

# Thierry Bros episode 49

Wed, 12/15 8:29PM 53:32

## SUMMARY KEYWORDS

gas, prices, nord, energy, eu, market, russia, report, question, investment, subsidies, ukraine, european commission, hydrogen, transition, people, years, stream, russian, system

## SPEAKERS

Thierry Bros, Michael LaBelle

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Michael LaBelle 00:00

Building the EU's gas transition with Russia interview with Terry Bros. Episode 49. Welcome to the My energy 2050 podcast where we speak to the people building a clean energy system by 2050. This week we speak with Terry Bros. is a professor at Sciences Po in Paris. In the introduction, I use the term eminent expert on gas. And after listening to this interview, you will be using this term to on the podcast. I tried to keep the introduction short but pay attention to his experience on the EU Russian gas roundtable or his lead with liberalization the French gas market. I'm really honored for him to come onto the podcast to discuss his latest study done with John Arnold vidwan. It's published by the Jacques Delors Energy Center, and it's titled high energy prices. Russia fights back in my opinion, this is one of the best reports on the current crisis in the gas market. It is direct, clear and full of advice and information. Terry provides us a sink path for how the European Commission and national governments need to navigate the current crisis. And overall energy transition is very clear in stating We can't jump from 2020 to 2050. In his view, the Commission forgot this in this episode rebalanced his perspective between the market deciding on the technologies to get us to net zero, and government subsidizing our way through a green transition that is making energy affordable to households. But smoothing the volatility that is caused by phasing out fossil fuels and the natural rhythm of commodity markets. Actually, to be quite frank, in the introduction here, Terry's quite bullish on the use of gas over long term. So pay attention to that and the role that CCS can play. But overall, I think he's right on the fact that there's 30 billion euros coming from the US emissions trading system ETS. And this money should be used, as he says to assist households with the transition, and put r&d for new technologies right at the center. So don't give the money to large corporations to fund essentially incremental improvements on existing technologies. But for him, he's very keen to have the market work and to push out with, of course, government assistance, new technologies to fuel and to make sure that the energy transition happens. Towards the end. We get to Russia EU gas Relations here at Terry's perspective is very clear to the EU Commission needs to step up and engage with Russia over Nord Stream. And and this is really important, the medium and probably he would say the long term role of gas in the EU. He cites the disparaging Treatment The EU has given towards Russia on the role of gas and the green transition. As EU suppliers dry up like the Dutch and Norwegian fields, Russian gas is increasing its share in the EU This is outlined in the report, it's very clear, a long term strategy needs to be developed to ensure sufficient investment occurs to weather the transition phase

Proterra. He believes in long term viability of carbon capture and says question, I say storage because such such question. I just can't say that. Anyways, CCS is the key for him. And I really liked the water analogy he provides. So listen for that, okay. It really just opened up my eyes about why carbon and continuing to use gas, for example, could actually be a possibility. I know this is totally controversial. However, listen, for me, it was a revelation that that maybe there is a role of gas over the long term. And I would actually have to say, let's be honest, in some countries, the role of gas and even coal over the long term is definitely on the agenda. So let's not close our minds too much about the role that CCS can play garlis of your view on CCS and gas over the long term, the current, there is definitely a current under investment. And this is leading to high prices just like now. And this is what I discussed in an earlier episode with Adams Nevsky the chief economist that became Orleans. That's an episode 44. It's clear that jumping to a 2050 energy mix without a deliberate strategy over infrastructure, and importantly, as its outlined in the gas report here is that how your relations are with your current gas suppliers is actually very important. And this is why there's a great emphasis on ensuring a phase transition is done that has specific milestones. And there's awareness on this partnership of the role that investments are necessary even for the medium term in infrastructure, and this should help smooth out the volatility in the cast price. My suggestion now is to listen to this episode and read the gas report. You'll learn a lot about the causes and even some solutions to the current gas prices. Finally, there's an incredible amount of information in these podcasts episodes I just listened to this interview over again took lots of notes. And just so you know, I do make the transcripts available on the My energy 2050 website. They're not the best they're automatically done, but still really useful for your research. I use it for my own research. And so I do suggest to check out the transcripts. And even you could cite an episode in one of your publications if that's your thing. Finally, for comments on this on the episodes, I suggest to jump in on the LinkedIn or Twitter posts for each episode and leave your comments there. Social media is great way to share the knowledge and grow the quantity of high quality information such as this episode we definitely delivered today, it's all about how to make the energy transition of reality, because the intent of the my energy 2050 podcast is to spread the knowledge about how the energy system can assist our transition towards a greener future.

