who fear insufficient supplies to endure the cold winter. Europe’s overdependence on Russian gas supplies may lead to a human health crisis. U.S. consumers are not at this time fearing insufficient supplies of gas to heat homes and to fuel electricity production, and it is imperative they never need to.

As the CEO of an electric cooperative responsible for supplying electricity to more than 1.1 million Kentucky residents and businesses, I wish to emphasize that imperative. There is no reason for the U.S. to find itself in a similar situation as Europe, and every precaution should be taken to ensure it does not. Our national security interests and energy security interests are one. We have the ability to be energy independent, and we need to ensure we remain energy independent to best preserve the health and welfare of Americans.

For the U.S., the key difference from Europe is our abundant domestic energy supplies. The U.S. has an estimated 252 billion short tons of recoverable coal reserves, which EIA says would last about 470 years.³ The U.S. has about 2,900 trillion cubic feet of natural gas reserves, enough to last about 84 years, according to the EIA.⁴ As long as we are willing to turn to these resources to maintain a reliable energy supply at a reasonable cost, the U.S. is largely invulnerable to the types of geopolitical forces at play in Europe.

The U.S. must take steps to ensure domestic supplies of natural gas may continue to be produced and reliably delivered to homes, businesses and electric generators across the U.S. The Central U.S. experience during Winter Storm Uri in February 2021 drew attention to the vulnerabilities of the U.S. natural gas system and the electric grid’s dependency on natural gas as millions went without power during the extreme cold temperatures.⁵ The human toll was

² Stanley Reed, “What Happens if Russia Cuts Off Europe’s Natural Gas,” *New York Time*, 1/25/22.

³ U.S. Energy Information Administration, “Coal explained: How much coal is left,” updated 11/19/21, downloaded 1/29/22 from <https://www.eia.gov/energyexplained/coal/how-much-coal-is-left.php>

⁴ U.S. Energy Information Administration, “How much natural gas does the United States have, and how long will it last?” updated 2/3/21, downloaded 1/29/22 from <https://www.eia.gov/tools/faqs/faq.php?id=58&t=8>

⁵ Generator failures due to natural gas fuel supply issues were found to have causes throughout the supply chain. These include weather-related reductions in natural gas production, low pipeline pressure and pipeline outages, and the lack of firm fuel delivery contracts by natural gas power plants. As the report succinctly put it, “Natural gas fuel supply issues alone caused 27.3 percent of the generating unit outages.” Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC), and Regional Reliability Entities, *FERC—NERC—Regional Entity Staff Report: The February 2021 Cold Weather Outages in Texas and the South*

immense - suffering, death, and economic loss. In his testimony to Congress following Winter Storm Uri, James Robb, the President and CEO of the North American Electric Reliability Corporation, observed that the electric generation sector is becoming increasingly reliant on natural gas as a fuel source, yet the natural gas system is not built and regulated to serve the needs of the electric power sector. There is a gap in regulatory authority; clear regulatory authority is needed over natural gas when used for electric generation.⁶ Mr. Robb also highlighted that additional pipeline infrastructure (including gas storage) is needed to reliably serve load and enable natural gas to meet the demands of the electric power sector, and such infrastructure requires advanced planning and time to construct.

We should take caution, however that we do not pursue a build-out that amasses a significant amount of electric generators on the same natural gas pipeline system, increasing the vulnerability of the electric power grid to natural gas security risks. The increased dependency of the electric grid on the natural gas system must be undertaken thoughtfully as it poses generation fuel availability risks that are not present with other power generation resources, such as coal-fired and nuclear generation.

In addition to protecting the ability of our domestic supplies of natural gas to be produced and delivered reliably, the U.S. also must ensure that we do not become reliant on foreign-sourced components for our future electric generation production. We should learn from Europe's current crisis, and not repeat the history that is in the making.

Unquestionably, the electric industry has responsibility to take action to mitigate the impact of climate change. But, in doing so, we must understand the consequences of our actions and be deliberate in ensuring we are not compromising our national security by relying on other countries not aligned with the United States.

It is concerning that the deployment of solar-powered generation is increasing America's reliance on China, which controls the global production of solar photovoltaic (PV) components that are the backbone of solar power in the U.S.⁷ The solar PV manufacturing chain involves five components that are produced in the following order: polysilicon, ingots, wafers, cells, and

Central United States, November 2021, <https://cms.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and>. (pg. 172)

