

# the DESK

Wednesday, July 27, 2022

Volume 24

SPECIAL REPRINT

## power dominance

We were talking with Nodal Exchange chief Paul Cusenza recently about all sorts of heady topics, from geopolitical risks to truth in news, from fuel prices to the future of the sector, and he made an interesting comment: At some point in the future, there will only be power, electricity to be more specific. All the typical fossil fuel contracts traded here today will be gone. A gazillion-dollar market in fossil fuels, physical and financial, gone the way of the buggy whip. No time soon, of course, and the developed world will certainly move faster than the developing world to a carbon-free state, but still. As renewables and batteries (and likely hydrogen, too) continue to consolidate and surround the generation sector at an increasingly fast clip, changes ahead for the energy sector promise to be foundational. Though perhaps not in my lifetime, perhaps my grandkids will one day leaf through those arcane PDF files of The Desk and wonder, “What’s a natural gas swap.” Or, even better, “What’s natural gas?” It can happen. Consider this: My 23-year-old son had never heard of Enron. But, I digress. I asked Cusenza to flesh out what he sees ahead. Recall that he sits on top of the world’s biggest electronic markets for power and environmental contracts.

“From my perspective electricity is the key mechanism for how we will and should consume energy in the long-term. What we want to do now is get away from the things that hurt the climate. The Earth is resilient, and I’ll be hopeful, but we’re going to have a few nasty years of climate change ahead of us, because of the nature of what

it’ll take to change it. When you look at the very long term, I do think that we need to move fully to electricity; cars, and most anything else that now uses some sort of fuel. And the other element that I guess sits there with electricity, is potentially hydrogen, because hydrogen can be burned clean. So, if clean fuels do make the journey, hydrogen may play a role.”

That said, electricity is fundamentally “the key path,” he says. “And what’s really going to be necessary to make electricity work, is going to be storage, right? It’s electricity that flows around a grid, so we need innovations in storage for electricity. We need innovations that allow us to shift more items to consuming electricity. Innovations in hydrogen as a clean fuel, too. The other element is, of course, trying to ensure that whatever is consuming energy, consumes it more efficiently,” he says. “That’s how I see the long term. But for now, all I can see is the transition ... and that’s going to be tricky.”

Tricky you say? This may be the understatement of the year. Hugely tricky. “Any transition involving any element of protecting the global environment requires global cooperation and commitment. There are some big challenges in front of us that I’m hoping innovation can help accelerate ...” Cusenza says.

So, let’s see. We have a global population of roughly eight billion people. Everybody evolving and changing at a different pace; we have the G20, and we have basically, the developing world. In the former countries, we consume a lot more energy per

person than do say, on average the countries in Africa, or in South America, or in parts of Asia. And the people in the less developed world also want to be able to consume energy for all the lifestyle elements that we have here. And they want that energy cheap, and they don’t want to be held back. This isn’t really news, but recent geopolitical changes have put this pressing global need in a wholly different light.

“In trying to get energy, cheap, we now must consider the competing forces. Global climate concerns along with a vast part of the global population just trying to make a better life for themselves. So, it’s a tougher challenge. And so, the less developed world may ask the developed world to assist them in meeting these new challenges. I think it’s something we – here in the US – can actually do very well. If I was president of the United States, one of the things I would do is to play an active role in funding for this global need.

“We put up 2 trillion for the pandemic, after all. Why not a few hundred billion to provide US technology and expertise for the developing world? Let’s buy and provide US technology, renewable technologies to be installed in countries like Bangladesh and Indonesia and Vietnam, instead of purchasing the stuff from China,” he says. Good idea.

It’s been reported that that China is cutting 30-year coal supply deals with some countries and tossing in a coal-fired plant gratis. Not exactly helpful to our global environmental situation.

“So, the counterpoint we might hear is, ‘Well, you don’t want me to accept this from China, but what will you do?’ That’s maybe where we come in. We say, we’re going to put in wind and solar storage facilities and clean hydrogen and we’re going to buy it from US and allied countries, like NATO. We should be building these capabilities in in this country so that we can help the developing world advance. This is how we solve one global issue. Our leaders need to lead this effort for the developing world.

“The problem broadly is that we can talk about the supply side, but demand is growing far more rapidly across the world. And as you have that demand increased, how do you meet the demand? Well, there will al-

*(Continued)*

ways be a lot of people willing to sell the hydrocarbons in the short run, but as a global society, the right answer is that we do eventually get away from that, from fossil fuels, and we use electricity or clean hydrogen. This is how we transition to a cleaner planet.”

