The price of a barrel of oil will “explode”. And it's not just the tension in Ukraine to blame

With the alert signal on between Russia and Ukraine, Europe is already paying the electricity bill, but the “short circuit” in the network should also affect Brazil. Explaining this complex connection is Shon Hiatt, a professor at the USC Marshall School of Business.

“In order not to leave Europeans in the dark, we will have to go back to oil-based energy sources, which will put even more pressure on demand and make barrels more expensive.”

Europe has rushed to try to embrace the idea of a free market for oil and carbon-based assets, leading the region to have up to 30% of its energy coming from wind and sun.

Last fall and winter, however, as these volatile sources dwindled, they had to turn to gas more, which pushed up prices, especially as Europeans closed all their coal plants.

“They were really at the mercy of liquefied natural gas imported from the US, or gas from Russia, which has been rising in value for four months,” he says.

As prices are high, countries will, little by little, return to investing in oil drilling. “Petrobras itself, for example, has increased its production in the last two years, and I expect this to continue in the pre-salt fields,” he says.

Hiatt is one of the most important voices in the industry and brings with him research experience in entrepreneurship, ESG strategy and sustainable energy innovation in national and international contexts. Among his study fronts, he has already dedicated himself to investigating the use of biomass in Brazil, in the cerrado region.

Next Tuesday, February 22, he conducts the free online masterclass “What is the future of global energy?”, within the IBEAR MBA program at USC.

Before, he spoke exclusively to NeoFeed - in a conversation in Portuguese, a language he learned after living in Portugal - about expectations for the energy issue in Europe, Petrobras, the need for energy independence and China's role in it all.

The full interview follows below:

With the tension between Russia and Ukraine, has the debate over energy taken on another dimension?

Energy is even playing a bigger role right now. Europe was quick to try to embrace the idea of a free market for oil and carbon-based assets. The problem is that the plan backfired, because their investments led the region to have up to 30% of its energy coming from the wind or the sun, both volatile sources. That is, if the wind stops blowing or if the clouds cover the sun, there is no energy. That, by the way, happened during the last autumn and winter, which caused the price of gas to rise, especially since the Europeans closed all their coal plants, so they had nowhere to run. They were really at the mercy of liquefied natural gas
imported from the US, or gas from Russia, which for four months has been rising in gas prices.

**Did the United States benefit from this?**
The liquefied natural gas market has become more competitive. In fact, in the last month, the United States has offered more gas to Europe than it has bought from Russia.

**But Joe Biden’s administration doesn’t intend to put sanctions on Russia’s energy industry, does it?**
Gas and oil are still available to the market, but the big question here is: if the other sanctions studied by the West are put into practice, could Russia use the gas it sends to Europe as retaliation to break this type of, let’s say, alliance? And if that happens, and Russia turns off the faucet more and more, what would be the next step? Because there is not enough liquefied natural gas on ships to be sent to Europe to guarantee supplies.

**Will it be necessary to resort to more oil products?**
Yes, everything comes from oil, which will automatically increase world demand for the product – and just to make sure the lights stay on in Europe. That's why we see the price of oil advancing, not because the supply chain will be impacted, but because demand will escalate. Due to a potential gas cut, Europe will need more oil “by-products” to keep its energy going.

**Could this unprecedented demand give certain countries an advantage?**
What will happen is, now that prices are high, countries will, little by little, return to invest in (oil) drilling, especially in pro-oil countries. Petrobras itself, for example, has increased its production in the last two years, and I expect this to continue in the pre-salt fields. As they (Petrobras) continue at full steam, Brazil will benefit. We also have Guyana, in the north of the South American continent, with a partnership with Exxon Mobil, which found more than 10 billion barrels of oil that are much cheaper to explore than the pre-salt, which are in the depths. The expectation is that everything will be aligned by the end of the year, and extraction will reach 100,000 barrels per day.

**But will it be enough?**
Current demand is estimated at 101 million barrels a day – that’s how much the world consumes today. According to a recent survey, the supply is 98.5 million barrels per day, which means that we are experiencing a deficit.