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Michael LaBelle 05:54

And now for this week's episode. Today, I'm joined by Professor Terry bros, a professor at Sciences Po Paris, and an extremely eminent expert on gas. That description cuts it short. So my apologies. But Terry, welcome to my energy 2050 podcast.

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Thierry Bros 06:14

Thank you, Michael.

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Michael LaBelle 06:15

Usually the first question I asked people, and I think it's definitely in your case with with your background, and also a lot of your research and your publications. I see a lot of emphasis on gas and security. But maybe you could describe a bit more how and why you became interested in the energy sector. With I

T Thierry Bros 06:35

became interested in the energy sector, I started my career in the energy sector in research, and then I had the honor to be in charge of security of supply for the French state. So I was overlooking the oil and gas regulation. I also was in charge of the liberalization of the gas sector in France when I was in seventh there. So this is why I became very focused on the gas sector.

M Michael LaBelle 07:03

And how have you built built that interest up? You got a PhD? Did you get a PhD before you started working for the French state, or afterwards.

T Thierry Bros 07:14

In fact, I did get it nearly at the same time. As I said, I started by teaching a bit more in refining and chemistry at the beginning. As I said, I moved to the civil service for the Ministry of Economics. And then after a few years, I, I had the opportunity to move for to work for bank, which I where I was in charge of the equity gas stocks. And then I moved into staffing and heading the desk on research for commodities. And here I was in charge of European gas and liquefied natural gas.

M Michael LaBelle 07:56

Okay, wow. So you really have a broad experience, both on the financial side of things. And I would say in the more business side of things for the gas sector.

T Thierry Bros 08:05

Absolutely. I know both system and I know the fully regulated and the fully liberated system. Yes.

M Michael LaBelle 08:12

And actually that that helps, because I think we'll get into some market concepts today with regulation and kind of free market gas markets. And one of the reasons I wanted to have you on was to talk about the recent publication you did with John Arnold vanilla. From Jacques Delors Energy Center, titled energy prices, Russia fights back. And I really liked this report. It has a lot of information and a lot of data and charts. But it's actually the language that it's written in is very clear, and very concise, a lot of bullet points, but it really gets to the current issues. And maybe we can talk about that for a few minutes. But first, before we begin to that maybe you could describe why was the study needed.

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Thierry Bros 09:02

When I mean, John and myself we used, we are very good friends, first of all, and we used to sit at the European table on two sides of the table. He was a representative of the European Commission, I was their representative of the French government. And during those talks, we looked at a few directive, but we also designed the gas group into into our job security of supply. So we were perhaps I would say the best person to write this report, if I may say so at this time during this crisis, and I think it was also needed this report because during a crisis, you have always the very simple solution that never works. And so we wanted also to remind policymakers, that where we are here is a lengthy process and you shouldn't just destroy everything because prices are too high. So you have to look more in depth to try to find a solution.

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Michael LaBelle 10:06

And this is what the study outlines. And so I'm a bit surprised by your last part of the answer there actually, is that the high prices? And in one sense, could you describe why we shouldn't be surprised or what we should do with the high prices?

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Thierry Bros 10:24

Well, I mean, I think one of the first bullet point of the report is about retaliation acts, and one of the, and the first one is market fights back, we wanted to move from the long term on index contract to a more market oriented pricing, which by the way, if you look at the long term, if you look at the difference between oil index prices and spot prices, you can see that consumers benefited from this. And then yes, this year is a year where we have extreme high prices. And then a policymakers are just focused on this year, and saying, well, it doesn't work to invest, scrap everything and move to something new, whatever new means for policymakers, which is sometimes something old, with, let's say, fully regulated price or thing, I guess, why do we emphasis on the market is working because in the energy transition, and this is perhaps where we have something that is different than policymakers, what we are saying is the energy transition is not going to be bloody difficult, as Commissioner Timmermans is saying, but it's going to be difficult, because prices are going to go up. Because if you want efficiencies to kick in, if she wants demand reduction, you have to give a price signal, which means that we are going to see higher prices. And when we are seeing higher prices, then you see policymakers are worried about their next re election and trying to fix this with some subsidies.

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Michael LaBelle 12:00

For example, in Hungary, where they kept the price of gasoline actually, so not not even if they already kept the gas and the electricity prices. So when the gasoline went up, then they also put a cap on that. So and that's that's one response. And, for example, in Italy, I don't know how much you know about the Italian market. But there's a lot of subsidies now going into the energy sector. And you're saying this is wrong, these types of subsidies to try to keep prices low or no way.

