



Transcript of IMF podcast:

Daniel Yergin on Energy's New Map

Bruce Edwards:

What do you think international institutions should be looking at in terms of helping countries respond to this, I don't know if you might call it an energy crisis, but it's certainly a-

Daniel Yergin:

Oh, I think we're in a global energy crisis. I just met with people from a series of emerging market countries in Southeast Asia deeply concerned about what high prices are doing. And my concern is that looking at the elements, it looks to me like it's going to get worse over the next few months. And an organization like the IMF and others, World Bank, have to look pretty carefully at what's going to happen over the next 3, 4, 5 months. What it will do to countries balance the payments, economic and even political stability, because really, things are not going to stand still.

Bruce Edwards:

Disruption in the energy markets is not new. The energy crises in the early '70s, the '80s and the early 2000s were all challenging in their own ways, but none were so intertwined with other emergencies like climate change and a global pandemic. Today's guest has won the Pulitzer prize and many other accolades for his writings about the global energy markets. His latest book is The New Map.

Daniel Yergin:

I'm Daniel Yergin and I'm Vice Chairman of S&P Global. But I also write books and I've done books on political economy, and economic history, and geopolitics. Maybe the best known one is called The Prize: The Epic Quest For Oil, Money, and Power. That was a book that I was fortunate enough to receive the Pulitzer prize for. But my new book is called The New Map Energy, Climate and the Clash of Nations. And if you think about it, that's what we're all living through right now.

Bruce Edwards:

Great. Thank you so much for that, and welcome to the podcast.

Daniel Yergin:

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Thank you.

Bruce Edwards:

So with all the advancements in renewable energy, we've been hearing about in the past decade and more recently, one would assume, or at least hope that our dependence on oil and gas would be waning. Is it?

Daniel Yergin:

No. It's not. Renewables are growing, but oil and gas consumption are growing as well. And the world still uses about 80% hydrocarbons. Wind and solar costs have come down a lot. Both of those are 50 year old technologies, but it's only in the last 10 years that they've become competitive and they've become very competitive... Costs came way down. And they're growing and there's a lot of government support for them, there's a lot of investor support for them... their costs are going up somewhat right now. But the world is still primarily runs on hydrocarbons.

Bruce Edwards:

And so in your latest book, *The New Map*, you lay out essentially the supply lines for energy, past and future, and how the power of nations is founded on their ability to either extract fossil fuels or secure what they need in some way. Where do the major powers stand today in terms of energy security as you describe it?

Daniel Yergin:

That's a very interesting question because energy security actually over the last 10 years has more or less fallen off the table as a consideration for many parts of the world. And I think part of it was because of the growth of the shale in the United States, which took the US from importing 60% of its oil to being self-sufficient and being the world's largest producer of oil and gas. And the consequence of that is that there was a kind of sense of everything's fine, and didn't have to really worry about it. That of course has changed in the last year because really, this energy crisis, this global energy crisis that we're on now did not start on February 24th when Russia invaded Ukraine. It started in the second half of last year when the global economy came so strongly out of COVID and suddenly energy markets that had been very slack became very tight. And prices were already going up before those Russian troops crossed the border into Ukraine.

Bruce Edwards:

And so you mentioned how shale gave a boost to the US in terms of their energy supply. What about other powers in the world like Russia and like China perhaps?

Daniel Yergin:

Well, let's focus on Russia. Russia has been for a number of years now in energy superpower. I quote Putin in The New Map where he was asked was Russia an energy superpower? He said, "I don't like that term. It sounds too Cold Warish." Well, this kind of Cold Warish right now, but he sure liked the money. And he sure liked the political clout that came with it. But I think because of the decisions he's made and Europe's response to them, which is to say, we really don't want to depend on Russian energy anymore. I think right now Putin has some real high cards and is very intent on disrupting the European economy.

Daniel Yergin:

But I think a couple years from now Russia will continue to be a major producer, but it's not going to be, I think, anymore a energy superpower. It's going to be much more tied into China, and in a sense dependent on China as it's growing market. China's position is they're well endowed with coal and they're one of the world's major oil producers, but not enough. They import 75% of their oil. They've been building up their natural gas consumption, which means imports. And they're going, gung-ho, all out, for renewables for wind and solar. So they're moving on all those fronts, but I think they have, China has a sense of vulnerability and insecurity because it's so dependent on global markets for its oil, and it regards that as a security problem.