**How far can prices go up?**
Demand outstripped supply throughout 2021, consuming much of the inventory. Now that we don’t have “fat” in stock, because we are already talking about 30% or 40% of the reserve in most countries, we will see oil prices hit new records. I think that, even without the crisis in Ukraine, we will hit US$ 100 a barrel. I mean, that was predictable. Last year I had already set this mark, and the political mess didn't even count. This means that if the conflict continues, prices could reach $105, $110 a barrel. And of course this is reflected in the refined products we put in our cars.

**President Joe Biden is trying to find a way to keep the energy going in Europe, but can the United States do it alone?**
The United States will increase its oil production, but it will only do so in private areas, because since Biden came to the White House, no new leases have been made in public areas. The president has placed a moratorium on these new leases, noting that most production in New Mexico is on federal land. The entire Gulf of Mexico is federal waters. Not to mention Wyoming and Utah. The US will increase its production, but the pace of growth will be much slower, because since January 2021, there have been no new leases. Environmental reports are very negative about oil, which makes investors hesitant, because at any moment everything can change.

Is fracking (hydraulic fracturing) inevitable? Environmentalists are opposed to this, but given the high demand for energy, is it necessary to make exceptions?
I know well the arguments on both sides of this argument. The strongest argument against fracking started back in Pennsylvania, where the protective tube used to extract the methane had some cracks, and the gas leaked out, contaminating local water. That said, yes, the first fracking had this infrastructure failure, and didn't notice the cracks in the protective tubes that wrapped around the pipes. This greatly impacted fracking's reputation, but it's now 15 years of learning.

But there is resistance to alternative energy that involves carbon.
We are not in a position to completely ignore these possibilities, are we? That's why Europe is in the process of considering natural gas and nuclear energy as clean sources, because you need a constant source to turn to when the wind and sun let you down.

You studied biomass projects in Brazil. Could it be an answer?
Brazil is a leader in biomass, and even became energy independent in the 1980s because of ethanol. I mean, that was the goal, right? You wanted energy independence. For many countries, biomass has worked super well, but I don't think it's the answer to the immediate thirst for 100 million barrels of oil a day.

What other alternatives might be relevant?
I am quite optimistic about hydroelectric dams, and Brazil has worked hard for its own. This worked wonderfully well until the droughts came. Geothermal energy is also another possibility. Iceland, by the way, is 100% powered by geothermal plants, that is, 100% renewable energy. The problem is that it is a very expensive energy. A plant can cost between US$ 80 million and US$ 100 million, and this amount is high because of the drilling. It costs $15 million for each drilling attempt. One of the advantages is that they operate 24 hours a day. I also look kindly on small modular nuclear reactors limited to 30 megawatts. One of these modules would fit in a conventional container. Then just line up 7 or 8 of these and you could guarantee energy for half a state. Idaho is doing a similar test.

The advantage of these small modular reactors is the lower risk?
In place of a huge, gigawatt reactor, which could generate a real environmental catastrophe in the event of a failure, these small reactors pose virtually no risk. Basically, the idea is to split the risk between the modules. And we can put them anywhere, because people don't want to be around them.

Is the secret to diversify energy sources?
It is the key, the best solution. You can have a part of your network supplied by wind and solar energy, but you can also turn to more reliable sources, in a mix of hydroelectric, nuclear, geothermal or natural gas. Some places in Africa, however, will not be so lucky, because there is no investment; there is no capital to inject into renewable energy plants, which are much more expensive than coal mines.

**What do you think of bitcoins and cryptocurrencies that consume so much energy in mining?**
I was recently in contact with an American bitcoin ore company, because that company is reviewing its strategies and wants to have a completely renewable energy source to fuel its operation. One of their bitcoin farms is, like, drawing power from Niagara Falls, while the other is powered by wind farms in Texas. Now they are looking for alternatives, but it takes 50 megawatts of power at the very least. That's a lot of energy, it's the equivalent of 9,500 American homes a day.