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Thierry Bros 12:31

I'm not saying this is wrong. We are saying I mean, a policy should be designed ahead, not reacting, we should have been aware that high prices were going to kick in. I mean, one of the things that I'm saying quite often to students is commodities boom and bust cycle, we've exacerbated this boom and bust cycles this time by the Green Deal, but we should have been aware of this. And so all those kind of subsidies was the way you're using, and you're trying to make sure that the fuel poverty doesn't exponentially growing up in our society is important. And you should have designed this ahead. Again, we have an EU ETS that's bringing 30 billion euros per year plus to EU member states. So there is money available. I mean, the question is, you don't just see when prices are above 100 euro per megawatt hour. Oh, do I have to find a solution? This could have been foreseen.

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Michael LaBelle 13:31

Yeah. Oh, I really liked that. And it's clearly articulated you. It's great. And but then what does this call for for this energy transition? Because as you outline its boom and bust, especially the the energy sector or commodities? And should then the energy transition be much more regulated? And directed, I would say by the state, but but we can put the EU in that form, too. It'd be much more top down directed transition?

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Thierry Bros 14:01

Well, I mean, no, we believe in markets is what we are saying at the first bullet point, I think, where we made the mistake where the EU made a mistake, and I think some Eastern countries are fully in line with what I'm going to say is that we wanted to skip from 2020 to 2050, without even thinking of the next steps. And this is not again, as I was saying, as this is a very difficult path. I mean, you can't just skip 30 years and say well, we are going to have a green hydrogen economy and everything is fine. No, we will need huge investment. We will need huge education of our population to try to understand what this means higher prices. This means that the there may be some demand adaptation. I mean, are we going to be able to all use electricity As we are using now on demand, or are we going to have to take more intermittency because there is more and more renewable in the system? Those are really important question. And what we are saying in this article is where this been two years, the new EU Commission is there is perhaps the EU Commission has been a bit too dogmatic thinking about dinitrogen. And thinking that solution is there. And again, I'm not a big fan and a big believer of green hydrogen myself. But at the end of the day, what we need is massive amount of investment in renewable. And this is absolutely needed. And this is going to be done by the market, even if we can foster it by subsidies or whatever. But we cannot just say on the other side, like the EU, or like, the IEA, that gas and oil are passe. And we shouldn't invest into those because if you do this, then you're creating, you're exacerbating the boom and bust cycle, as we are seeing right now. So what we are saying is, when the EU Commission started two years ago to label natural gas, fossil gas to claim that this was more a problem than a solution, it was a political mistake, because at the end of the day, we are consuming today more energy than we were prior to the crisis. And if anything, detritus is showing us we like it or not that gas is needed in this energy transition, which is the second bullet point of our study. I mean, if we are looking at the outcome of this crisis, and if we are just making a very simple analysis of 2021 versus 2019, ie two years of O'Sullivan de Lyon versus the end of Janka, we are seeing that we are paying much more energy, and we are unfortunately polluting more. So I mean, natural gas is needed

right now in the system, then the question is, is going to be needed in 2013 2014 2015. What we are looking at is really a short term problem. And we are saying let's continue to have gas, let's continue to have gas, displacing coal and not the other rebound, as we are seeing right now in Europe.

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Michael LaBelle 17:21

And then But then this gets to I'll go back to your first part of the year. Your answer, I think with yeah, we're just jumping to 2050. But then the the gas producers themselves need to have some certainty about investments. Right. So some of the one of the ideas now is not there is not and actually the numbers back it up at least an oil, that there's not enough investment going into the sector as historically. And now the will just say the market players themselves are being very cautious about new investments or even revitalizing the system itself. How how can some certainty be given to those gas producers and those operators operating the network itself over the role of gas up to maybe 2050? Or even beyond?

