

DANIEL YERGIN



ON

Big Shovels, New Maps and Energy Transitions

After CERAWeek 2023—“the Super Bowl of Energy”—
Brunswick caught up with the man at the heart of it.

A CHALLENGE IN WRITING ABOUT DANIEL Yergin is finding a new superlative with which to describe him. *Barron's* called him “oil’s oracle.” *The New York Times* dubbed Yergin “America’s most influential energy pundit.” *TIME* was less concise but no less glowing: “If there’s one man whose opinion matters more than any others on global energy markets, it’s Daniel Yergin.”

Yergin is the Vice Chairman of S&P Global and Chairman of S&P Global’s CERAWeek conference, the energy industry’s most important gathering, held annually in Houston, Texas. This year’s conference drew the CEO of practically every oil major as well as electric power and renewable companies, US senators and cabinet secretaries, energy ministers from around the world, trade group leaders, investors, executives—and, for the first time, leaders of major mining companies, illustrating mining’s key role in the energy transition. As both a speaker and moderator, Yergin was at the heart of proceedings.

It’s a position to which he brings more than 40 years of industry experience, a career that’s seen him advise the US and other governments, run his own research and consulting firm, and write extensively. His 1991 book, *The Prize: The Epic Quest for Oil, Money, and Power*, won a Pulitzer Prize. His latest book, *The New Map: Energy, Climate, and the Clash of Nations*, looks at the importance of critical minerals and mining to the energy transition, and was described by NPR as “a master class on how the world works.”

On the heels of OPEC’s surprise decision to cut output that sent oil prices soaring, Yergin spoke with Brunswick Partners Carole Cable and Stephen Power, two Global Leads of the firm’s Energy & Resources team. Their conversation, which has been edited and condensed, covered many of the issues on CERAWeek 2023’s agenda: “Navigating a turbulent world: energy, climate and security.”

We’re seeing a lot of volatility in oil prices. What factors do you see shaping the oil market today?

The two most important factors are how fast the Chinese economy rebounds and what the Federal Reserve does—to what degree do its interest hikes slow both the US and world economy. The spring banking crisis in the US adds further complications. The OPEC-plus nations are watching world economic growth very closely and responding to weakness in global demand, as we’ve seen with their production cuts in October 2022 and now April 2023. All this takes place in the context of what I’ve dubbed “preemptive underinvestment” in world oil and gas projects. There’s not a lot of spare production capacity. And demand will grow.

Can you put today’s energy transition in some historical context?

I really dive into that question to understand it in *The New Map*. All of the previous energy transitions unfolded over a century or more. They were really energy additions, not energy transitions as people may think about it. Oil overtook coal as the world’s number one energy source in the 1960s—and yet today, the world uses three times as much coal as it did in the 1960s.

This transition is trying to, in a quarter of a century, transform the energy foundations of a \$100 trillion world economy. That’s a pretty big ambition. And it doesn’t just happen by saying we need more ambition. It involves a lot of investment, infrastructure and innovation.

It’s pretty clear that oil demand is probably going to continue to increase at least into the next decade. Natural gas demand will continue to grow probably at least until around 2040. And while they may grow, their share of the energy mix—because the energy mix will get larger—will likely be smaller. The direction is clear, but I think many people have a hazy view of the timing and scale.

Chairman of S&P Global’s CERAWeek conference, Daniel Yergin speaks during the event in 2018.

S&P published a landmark report on copper in 2022—why, of all minerals, did you pick copper? And what do you see as the report's key finding?

We were reading reports from governments and international institutions all warning that the move toward net zero will dramatically increase the demand for minerals, but there was little specific quantification. And we focused on copper because copper is, as we put it, “the metal of electrification.” We wanted to know what all the big 2050 net-zero goals meant in terms of technology. And we went sub technology. How much more copper do you need for an electric car? How much more for offshore wind? We added it all up and saw that on top of traditional copper demand, there was this energy-transition demand. Basically, copper production supply has to double by the middle of the 2030s to meet the 2050 goals. And the current growth in supply doesn't come close to that pace.

We wanted to highlight the reality of a serious constraint to the energy transition that doesn't seem to be recognized. It can take seven years to bring a new oil field on. It takes 15 or 20 years or more to bring a major new mine on. And you're seeing this constraint in developed and developing countries, with permitting challenges and policy changes.

Will Russia's invasion of Ukraine, and the energy crisis it helped spark, be remembered as accelerating—or derailing—the transition away from fossil fuels?

I think it both has accelerated it while it's also focused attention on assuring that you have the conventional supplies you need to run your economy. In the United States, the Inflation Reduction Act (IRA) provides tremendous incentives in a number of directions.

But it's going to take time. You've seen people begin to grasp that. The thinking about the energy transition has become more sophisticated, recognizing the reality of how the whole energy system works. If you don't have energy security as you push toward a more renewable economy—to keep the lights on now, to keep factories working, to keep people in their jobs—then you're going to have a series of crises that will shake confidence, and create backlashes and delays.

What's been highlighted over the last year is that the wind and sun may be free, but the materials that go into renewables aren't. Offshore wind requires cement and metal. A wind turbine requires lubrication, which is an oil product. An electric car is 20% plastic and has two-and-a-half times more copper

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than a car with an internal combustion engine. The way I've described it in *The New Map* is we move from an era of big oil to big shovels—a lot of mining and a lot more mining needs to be done if we are to get anywhere close to the Paris Agreement.

What you're seeing happening in minerals and energy, by the way, is part of a larger trend. We're at the end of a three-decade era that began with the collapse of the Soviet Union and was followed by the extraordinary growth of China and its integration with the world economy.