**It seems to be an issue that no one is paying much attention to.**
The breakeven point for these bitcoin miners is very low. It is very difficult for them to get cheap energy. I mean, they're looking for something like three cents, three and a half cents a kilowatt-hour. And just to give you an idea, here in Los Angeles, we pay, on average, 20 cents per kilowatt-hour. So for them to get three and a half cents, they have to find an old hydroelectric plant or wind farms that have big subsidies. So, in other words, these wind farms are basically running at no cost, because the federal government is paying them to operate and they're producing electrons that nobody wants to buy. So that's essentially how they can get into a game.

**What is China's role in this energy context?**
They're building a coal plant every 10 days on average and I don't see them changing that. In fact, Secretary-General Xi Jinping said the goal is to continue building coal plants until 2030. They are also building nuclear plants and other power plants. What I'm most concerned about, though, is not the issue of climate change and carbon emissions, but the fact that they control 80% of all the material needed for this low carbon economy. All the processing of materials needed for batteries and electric cars, for wind farm generators, for solar panels... 90% of all processing is done in China. And they still have control of 60% of all rare metals on Earth. So, even though Chile is a big producer of lithium, the metal is mined in Chile, but it is sent to China to be processed.

**The same happens in Brazil, no?**
Yes, with graphene and nickel. Graphene is in high demand in this new economy. It is obtained in Brazil and sent to China to be processed. China has a monopoly in this regard.

**Is this discussion about Russia and Ukraine, then, a distraction?**
No, I think it's a shake up for people to go back to their roots. Remember the 1973 Arab oil embargo that affected the entire world. It was after that that Brazil decided to become independent, energetically speaking. At the same time, the US decided that they needed to do something drastically different as well, and so began investing in smaller, more efficient cars. So energy independence became a focal point from there, but I think at some point we forgot the importance of geopolitics, right? The problem is, the virus happened and the train derailed, and people understood what happened to Europe, which shifted its focus from
energy independence in this crusade to being a green economy. I think that's the problem and, I hope, that what we went through was a real shake-up for Europe to be independent again.

**How do you evaluate the Brazilian performance in the energy issue?**
I was hoping that Bolsonaro would reverse Lula's decision to expropriate the pre-salt, opening the door to international drilling, because it could be advantageous. The advantage of having international companies doing this work is that they bring their own capital, right? It is an FDI (Foreign Direct Investment, or “Foreign Direct Investment”, in Portuguese). This means that more money goes to development, while the government keeps a share, due to royalties from all the energy coming from that land. Maybe things will change in Brazil. Petrobras has a bad reputation with matters related to corruption, and I haven't seen any progress in terms of the company's governance.

**Wouldn't the question of independence be compromised if the resources for exploration are foreign?**
I think the question here is: does Petrobras have the capital to continue developing and exploring? If the answer is no, then you need to bring in foreign companies whose shareholders are willing to put in more money in order to exploit the resources of the ground. This is basically the idea of privatization, right? We want to privatize, because we believe that by bringing in new capital, taxpayers will no longer be stuck with it. And we hope that, based on a market economy, private companies will provide a better and more efficient service.

**With the tension between Russia and Ukraine, energy becomes a central point of discussion in trade treaties?**
We are at a turning point where energy was not a central point, but now it is. This is the schism we are now seeing with Germany. The Germans are so dependent on Russian gas and the Russians know it. So much so that they can use Germany to break the alliance of any kind of major sanctions. They can do what they want, because if they have Germany in their hands because of the gas.

**And that gives other nations a certain power, as in the case of the Emirates, for example.**
There is no incentive for the values practiced by OPEC to fall. The break-even point for Saudi Arabia is $85 a barrel – that's what they currently need to move the government machine. In other words, prices need to be high. But, look, in terms of Latin American oil production, I'll just say that Brazil is the only positive country, next to Guyana. All other countries have reduced their production in the last three or four years.

**Why?**
Lack of money. They are all state-owned companies, and they don't have the money to reinvest in the business, right? If you take all the company's profit and put it into government programs, then you're not going to have the money for new drilling and new wells.