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Thierry Bros 18:12

When I think here we have two issues. One is the global system and the other one is our own system. Let me start with our own system. i Oh, I our own companies. The production in in the EU. And what we've seen in the study is that the EU is now in 2021 90%, dependent on the foreign gas suppliers. And why is it because the Dutch decided to close Groningen? Because we've decided to reduce the investment in what is the eu no see. I mean, we can also say that closer to us, the UK or Norway are not going to increase their own production, which means that we are giving a higher market share and therefore higher market power to companies that are coming from state to countries. And this is the case in gas with Gazprom or the case involved with OPEC plus. So that I think is is the first issue. So then there is a question of Yes, perhaps it's worth producing our own stuff, because our own stuff is firstly produced closer. So it's more regulated, it's cleaner. And again, it provides diversification of supply and so therefore increase security of supply. And then there is the question, as you stated for the global world well in the global world, and this is what we are saying in this report. I mean, we should be technology neutral. I mean, yes, maybe we can speak about green hydrogen, but just stop talking about fossil gas will be something that helps the system and I think interestingly enough, if you do look at the first leaks of What's going to come on the 14th of December, in terms of low carbon gas and hydrogen, the fossil gas terms has been raised. So I think this is where the commission made the mistake thinking, well, it's fossil, so it's bad. And so therefore it needs to be raised. And now, no, it's fossil, we say we said it in our report, it's emitting co2, it's emitting half the co2 of a coal. And again, if we want to retire the coal plants in Germany, in Poland, then we will need more gas. And I think, perhaps the best way to look at it, it was our UK friends have done, they've done except for 2021, let's say, but they've done since 2016, what I call a coal to gas renewable switch. And this switch has been smooth. And this switch has allowed the UK to be best in class best in class, when we look at the EU ETS of the EU 28 From the beginning to 2020 when the UK left us.

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Michael LaBelle 21:04

So actually the UK is should as it has in the past, like deregulation and open markets competition is actually leading the way even in the transition towards renewable energy.

**T** Thierry Bros 21:17

Absolutely, absolutely. And again, I mean, the as you as you rightly said, the innovation will come from different parts of the world, I have to say that I'm always deeply shocked when I read the hydrogen strategy from the European Commission published in January 2020. Where the math is wrong. So I mean, innovation will come when the math are right. And maths can be done not only by some civil servants, but it can be done by startups attend thrive and take market share in different ways. For one element, which we are saying in the report. I mean, what why don't I believe in hydrogen, because hydrogen needs to technological bricks, if I can say so. One is the hydrogen economy, that the other one for the gas industry, and sometimes the gas industry is pushing the hydrogen, they need the carbon capture and sequestration, well, perhaps having just the carbon capture and sequestration, ie being able online time to produce gas. And on the other side to capture and predispose you to back in the field could be an interesting business model going forward. Which by the way, is the business model of the water industry, which said you clean water, but also sends you the process of treating back the water and putting it back into nature?

**M** Michael LaBelle 22:43

Oh, I've never heard that analogy before. It's very good, actually. So yeah, we make you clean water. And we also treat Well, yeah, I won't say the word. And then then we send it back in. But so the fossil fuel industry could also do this with CCS.

**T** Thierry Bros 22:59

Absolutely. And today at 90 euro per ton, this is a unique opportunity. So again, we may be in a world in 2050, where we still use gas. And on the other side, the same company that provides you the gas will treat it and we'll make sure that the co2 is captured and sequestered, somewhere else, but again, in a place that has been regulated and monitored versus

**M** Michael LaBelle 23:26

Terry, okay, let, I'm going to try to frame it here. Because I'm interested in a you are pro market, and I'm going to stutter my way through here, but you are pro market, I see and that the market should choose the technology. And at one, on one hand, we should have foreseen, for example, the gas crisis or this high price, we'll just say in fossil fuels. But then that would entail some government intervention to it attempt to smooth out those high prices. So how can we how can we and and I'm glad I don't have to answer this. So I'm asking you, How can we balance this where we need to make sure the market chooses and helps, let's say bring out new innovative technologies, new innovative, I would say even resources that the market decides these things, but at the same time, we have this government intervention that helps modulate the market as well. How can this be done in I'll just throw the term the Green Deal, or how can this be done in the EU? Through? Yeah, this this tension that's always there between the market forces and regulation?