Bruce Edwards:

Okay. So the war in Ukraine is obviously very much about Russia wanting to firm up its own energy security. And in your book, you place the war at the very center of this geopolitical shift as you describe it in energy trade, that's essentially dividing east and west. But if Ukraine is so important to Russia's energy security in terms of Ukraine's resources, how did Ukraine's independence come about in 1991? I mean, how did that happen?

Daniel Yergin:

Well, there are two parts to that, which is actually Ukraine from an energy point of view was important to Russia mainly as a transit. Most of Russian gas to Europe has to go through Ukraine, and they've been working assiduously to build these other pipelines like Nord Stream to get around Ukraine. I think that Russia's, this was, I think Putin's obsession. As you said, 1991, Ukraine became an independent country. It had only fleetingly been an independent country at the end of the first world war. And particularly since the last 10 or 12 years, it's developed a real sense of national identity. Putin refused to recognize that.

Daniel Yergin:

He repeatedly said Ukraine is not a country. That two thirds of it used to be Russian, and one third was part of the Austro-Hungarian empire. And I think he saw Ukraine first, an independent Ukraine that was

integrated into the global economy would be a threat to Russia because of the message it would send, and because of the kind of close affinity. And then I think it's become clear in recent years and maybe it was his two years of isolation during COVID, his extraordinary isolation during COVID, he started to dream of recreating not the Soviet Union, but the Russian empire.

Daniel Yergin:

So I think this became very much tied into energy because the big fights between Ukraine, independent Ukraine and Russia were over natural gas and the price of gas and Russia cutting off gas to Ukraine, but cutting off gas to Europe. But I think now as Putin expresses himself, we see more and more that he had this messianic dream about a Russian empire that he wanted to recreate, and he never accepted the outcome of the Cold War, the way the Cold War ended, and the way the Soviet Union ended. And so great deep sense of grievance that he's been expressing for decades. And I think he had a series of calculations about how this would all go and all of them turned out to be wrong so far.

Bruce Edwards:

So far. And so he did manage to build Russia as a great supplier of energy, especially to Europe and-

Daniel Yergin:

Absolutely.

Bruce Edwards:

Yeah. And you speak in your book of Europe's Dependence on Russian oil and how Vladimir Putin thought he could survive the sanctions because of it. But you also point out that public opinion is now putting pressure on companies to step back from Russian oil because of the war. How much influence does public opinion have in energy trade generally, and how might it play into geopolitics of energy in the coming years, do you think?

Daniel Yergin:

That's a very good point because, I remember before the war, just when it started, talking to people, the US government here, and they saw the build up and they had this very large panoply of sanctions. The one thing they weren't going to sanction was Russian energy because of Europe's dependence. And they thought that you couldn't do that, that it would fracture the coalition. But I think you point to something that was really new, which was public opinion, saying we don't want Russian energy. We don't want to send money to Russia that they're going to use to further their war in Ukraine. And you had dockworkers who wouldn't handle Russian energy products, you had investors putting pressure on companies about importing. And so you had even before the sanctions were there, you had the major

Western companies, which had been very important in the development of Russian energy since the end of the Soviet Union...

Daniel Yergin:

And by the way, with the strong encouragement of Western governments, including the United States, because it was seen, it's Russia, post-communist, has to be integrated into the world economy. So the governments, I remember going to several conferences sponsored by the US government about US-Russian energy dialogue. But these companies now were getting this pressure. And before sanctions were there, you just saw them saying, "We're leaving, we're getting out of here now." It's not easy to get out of there because you may have several thousand employees, and you don't just pick up everything and leave in the middle of the night, it's complicated. But Western companies are leaving and Russia is going to not have the access to Western technology. And that's one of the things that's going to cause its former position as energy superpower to deteriorate, because it just won't have the capabilities that it's had up till now- because it's been integrated into a global economy.

Bruce Edwards:

So sticking with this public opinion thing for a minute, as you explained in your book, shale gas extraction was instrumental in putting the US back on the map in terms of energy security, but the public are not happy about that. Fracking is still a bad word around here. how do...

Daniel Yergin:

Well I think, let me disagree with you. It's not popular with some people. There was a lot of emotion around it and not really very well understood. It's now been practiced for going on to decade and a half. And it's part of the system and all of this sort of, many of the environmental problems that people said were there are not there. I know one of the biggest opponents to shale on environmental grounds was this fellow named Vladimir Putin, and I had personal experience of that. And I tell the story in The New Map, that I was at the St. Petersburg International Economic Conference, and he was up there on the platform with chancellor Merkel, but they said, "Okay, you can ask the first question."

