

**SM92 | 10.22.2022****Winter is Coming | Episode 8****Oystein Kalleklev, CEO at Flex LNG and Executive Chairman at Avance Gas**

**We welcome back into the SmarterMarkets™ studio Oystein Kalleklev, CEO at Flex LNG and Executive Chairman at Avance Gas. Oystein sits down with SmarterMarkets™ host David Greely to share his unique perspective on the European energy crisis and what it means for the LNG industry.**

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**Oystein Kalleklev** (00s):

Europe is rushing to LNG as the substitute. Even Germany, which is the biggest gas consumer in Europe, they are now building out five, six floating terminals in order to import LNG. People are building import terminals in Italy and France in the Netherlands, but the problem is we are building all these import terminals in Europe, but we are not buying any more LNG. So basically the strategy is to build import terminals and buy LNG in the spot market, driving up the price, and when you are sourcing from the spot market, you're not really underpinning new supply of LNG because nobody is building LNG export terminals on speculation.

**Announcer** (40s):

Welcome to Smarter Markets, a weekly podcast featuring the icons and entrepreneurs of technology, commodities and finance ranting on the inadequacies of our systems and riffing on ideas for how to solve them. Together we examine the questions, are we facing a crisis of information or a crisis of trust and will building Smarter Markets, be the antidote?

**David Greely** (01m 04s):

Welcome back to Winter is Coming On Smarter Markets. I'm Dave Greely, Chief economist at Abaxx Technologies. Our guest today is Oystein Kalleklev, CEO at Flex LNG and Executive Chairman at Avance Gas. He will be sharing his unique perspective on the European energy crisis and what it means for the LNG industry. Hello, Oystein. Welcome back to Smarter Markets.

**Oystein Kalleklev** (01m 27s):

Hi, good to be back here.

**David Greely** (01m 30s):

Yeah. When you were here with us last year, and I think it was about this time of year, you were discussing a European energy crisis, a natural gas crunch, and now it's a year later and we've got an energy crisis in Europe that's just on a whole another level and I want to get your perspective on it from inside the LNG shipping industry you know, we were talking with Susan Sakmar last week and you know, noted the staggering bottlenecks in the European LNG market, right now there's a shortage of ships with shipping rates near \$500,000 a day. There's also a shortage of floating reification terminals to bring LNG into the natural gas pipeline system, and I've seen rates near \$200,000 a day.

**Oystein Kalleklev** (02m 12s):

That's gone. A thousand dollars must be last, last month,

**David Greely** (02m 15s):

Last month. It's come down. Yeah. So I was wondering if you could put these numbers into some context and what do they mean for the LNG industry and for European consumers?

**Oystein Kalleklev** (02m 24s):

Yeah, it's a, it's a broad question, so thanks. Thanks. yeah, we actually we're about discussing the European energy crisis a year ago. So that was a long way ahead of the invasion of Ukraine in late February. So, so actually the kind of the energy crisis started building, I would say late summer 2021 in Europe. We saw that the inventories has hadn't been built up and actually at that time also the Asians were also busy buying LNG and resulting in kind of the LNG prices really spiking up and the Russians hadn't built up those storage levels in Europe and of course now today we understand the reason why they didn't do it. So we really saw in November the kind of the gas market ending up in a crisis situation a couple of months ahead of the invasion.

**Oystein Kalleklev** (03m 20s):

So once you had the invasion, of course things went ballistic. Despite all these problems, Europe's been actually very fortunate because we have had a lack of gas in Europe or globally, but with the shutdowns in China. So China has been really pulling back. Imports are down more than 20%. So if somebody were telling you that, okay, Europe is gonna gobble up all the LNG cargos and China is gonna slow down 20%, you would think that the shipping market would be terrible and actually we saw something very similar in 2019, 2019, you actually had very healthy volume got in the LNG market. It grew 35 million tons, and Europe bought 33 of that 35 million tons and that really dragged down the shipping market in 2019 because you had shorter selling distances and China's economy cooled down in 2019 given the trade war with Trump.