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Thierry Bros 24:47

Yes, but perhaps, as I told you, I was in charge of liberalisation, the gas sector in France. And if I go back to 2002, there was something that I would say were the dogma there, which because we would never be searched it, we assumed it was right. And the idea was, fuel poverty will be arranged by 2020. Because prices will go down. And again, if you look at what the UK had produced in those years, this was exactly the mood and nobody questioned it. And I have to say that myself, I didn't question it. And my political master didn't question it. So we started the liberalization process in 2002. Assuming that in 2020, fuel poverty will be something of the past, it didn't happen this way. So I think with those 20 years of mistakes behind us, we should be in a position to understand this. And again, we should have been in a position to forecast this. Again, as I stated, I mean, the EU ETS is bringing 30 billion euro plus this year to a member states. So there is some money available, less money available can be used in subsidies, I'm not a huge fan of subsidies. First of all, again, if you think at the EU ETS is 90 euro per tonne, I think it's great, I think this is the best news we can get 90 euros per tonne is where carbon capture and sequestration could work. And if it doesn't, then it send it it never works. That's very simple. So we are in a place where innovation can come. And again, innovation might not come and may not come from the big companies. The it's who leads the electric cars, it's not the Volkswagen that if I if my memory serves me, right was found guilty of a diesel gate. So it's a Tesla. So this is where we need the young and bright brain to go in in those small areas. So I think, certainly this is not so much needed any longer. And I think it's a good thing, because we also stopped subsidizing the wind and the solar, I mean, I'm hearing every single day, wind and solar is profitable, Fine, let's stop all those subsidies, let's provide a full market for all this. And with those 30 billion then help the people that needs to, in a way that is pushing them to change their habits, that's the way forward and not come in every single day, Oh, fine, prices are too high, I have to find a solution. I mean, what we are saying in this report is also that a year ago, prices were so low that Gazprom was lost making, nobody cared. And again, if you've been in this industry, like myself, for many years, you know that the next cycle is coming. And there is a great book of a friend of mine, which is called crude volatility from Bob McNally. And Bob is always saying, Well, I don't know if it's going to go up or down. But I know it's going to be volatile. So if it reaches a bottom where you're not making any profit, the next cycle is going to be extreme high prices, where consumer would complain. So I think it's here that we have and not to look at a toolbox that is desperately the same since the last 20 years and again, into poverty that failed.

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Michael LaBelle 28:17

And then I want to build out to two points there. One is the fuel poverty, which is a maybe I'll frame it as energy efficiency, or the necessary investment that's that's needed in energy efficiency, and also Russia. But let's stay with the energy efficiency, because this is also in the report. And from from your background as well is what can greater investment to energy efficiency do to help alleviate this boom and bust or up and down of the energy market?

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Thierry Bros 28:48

Yes, I mean, energy efficiency is something that is viewed again, a bit as a dogma. But again, where is the energy efficiency coming in? How are we making this? I mean, if you go back to how the primary energy consumption has been in Europe, since 1995, you'll find out that it's



only a brief period 2006 to 2014, where we managed to be energy efficient, ie to use less primary energy consumption, versus growing our GDP. And this is again, thanks to LED lighting. So energy efficiency may not come as people always thinking for insulating buildings, and I'm always hearing this but again, if you're looking at the outcome of this building insulation, it has been a failure. We didn't manage to do it. And once we've managed to do it, I mean, people wants to live in bigger houses. So I think taking again on the policy on board on policy, when the commission is taking a board, that what we what we were using back in 2000, that failed is not a guarantee of success. For me, it's more a guarantee or failure by the way. So anyway, inefficiency is extremely difficult. We need to find ways and again, we need to be honest with ourselves. I have to say that I'm always fighting fake reports. I mean, like the instock 2050 report that said, tells you that to balance the market, they've reduced mobility of EU. of EU citizens. I mean, this doesn't work this way. I mean, it could work as long as it went through a democratic process, then the question is, are we allowed to fly or not? I'm, I'm fine with this. But I'm absolutely not fine. With some non unelected advisors are telling us what to do. And by the way, they are telling us and going, and they are going from conferences to conferences, on business, passports, planes?

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Michael LaBelle 30:48

Yes, yes. Yes, I'm in I'm in. Yeah, I totally agree. Because this is what the Okay, since I live in Eastern Europe, but I think it's the same thing, especially in France. And for lower income households, it's really a struggle. And the projection is that the the fit for 55 packages, say that the energy price should increase. And so people have to actually pay more for heating, or for their just electricity, and how are they going to afford that, especially if they're living in energy inefficient homes, but I totally agree the energy efficiency and investments into the homes has been a failure, it's just not it? Well, some countries who could say are better than others. But still, it's not widespread, and people still rely on their cars. So so maybe going forward, then in the next, let's just say 20 years, is the solution more a technology solution of greater r&d and deployment of technologies rather than new windows and insulation on homes to save the overall energy to reduce the overall energy demand?