I think we'll look back on this as the second age of globalization—the first one was before World War I. In this era, decisions were primarily made on the basis of the economic efficiency. We had this incredible growth of supply chains where there wasn't much thought about security, nationalism or resilience. In that period, it didn't seem necessary. The efficiency that came with the vast expansion of supply chains was an important element in keeping inflation low. People relied upon these global supply chains, and they grew and developed to an extent that, until COVID-19, people didn't realize just how intense the links were. Now we're seeing governments step in again in the name of national security and resilience. A few years ago, you didn't speak in favor of industrial policy in the US.

I wrote my first book on the origins of the Soviet American Cold War. As I was writing *The New Map*, I wondered if I was writing about a new Cold War. Increasingly, people describe it as that. But what makes this different is, even with all of the nationalism and protectionism, the economies of the US and EU and China are still so integrated. This is a much more complicated relationship. It's a kind of fragmented globalization. But clearly, there's this focus on critical minerals.

Do you see more resource nationalization and protectionism coming from other jurisdictions?

I think there's more intervention. I wrote a book some years ago called *The Commanding Heights*, which talked about the balance of confidence shifting toward markets versus government. And certainly the balance of confidence, if we can call it that, is shifting back toward governments and being less confident in markets, much more interventionist. National security and growing geopolitical competition are shaping those decisions.

And you're seeing companies having to deal with the whiplash of policy. Particularly in the US, administrations change, policies change. And yet the nature of these investments is long term—they unfold over

seven years, 15 years. That makes it hard. Governments and businesses have different incentives and time horizons.

Companies take a lot of risk in the early stages of an investment, make a big commitment and the fiscal terms are set. And then a different government comes in with different priorities and says, “That’s all established; there’s no risk. Why don’t we increase the tax?” It’s called the Obsolescing Bargain. It’s basically where, whatever deal was made to bring the investment into a country, the government, because it has more leverage once the project is up and running, changes the terms—the original bargain becomes obsolete. Those issues are being battled out in the United States today just as they’re being battled out in Latin America and other parts of the world.

A landmark piece of legislation in this energy transition is the one you mentioned: the US’s Inflation Reduction Act. Are you seeing that affect energy companies’ investments?

It’s the biggest piece of industrial policy that the United States has done for decades. And it’s mostly carrots rather than sticks—the incentives for investment are very high because of the tax credits and direct payments. Those incentives are so great that companies have to rethink their investment strategies. It also gives them the confidence to make bigger bets. What company is going to say no to it? It’s so attractive. Still, you’re not going to be able to do some things if you can’t get permits. And with a Republican House, there’ll be more scrutiny of the IRA.

The Inflation Reduction Act has something in it for almost everybody. It’s complicated to see what its relation to inflation reduction is—it will drive up the costs of welders and raw materials, for instance. It’s also about bringing supply chains home or to like-minded countries. But the IRA has multiple forms, and its impact is going to take time to measure. It’s clearly about climate. But it’s also about technologies and it’s very definitely a compete-with-China act.

It’s still going to take time to sort out all of the impacts it has. I’ve heard [the IRA] described as generational in its impact. I mean, it’s huge.

What about other countries’ reactions to the IRA? How do you think they will respond?

I think the main one to watch is Europe’s response—to what degree does the EU see this as unfair subsidies, as draining investment away from Europe to the United States? The European approach is more regulatory and directive, less focused on incentives.

Some companies across the energy spectrum

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CAROLE CABLE, a Partner in London, has been with Brunswick for the past 15 years as the joint head of the firm’s global energy and resources practice. Her focus is on mining and metals.

STEPHEN POWER, a Partner based in Dallas, leads Brunswick’s energy and resources practice in the United States.

I speak to are shifting some of their investments to the US as the incentives are very attractive. But there are the constraints: the materials, people and what’s going to happen to costs.

What other constraints do you see in developing a critical-minerals industry?

The issue of permitting is huge. It’s an issue for almost every company, whether you’re talking about conventional energy, offshore wind, solar or mining. And it’s happening in developed and developing countries alike. Permitting sounds like such a technical thing. How do you talk about permitting on television? What does permitting mean? Most people don’t know. Yet it’s really critical to being able to get things done—getting to a conclusion and not being in permitting purgatory forever.

There still seems to be a disconnect between societal acceptance of mining and its role in the energy transition. How can mining companies better tell that story?

That’s your area of expertise, so probably I should put the question back to you. There’s growing understanding, but I still don’t think people grasp how essential these activities are, the scale of them, how integral these minerals are to the transition, the strides that have been made over the last three decades in terms of the environment. It’s a constant process of education and the educational system doesn’t do a very good job of conveying these realities. People don’t look at wind or an electric car and think of the mining that went into making them.

In *The New Map* I tried to deal with these themes of energy transition and the mineral requirements—to help people understand that what people are talking about now in terms of energy transition is not like anything that’s ever happened before. I found as I traveled in Asia (the book has been published in 14 languages) that this book had been read very carefully—and it’s been read carefully by young people too, which I find encouraging.

What’s your next book going to be about?

Obviously, it could be in this arena because it’s all so interesting. But it’s hard for me to wrap my mind around doing a new project right now when we’re all living through that new map I wrote about: energy, climate and the clash of nations.

It’s also pretty hard to write a book. I have a rule of 3X: However hard you think it’s going to be, it’s going to be three times as hard. By the way, that sometimes happens to energy and mining projects, too. ♦