**Oystein Kalleklev** (04m 19s):

So this year we have seen something similar, actually, volume growth has been a lot less and the Chinese demand have forced much more than we have ever seen and this resulted in the LNG shipping market being actually tangible in Q1. First time ever we've seen the indexes, the freight indexes being negative. So actually people didn't pay you. The rates were less than zero or adjusted for, for fuel consumption, but then once Ukraine war happened, of course the risk premium in the market increased. People didn't want to be short chips. So Freightways started to go up after that happening 24<sup>th</sup> February and they went up a lot until another event happened, which was the Freeport explosion and at that time, gas prices in US was becoming very expensive \$10 a million, it doesn't sound, sounds cheap in Europe, but in US it's quite expensive.

**Oystein Kalleklev** (05m 16s):

And people were asking about export limitation and once that explosion happened in Freeport, US gas prices fell 20% overnight. This also resulted in the shipping market becoming weak because Freeport is a pretty big export terminal. 15 million tons, that's 15 to 18 cargos a month. So suddenly you have a lot of ships coming open in the market and really dragged down the shipping market and then now with Freeport seeming to be starting up again for some cargos at least partial in November, that's really blown up the spot market again. So you were mentioning \$200,000 per day, but actually it's more like \$400,000, but for freight these days, So it's the strongest freight market ever, but actually when you look at the product side, the product prices have gone down a lot. So JKM actually today, I guess this most focus is on the TTF.

**Oystein Kalleklev** (06m 12s):

So TTF is, let's call it \$45. It's so volatile, so it's hard to peg the number, but let's call it \$45. So that's down from hundred at the peak. However, with this flow of cargos into Europe, you have congestion issues. There's not enough re-gas capacity in Europe. So actually the having a slot at re-gas terminal today is valued as much as the terminal. And I asked the cargo because the cargo is \$45 per million BTU, but you have to discount the LNG at around \$20 - \$25 in order to get capacity at the re-gas terminal. That's crazy. In addition to that, we have intra-month cargo of \$2 to \$3. So some people actually see where if I can sell my cargo next month, I will be making more money. So we, today we have around 35 ships idling in floating storage, which is also tying up a lot of shipping capacity and that's why the shipping market's been just like the LNG market incredibly volatile and of course very randomize for those people who have either cargo or a ship.

**David Greely** (07m 20s):

Right and that volatility is just amazing, you really painted an incredible picture thereof, you know, what it's been like the past few years and going from an incredibly tight market to a weak market and back and forth and the bottlenecks and I was just curious, you know, how are you at Flex LNG navigating this moment and this set of market conditions and like what's a typical day like right now. It seems like there's so many things to deal with.

**Oystein Kalleklev** (07m 45s):

Yeah, so our principal shareholders, John Fredriksen, who's probably the most successful shipping investor ever, shipping is incredibly difficult to invest in because of the volatility. So it's, if you do something wrong, it's easy to get bankrupt, but he's been doing this for more than 60 years now and he founded Golar LNG back in 2000. He sold of Golar in 2014 and then bought into Flex and what all kind of investment pieces was to buy a lot of the new ships because there's been a big revolution on the shipping side. Actually until 15 years ago, all the new buildings were steam turbine. So anybody who has some history recollection, they know that a steam turbine is not very efficient but the ships were actually built with steam turbine engines and there are still 200 of them in the market.

**Oystein Kalleklev** (08m 38s):

And then we eventually ended up with these legends first medium speed and no slow speed. So Otis, at the time when we did the investments mostly in 2017- 18 was, there's on new ships, they are 60% more efficient than the steam turbine ships and that's a lot of money. You know, you're saving 60%. So we bought the ships when prices were low, basically \$180, \$185 million per ship. The price of a ship today is \$250 million. So there's certainly been inflation also on the shipping side because shipping is tight. Then when we took delivery of the ships starting 2018, 2019, 2021, we took our last ships for delivery. We thought that we are gonna just play the spot market here until we find a good shipping market and then we are gonna start fixing the ships on attractive long term charters. So until 14<sup>th</sup> April last year we had 13 ships and turfed in spot ships.