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Thierry Bros 31:58

Yes, I mean, it, I believe, way more in technology. And this is where I think subsidies should go subsidy should only go to new technologies, nothing to do with markets. I mean, subsidies can help or science improve. Sometimes it works. Sometimes it doesn't. I, when I was a chemist, my professor was piatek Dogen. So he did get a Nobel Prize for superconductivity. It does work in the labs a bit, it doesn't work in reality, but at least we've improved our knowledge. So this is where public money should go not to build electrolyzers for a company in, in Europe, where this company can then sell and make profit out of it. That's, I think, not fair,

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Michael LaBelle 32:47

pro technology. And probably, I would say, push some push regulate some regulations to get the new technology into the market. Is that right? Absolutely. Yes. And then maybe we can switch to to Russia. And I was struck. Usually, in these policy documents, things are a bit more

neutral. But I really saw this big push against Russia. And maybe you can correct my perception on that is, why do you perceive in my reading of it, Russia is so aggressive in we'll just saying the gas market here,

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Thierry Bros 33:19

where I think what we are saying is not I wouldn't use the word aggressive, but I think there is no more goodwill. And I think we've killed the goodwill of Russia. I mean, I'm not dealing with the Ukraine or the fighting, that's not my area of competence. My area of competence is energy. And again, I think that with relabeling gas, fossil gas with having this cop 26, and all those elements are showing that gas is not needed. We've just made them antagonize them, we pushed them in the corner. And I don't think it's very good to push in a corner somebody that provides you 40% of your gas supply, that the first element. And you can see in this report, the Russian have been very blunt and very transparent, saying, Well, you didn't like us for the last so many decades, and we are producing more and more gas for yourself. So at the end of the day, we are producing, as we said Russian but also we are sending it at the price that you decided, which is the spot price. And so we've made the market, they've made the investment. And normally and this is back to those early years there should have been an interdependency. So we provide you the Euros, you provide the gas. We don't like you so much, but at the end of the day, we We trade. And this is what traders are doing. This is exactly what the what the trading organization is all about. But again, you can't do this. If days in days out, you're chained to the other party, your hopper person, because the horrible person start to be pissed if I can say so about this attitude. And so, yes, we've made the knife more difficult with no trip to and this was our right to do so. And we've overseen a Ukrainian transit contract. And in this Ukrainian transit contract, they are transmitting less gas in 2021 versus 2020. So you, we should have been aware that they were going to be a bit of an issue there. And, and nobody seems to be interested about this at the level. And they, I think, if you understand this, and now you on the other side of the table, they paid it's not when you don't need gas, we you're telling us, it doesn't really matter to you. Last year, they provided gas at extremely low prices, and this wasn't profitable for them. So yes, we'll provide you what you've asked in the contract. And then we will see how things worked. And I think it's it again, I would use the word no more goodwill. And, and I think what we are saying also in this report is the Russians and I've been a member of the EU Russia gas Advisory Council, the Russia, the Russians need to be if they like to be taken care of at the table. So they want to be in the discussion process. We cannot tell them where you're out of the discussion, because you're Russian and we don't like you, this doesn't exist where it even if you're traded, you need to trade even if it's on a screen, you really need to trade with the other party with the counterparty. This is what everybody knows in business. And as you've seen, once the economy was picking up in June, July, August. I mean, you've seen President Biden asking for more oil for OPEC, but we haven't heard anything from the Commission. And I think this is also where the Russian wanted to strike a point. I mean, the Commission seems to think that they are irrelevant to the system, where if we, if I'm relevant to the system, let's see how the system works. If I'm not there, and the outcome is very obvious, the system doesn't work. So I mean, you can't you cannot say, on a political level, the Russians are irrelevant. And so therefore, you need to engage at a high level political at a higher political level with Russia to try to find a solution and and hear what we were saying in the report, I think is even more important. And

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Thierry Bros 38:14

in the news today, I mean, you've seen that the Russian government after report, a thinking of allowing russia to use a Nord Stream to to push gas in Europe, and this could be done for many reason, it could be that because then this will make Nord Stream two more compliant. It could be done because it allowed to spread the investment between Gazprom and Rosneft, it could be done because it creates a little bit of competition between two Russian companies. I don't know. But I think and this is what we were alluding, not stating, because this wasn't the news at the time. This is a perfect moment from for the European Commission to pick the ball. I mean, the European Commission has dreamt of this idea for the last 10 years. So this is the exact moment where O'Sullivan Dunnigan should pick the ball, pick a phone, and so in the Russian government, and try to find a high level political meeting with Vladimir Putin, Biden did, by the way, last week, but to try to look at all this Nord Stream to russia and the gas deliveries into Europe, which were at record low in November, which is creating a problem to the European and exacerbating back this prices. So I think we were saying Russia fight back in in our report, but we were also saying As a conclusion, it needs to be a high level political meeting between the two leaders and I think the news flow of the last couple of days is exactly where we wanted this to, to come and now it's the European Commission opportunity. We will see if they pick it up or not.