Daniel Yergin:

So I started to ask him the question that I'm sure the IMF and many other people have been asking for years, and years, and years. What are you going to do to reduce your overdependence on revenues from oil and gas? And by accident, I mentioned the word shale. And he erupted, he started shouting at me in front of 3000 people saying it's barbaric, it's terrible, it's an environmental disaster. And as I reflected on it, I became clear why he didn't like shale. Because he saw the day would come when US shale gas would compete in Europe with Russian gas, which is exactly what's happening. And he saw that it would enhance the strategic position of the United States and its influence the world, and that happened.

Daniel Yergin:

But I think you could see the change. Europe turned aside a shipment of LNG last year from the United States because it was shale gas. This year there are delegations of Europeans who are coming to the United States, trying to sign up LNG made from shale gas as alternative supplies to make up for Russian gas. So I would say that there's some people who don't like it, others do, and it's been economically very beneficial to the United States. And I'll tell you the world would've been in a lot worse position today, if it wasn't for shale development to the United States.

Bruce Edwards:

And we should just explain here for the listening audience, if they're not familiar with LNG, what LNG is.

Daniel Yergin:

So LNG otherwise known as Liquefied Natural Gas is where you take a stream of natural gas, which is a gas and at very low temperatures in effect, you compress it into a liquid, and you can take that liquid, put it into a ship and ship it anywhere in the world. So that was a business that really, I mean, it actually developed in the United States. The first shipment of LNG went to England in 1959 in response to the killer fogs that came from coal. But it really took off in Asia, where Japan and then South Korea turned to Indonesia, and Brunei, and Malaysia and had these long-term contracts. And then, but now LNG is being produced around the world. But it turns out that the United States has really become a very big producer, and Europe today sees it as a strategic asset that Europe depends on it. So things change, they don't stay the same.

Bruce Edwards:

Absolutely. And very quickly.

Bruce Edwards:

So I'm just going to remind our listeners that our guest today is Pulitzer prize, winning author, Daniel Yergin.

Bruce Edwards:

So back to Ukraine just for a minute and the geopolitics at play, based on what's going on in Ukraine and Russian energy with regards to China in particular, how important is China in terms of energy supply, and how could that dynamic further fragment the global trade of energy?

Daniel Yergin:

Well, China's big importance as a consumer on overall energy, it is the largest consumer of energy in the world. The US still uses more oil, but China is moving up, but that's one reason that China is promoting electric cars, electric vehicles. It has half the electric cars in the world are in China to reduce its dependence on oil for climate. And also I think China sees it as a competitive strength that it could never catch up with the European, US, Japanese, Korean car makers with conventional cars with internal combustion engines. It's trying to leap frog to electric cars. It's already exporting electric cars to Europe, and it sees electric cars as an important export market for it. So EVs electric cars is one of China's responses to the current situation.

Bruce Edwards:

Well, I got to say I traveled to Cairo recently within the past couple months. And just stepping out onto the streets of Cairo is a pretty sobering experience in terms of imagining a world where everyone is driving clean electric vehicles. It's just not happening there, and it's not happening in a lot of the most populous countries in the world. And you speak of cars in your book, how important are cars when it comes to the growing global demand for oil and gas?

Daniel Yergin:

Well, I think transportation is the major, the number one consumer of oil in so far as gas is used to generate electricity. It would play an important role in fueling electric cars, and electric car sales are certainly increasing significantly, not only in China, but in Europe and they're starting to in the United States too. And of course there are a lot of incentives and a lot of regulations that are encouraging it, but probably what encourages more than anything else are high gasoline prices. Around the world, governments and countries are really being hit by high prices right now. And where they can, people will buy an electric car. We looked at it, governments around the world are cutting taxation on gasoline, call it petrol, whatever you want to call it because it's such a problem for average people for consumers.

Daniel Yergin:

These high energy prices are obviously not only an engine of inflation, but they inflict pain on people around the world. And one of the things to be concerned about is that, for 50 years Russia and the Soviet Union before that said, we're a reliable supplier, whatever happens to politics, we're going to just continue to honor our contracts. Right now there's a second battlefield in this war. There's a battlefield in Ukraine, but the second front is in Europe where Russia is reducing natural gas supplies and driving up prices.

Daniel Yergin:

And Putin laid out at his recent St Petersburg Conference where he said the result will be social instability, populous governments coming to power in Europe. And it very strange phrase he used and a change in the current elites in Europe. And so, I mean, he's basically trying to create as much economic

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hardship in Europe as possible. And the German economics minister Robert Habeck has pointed that out in order to crack this coalition that's supporting Ukraine and its battle with Russia.