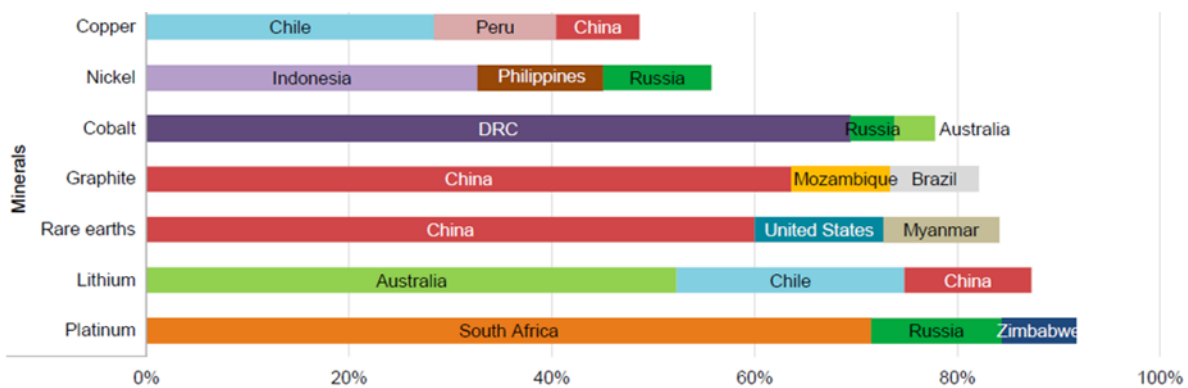
⁶ James B. Robb, testimony before the U.S. Senate Energy and Natural Resources Committee, March 11, 2021, "Reliability, Resiliency and Affordability of Electric Service in the United States Amid the Changing Mix and Extreme Weather Events."

⁷ "Testimony before the House Committee Energy & Commerce, Energy and Environment Subcommittees, Ethan Zindler, Head of Americas, BloombergNEF," November 16, 2021.

modules (or panels).⁸ Chinese companies dominate every segment of this manufacturing chain.⁹ The table below summarizes China’s dominance.¹⁰

Solar PV Component	China’s Control of Global Market
Wafers and ingots	95 percent
Polysilicon	80 percent but could be 90 percent soon
Cells	78 percent
Modules/panels	75 percent

Similarly troubling is the increasing reliance of the U.S. on other countries for rare earth minerals that are essential for components of solar and wind generation as well as batteries for both utility-scale electricity storage and electric vehicles. Not all of the countries sourcing the necessary minerals are aligned with the U.S.



Sources: IEA (2020b); USGS (2021)

My prior letters focused on ensuring that the path to reduce carbon emissions from electricity production does not compromise reliability or make electricity unaffordable for the end consumer. That concern remains; however, the recent crisis in Europe is a harbinger of additional problems that may arise and merit significant attention.

If the path to decarbonizing the electric grid makes our nation more reliant on countries not politically aligned with the U.S., it is a path we should avoid. We have abundant domestic

⁸ See, for example, “Solar Photovoltaic Manufacturing Basics.” <https://www.energy.gov/eere/solar/solar-photovoltaic-manufacturing-basics>

⁹ “Testimony before the House Committee on Energy & Commerce Energy and Environment Subcommittees,” Ethan Zindler, BloombergNEF, November 16, 2021.

¹⁰ See, Solar Power World, “No avoiding it now: Soon the Top 4 polysilicon manufacturers will be based in China,” Kelly Pickerel, May 12, 2021; “How China Beat the U.S. to Become World’s Undisputed Solar Champion,” Bloomberg, June 4, 2021.

supplies of fuel to power generation, but should we shift from using them and commit to a path that increases our reliance on hostile nations, it will be extraordinarily challenging to reverse course. If power plants deactivate, mines stop operating, pipelines stop expanding, transportation services discontinue operations, etc. In short, it would be a Herculean effort to reverse course should international political forces turn against us. Ultimately, such a path would not prove to be successful by any measure.

I urge you to take steps to bolster the ability of the natural gas industry to ensure the reliable production and delivery of the abundant domestic natural gas supplies. I further urge you to ensure the U.S. remains on a carbon emissions reduction path that avoids national security challenges associated with reliance on unaligned nations and mitigates reliability and affordability concerns. Reducing carbon emissions from power generation should not mean the U.S. need ignore its plentiful domestic resources. Likewise, reducing carbon emission and protecting our nation's security interests should not be mutually exclusive. The U.S. should not ignore the plentiful resources that may heat our homes and fuel our economy.

Sincerely,

A handwritten signature in cursive script that reads "Anthony Campbell". The signature is written in black ink and is positioned above the typed name.

Anthony "Tony" Campbell
President & CEO

CC: U.S. Energy Cabinet Secretary Jennifer Granholm
FERC Chairman Richard Glick
Senate Minority Leader Mitch McConnell
U.S. Senator Rand Paul
U.S. Senator Joseph Manchin
Congressman Andy Barr
Congressman Hal Rogers
Congressman Brett Guthrie
Congressman Thomas Massie
Congressman James Comer
Congressman John Yarmuth
Governor Andy Beshear
Kentucky Senate President Robert Stivers
Kentucky Attorney General Daniel Cameron
Kentucky Energy and Environment Secretary Rebecca Goodman
Kentucky PSC Chairman Kent Chandler
Kentucky PSC Vice Chairman Amy D. Cabbage