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Michael LaBelle 40:00

Just to clarify, then the rosneath is being proposed as a second supplier into Nord Stream to

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Thierry Bros 40:07

the rosneath, as asked the government as it has, for many, many years, and the Russian government has publicly stated, they are looking into russia request, which is a very, very new way, because you're going to change the export monopoly, you're going to change the way you're collecting the export duty, etc, etc. So I think it's a unique opportunity for us Europeans, to reengage with Russia at the highest level. And to say, well, that's maybe a very good idea. That's, by the way, what we dreamed off and pushed for the last 10 years. So I mean, we cannot pass, just look at this opportunity, and not take the ball, pick the ball and pick up the phone and have a meeting in Moscow.

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Michael LaBelle 40:58

But do you think that it's a big problem, or a problem that that the EU has not? Or we could maybe, say, Germany, and we don't get into the whole approval process for Nord Stream two, but that Nord Stream two hasn't been approved by the as I understand the German regulator, and so it's not operating. But I mean, in a sense, this was agreed on that the Nord Stream two could be built. And then now, there's it's not being allowed to be used, as are the Russians upset about this,

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Thierry Bros 41:27

when I think the Russians are upset about this. But again, I think that by pushing prices a bit up as the the date intentionally or not intentionally, that's something else. They knew that Nord Stream two wasn't going to be fast tracked. I think I think where analysts are making a big

Stream two wasn't going to be fast tracked. I think I think where analysts are making a big mistake saying is they've done this for Nord Stream two, that that's that can't be the case. Because if you again at the other party, it's the other party is going to make your life more difficult. So I think the Nord Stream two was not something on the table. When the Russians decided to push less gas in Europe, I think it's something I'd say it's more the Green Deal and the corporate decision. But as you rightly said, I mean, now we are stuck, we are stuck in a way where we it's not certified, the new, the new German government is not in favor of it any longer. Until therefore, it can only be at a high political meeting. And it cannot, it can only be and this is what we are saying in this report. It cannot be the Germans. So it's also a good way for the European Union to say, well, now we pick the ball. Let's leave the Germans out of this. It is the European project. It is something that must be dealt with, not only Germany, but with Poland, with Ukraine and with Russia. And we need to find a global solution and the global solution. I mean, Russian is nearly the Russian government is nearly giving us the global solution. I mean, if you read the news, the idea is to allow russia to push 10 BCM per year of gas via Nord Stream to it can be exactly this, if you do the maths. Ukraine was 65 BCM transit last year 55 In reality, but 65 in contract 40 BCM. This year, and for the coming years. So we are 10 BCM. Short. So yes, it could be one way to say yes, we will start to use this type, just for russia, just for 10 BCM The rest will continue to Ukraine. And and you can do something like this, you can do something where you say it is the additional volume that goes through Nord Stream two, and not the base load volume that goes to Ukraine.

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Michael LaBelle 43:55

And yeah, reflecting on Ukraine in the role of Ukraine, as well. And maybe maybe we'll start to shift away from it is just how do you see Nord Stream two completely replacing the Ukrainian transit and the Ukrainian transit just ceasing or because this is even? I spoken with Margarita Balmaceda in the past, and she's a Russian expert on the gas and the flow of gas. And so Ukraine just even need this transit to keep the pressure up in the pipeline for domestic consumption. And do you do you see the Russian shifting more and more, even to an unsustainable level for the Ukrainian system to Nord Stream two?

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Thierry Bros 44:37

Well, that was the idea of the Russians from day one, to move away totally from Ukraine, thanks to South Stream and North Stream to it again, we know what the outcome could be. So we we have opportunity we can mitigate this outcome ahead. And it goes back to his gets more needed or less needed in the energy transition. And again, I was Wonder of the one when this contract in December 2019 was enacted to say, well, instead of this, we should have had a global contract for more volumes under a longer period with complete flexibility of the Russians to use it when they want. I was saying we could have 300 BCM, over 10 years, which means 30 BCM minimum per year, which is a sustainable level of the Ukrainian or 60, BCM. For the for the fighters. And and you and you have what you need. So I think we need to revise this contract for longer Ukraine, as you said, that needs those volumes, that Ukraine also, and let's not be very, I mean, we have to be also honest, visibly ourselves, Ukraine need the money, Ukraine in the money, and and this is what makes the Ukrainian economy sustainable. So Ukraine needs those \$1.3 billion per year. And let's be very honest, we want Gazprom to pay for this money because we Europeans can pay for this. So I mean, real politic is also looking at what's really not what we are dreaming of, or of fairy tales. And so once you're looking at the real protects, then you can find a solution.