Bruce Edwards:

So the pandemic has thrown another variable into this complicated mix, dramatically changing the way people work and do business. And I love how in your book, how you frame it in *The New Map* as shifting from molecules or gas to electrons, and how digitalization is competing now with transportation using electrons to connect people rather than molecules to move them. To what extent does this characterized, do you think the new energy transition?

Daniel Yergin:

Well, I think it's in a very important part of it. You sort of think about counterfactual history. If this terrible pandemic had happened 20 years ago, we wouldn't have been able to function in the way we did by people pivoting to Zoom or-

Bruce Edwards:

That's right.

Daniel Yergin:

... Teams or other electronic channels. It just couldn't have been done. And once it got going, so much businesses. I was talking to the CEO of a major mining company and he said he hasn't been in his office for two years. So people are just managing things differently. And so the nature of work changes... there's at least in many parts of the world, I mean, in some parts of the world, it's like two or three days a week that they're back in their office. It changes travel. So instead of using molecules, you'll use electrons. So it's kind of refashioning the way economies work. So that's one of the, shall we say unanticipated consequences of the pandemic. I mean, there's so many people I know who said, when they left their offices in March, they thought they'd be back in a week or two, and not come back two years later like an archeologist looking at an old civilization.

Bruce Edwards:

That's right. And so this transition, there's obviously still a growing demand for oil and gas, but renewables are also very, I mean, a lot of companies are investing a lot of money into renewables that brings minerals into the mix that could potentially benefit some of the global south essentially, and you speak of that in your book. How does this demand for minerals fit into all this?

Daniel Yergin:

Well, I think it's going to be much bigger than people realize. We tend to think of wind and solar and say, well, the wind is free and the sun is free, but they require enormous amounts of materials to make them. And electric cars require two and a half, three times as much copper, for instance as a conventional car. And you start adding it up and we've been doing it, in this new study that's coming out on copper, and you see, you start just doing the numbers, the arithmetic, the demand for minerals is going to be much greater than people think. And to open a new mine, the International Energy Agency says it takes 16 years. Well, 16 years takes us to 2038 and you have these 2050 goals. So where are you going to get the supplies? And I think there's new geopolitics that will emerge around minerals too, as where they are, what countries they are.

Daniel Yergin:

I mean, they can be very beneficial as you say for emerging markets, developing world, but the governments also have to decide what they do with the money, and avoid that perennial resource curse and diversify their economies. But mining will loom very large. And mining is also an energy intensive activity. And the way I describe in *The New Map*, we'll move from a world of what's called big oil to a world of big shovels, a lot of mining. And I think have to look very closely at what the requirements are, the physical requirements to achieve that where they are and where the materials are processed and gets complicated. And it gets kind of caught up in the new geopolitics of what people are calling great power competition.

Bruce Edwards:

And so lastly, the way things are going with demand for oil and gas just increasing and supplies and production sliding, we're going to need so much more gas and oil, and investors are moving now more toward cleaner energy. And there's a stigma attached to oil and gas at least to a certain degree these days. So where do you think the money's going to come from for the investment that is needed to access more oil and gas?

Daniel Yergin:

I think that's a, I'm not sure if it's a problem or a challenge, but it's out there absolutely. There's been what we might call preemptive under investment on the assumption that we were going to get very quickly to that different energy economy. It's going to happen. But we just had our big conference that we do every year in Houston. And one of the senior people from one of the three big wind turbine manufacturing companies said, you want to put a new wind turbine on land in Europe, the permitting process takes seven years. So these things don't happen quickly. So I think we see some sign now, the G7 is starting to say, well, maybe it is okay to finance energy development in Senegal or Uganda, and some of these other countries for diversity, for security and because they need the revenues.

Daniel Yergin:

So I think we need a rebalancing. I think it's great to see the growth of wind and solar, but they're not going to be the whole answer. And I think oil and gas with carbon abatement will be a very important part of the mix. So I think people have to rethink the time, have a more realistic attitude towards time and then to be balanced and keep your eye on the development. The economic development needs of the 80% of the people who live in the developed world.

Bruce Edwards:

Well, Daniel Yergin is the author of several books on the geopolitics of energy supply, his latest being *The New Map, Energy Climate and the Clash of Nations*. Daniel Yergin thanks so much.

Daniel Yergin:

Thank you. Great to join you.

Bruce Edwards:

Daniel Yergin is Vice Chairman of S&P Global. He's also won a Pulitzer for his book, *The Prize, The Epic Quest for Oil, Money, and Power*.

Bruce Edwards:

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