The scale of change Cusenza describes is almost mind-boggling. Moving away from fossil fuels, moving away from these gigantic physical and financial markets? It seems almost incomprehensible. My guess is these markets will still be huge for the rest of my lifetime, but still. But as we move away from fossil fuels and mark the rise of battery power, battery storage, of hydrogen and all else – new markets will rise quickly. I mean energy traders certainly aren’t going to go away. These markets aren’t going away. They’re just going to change. We asked him, from his perch on top of the world’s biggest electricity and environmental markets, what might those future commodity or derivative markets look like?

“So, two thoughts on that one, are that, you know, certainly hydrocarbon markets will continue to be extremely important. Any market going through significant change, it’s really important to be hedging that price risk over the next five or 10 years or whatever. Additionally environmental markets will be very important because it’s part of the incentive and the movement – both mandatory and voluntary. I think it’s encouraging to see so many countries, so many companies, so many participants in volunteer markets. Further, voluntary, and mandatory environmental markets will be very relevant as we move through this transition, which will last well through our careers ...”

Power markets will of course remain long term and then they’ll be newer markets that will emerge, he says. Hydrogen, as it builds and grows will become relevant over time. Nodal Exchange’s parent company, the EEX group, is looking to get ahead of that market right now, according to recent announcements

“Power markets matter now and will always matter. Even with storage, price will still be differential here in the United States than it is, say in Europe. And it’ll be different maybe, by state, due to regulations. So being able to hedge those power elements will still be very relevant and important. So absolutely, trading is here to stay and in fact it’ll continue to be very important, particularly in the decades ahead. We have so much change ahead, so much crazy volatility and risk and unknowns about prices and how things are going to evolve. Trading will be as essential as ever.”

The ability to hedge risk in these evolving markets is vitally important for those folks planning to actually make the necessary investments, to make these transitional changes possible.

“The ability for somebody to build a wind farm, they need to have greater certainty about what their prices are going to be, so they can hedge ahead,” Cusenza says. How else can any

of this be financed? “They need to be able to understand what they’re going to be able to generate in terms of, you know, environmental contracts. If I’m generating clean energy, then I can also sell a renewable energy certificate associated with that. More clarity of the economics will give these markets the confidence to invest in what’s needed to improve the environment, he says.”

We asked him if he can rationalize a point in the future when there will be what could only be described as a global power market.

“I see two elements on this question. First, because of the way you store electricity and the way it flows physically on an electric grid, I do see the local nature of electricity as being very relevant. I’m not going to easily transport it. However, I can also imagine the day where I’ve got a bunch of say, hydro power, that I simply can’t use right now, but maybe there will be new storage mechanisms, new inventions, batteries of enormous scale, that we can simply load on a ship and transport them anywhere. When they’re done, bring them back to the waterfall and charge them back up. We’re not going to see vast electric lines going underneath the ocean like we have telecommunications lines now. That said, if anything is deemed economically viable, well ...”

Cusenza admitted that he always used to think of the electricity market here in North America as being more “isolated” from what happens in Europe. “But what we’ve seen lately, is that’s not so true anymore. What with natural gas prices going up, particularly in Europe and their growing need for US LNG. As more US gas is headed to Europe, it also means that it doesn’t flow into US storage, which will also impact US prices – that is, natural gas and power prices. So, sure, global natural gas demand plays a key role in the price-setting in our electric system. And today, there is this element where you can feel the connection between Europe and the US at least in terms of the power markets. Both are going up in the same direction because of what’s happening in Europe. We didn’t see that 10 years ago.”

On top of technological and market innovation ahead for global energy markets, he adds that a much stronger focus on rare earth metals and more particularly, access to them, is gaining steam fast. “Industrial-sized deposits are not always in friendly areas. This is a very relevant part of the longer-term discussion.”

The big focus right now he says, however, really comes down to simple cooperation. “We all really want the same thing, a higher standard of living, clean water, clean air, plenty of resources and food. This isn’t unique to America or any part of the world. This is the sort of world we all want to live in. I think it’s within the scope of humanity to provide this ... but will we cooperate enough, learn to play together, well enough to achieve it? I do believe in free markets, and I think markets work best to achieve these results. Despite what some might claim, this isn’t a zero-sum game ...”