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Michael LaBelle 46:23

So you'll be more supportive of returning or slightly supportive returned to long term contracts, or?

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Thierry Bros 46:33

Well, I think we will have, I think I mean, what Vladimir Putin asking the long term contract is exactly what the energy minister in France asks for electricity contract. So yes, I mean, if you want to have a big project, something that is 1020 \$30 billion. CapEx you need somehow some security. And this goes back to your first question, what's provided security or long term contract? So yes, I mean, it's not going to be 30 years contract, but 20 years contract can help. And you could see a long term contract with the ceiling and the floor, you can see long term contract with less for activity, even if they are even if they are, on on on the spot pricing. So those are the elements. And And again, we need this if we, if we look at what the reality is going to be tomorrow, not what we are dreaming of.

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Michael LaBelle 47:38

And, Terry, my second last question. Second last question. And I think we can we can finish up is is and you refer to this beginning and about the impact on society is how do we bring society along in this energy transition?

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Thierry Bros 47:54

When I think in society, you have two parts of society, you have a very vocal minority. That is shouting, everyday. And you have said I suppose some of them in your course. And you have a huge majority that is extremely silent. And the huge majority that is extremely silent, believe what a small vocal minority is saying, because they are the only one being on stage. And and so therefore they do not question this I'm, I'm, I'm afraid to say that the energy literacy in engineering school is not very high. That's, that's, that's an element. And so therefore, we need to educate. And I think this is where also I'm teaching a lot, we need to educate people. I mean, at the end of the day, what the democratic regime will select is, I'm fine with it. But it needs to be through a democratic system, if it's what I'm saying to my students, if we want to reduce mobility, and we decide to stop low cost planes during weekends for you not to have weekends, in other parts of in Budapest or in idea, I'm fine with it. But it needs to go through a democratic process. And when you say this to students, they start to realize, well, that's then like to travel and then like to use energy and the energy demand is not going to go down. So I think we have a, we have a real work to do, which is educating our people and our policymakers. I mean, you can go to a cop 26 by a private jet to say people just don't use your SUV. But I mean, that's fine. But is this the only story we have to sell to the people?

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Michael LaBelle 49:53

One one last question is what kind of energy system and I'm really interested by your answer.

looking at energy system are we going to see in 2050?

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Thierry Bros 50:04

When I said I'm not a big fan of hydrogen, I believe much more in what I was alluding to you carbon capture and sequestration, I think that if we manage the technology, again, we've done some few things. We've done slightness in in Norway, we have some new project opening in in Australia. So if we are able to manage this technology, and to plug this co2 down in the ground, then we will do this virtuous cycle, which is to continue to use on gas and to be able to stack the co2 back in the ground. Again, when you when you see the advantages of oil and gas, you know what they are good at in terms of energy per volume, you know, where they are bad at, which is a security of supply, dependency, etc. But we've dealt with those issues for the last nearly century, if we move to completely renewable, people are dreaming of what they are good at. But they're also not understanding the drawbacks. I'll give you two. One of them is people are always telling me where the volatility in renewables in oil and gas volatility in prices increasing as it's increasing, because you're putting more renewables in the system. And it's more intermittent. So you're going to have a backup solution more and more at a time that you can't forecast. So that's the first element. The other element is all the rare earths issues. Are we going to be to find China being nice to us and providing us the system? Or Is China going at some stage to decide where guidance, you're going to have to pay much more or you're not going to get those? So I think we I, I am more in favor of step by step process, where by the way, policy leaders are liable of co2 being reduced each year. So my thing is, instead of thinking of netzero, in 2050, let's make sure that each year, the dot goes down. And as a policy leader, you should be liable for this. And if this happens, the European Commission is going to face a very, very tough early 2020. year because 2021 data are going to be up as we can all forecast. Visa v 2020. But let's not let's not look at 2020. But also visa v 2019. Which for me, is the fact that this commission has failed.

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Michael LaBelle 52:42

Wow, you're right. Right. And so our 2020 targets we're not even that. Exactly. Okay, Terry, thank you so much for giving us the time for this interview. Thank you.

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Thierry Bros 52:52

Thank you very much.

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Michael LaBelle 52:54

Thank you for joining us. For this episode, we produce the my energy 2050 podcast to learn about cutting edge research, and the people building our clean energy system. If you enjoyed this episode or any episode, please share it. The more we spread our message of the ease of an energy transition, the faster we can make it. You can follow us on LinkedIn where we are the most active on the My energy 2050 web page. We're on Twitter and Facebook. I'm your host Michael LaBelle. Thank you for listening to this week's episode.