**Oystein Kalleklev** (09m 35s):

So everything was spot. Of course that means that you really have to be on top of the market because of the volatility because you can easily lose a lot of money, but even through COVID 2020, we managed to navigate and make money and then starting April 14<sup>th</sup> we started fixing our ships on longer term charters. So we did the five first with 10, which is a big US export and then we've actually, in June this year, we fixed our last three ships for 1 ship 10 years and two ships for each seven years with our super major. So basically we know, it's a lot less volatile than it used to be. We have one ship on index linked to the spot market, but the remaining 12 ships are fixed on, you know, typically 3 to 10 year charters with the big players. So, our volatility in all income now has gone down quite a lot right now, maybe sadly because it would be fantastic having more spot exposure in this market.

**David Greely** (10m 34s):

Right and one of the other things that there's more exposure to, you know, you guys made the investments well ahead and one of the big risks to investment I guess is always a change in policymaker attitudes and there's such an intense public and policymaker focus on the LNG market right now in Europe, you know, calls for price caps, new pricing benchmarks, people noting that discrepancy, you know, large discrepancy between the price of pipeline gas at TTF and LNG off the coast and I was curious if the policy environment is affecting you and are you noting a change in how the industry's being viewed by policy makers and the broader public?

**Oystein Kalleklev** (11m 14s):

Yeah, now it's a good question. I think five years ago a lot of people were very bullish on it because you basically should substitute coal with natural gas and you can reduce your CO2 emissions 50 to 60%. But you know, the reason why US started replacing coal with natural gas basically a hundred years ago in the northeast of US was because of the pollution, not the CO2 emissions, but if you burn coal, you have all the smog and all the ash and soot which is basically destroying cities and then later on we had the same development in Europe, not driven by CO2 but by cleaning up the local air pollution so huge problem. You know, every year 10 million people are dying prematurely because of bad air pollution and of course coal is the big problem here because most of the people dying today from air pollution is people living in China and India and they are the big coal consumers.

**Oystein Kalleklev** (12m 13s):

So, but I think we have had a policy in Europe, which has been very populist, short term and narrow tinkling where we said, okay, we're gonna go for coal to wind and solar, wind and solar is intermittent and then of course we are not even gonna have nucleus as well. So how are you going to create kind of energy system you know, you can't build a lot of batteries for a big energy system, so they kind of just want to sidestep natural gas and just go directly for intermittent renewables and this has created a lot of problems. You know, Dunkelflaute is a word, which has become common now, which is a German word where it's not that much wind and there's not that much sun and we had problems last year when the wind conditions in UK were very low as well.

**Oystein Kalleklev** (13m 03s):

So, and I think people now realize also with the war in Ukraine, you need really need gas. We've seen what is, if lack of gas is creating a lot of problems, think also industrials, you know, fertilizers. So I think now of course Europe is rushing to LNG as the substitute. So even Germany, which is the biggest gas consumer in Europe, they are now building out five, six floating terminals in order to import LNG, people are building import terminals in Italy and France in the Netherlands, but the problem is we are building all these import terminals in Europe, but we are not buying any more LNG. So basically the strategy is to build import terminals and buy LNG in the spot market driving up to price and resulting in countries like India, Pakistan, Bangladesh, they're not able to source it anymore.

**Oystein Kalleklev** (13m 58s):

And also when you are sourcing from the spot market, you're not really underpinning new supplier of LNG because nobody is building LNG export terminals on speculation. These are multi-billion dollars investment. So the only way to build them is to have long term

contracts, 10, 15, maybe 20 years. But Europe is collecting to do that because of the incoherent energy policies. Okay, let's solve this problem right now, buying in a spot market, but I'm not gonna sign up for a 20 year LNG off day contracts because in 2042 I need to be 100% renewable. So that is creating problems and so we haven't solved anything. We have solved some, we are gonna solve some bottlenecks on the re-gas capacity side, but we are not solving the problem, which is the supply of gas.

**David Greely** (14m 49s):

And that incoherent energy policy, its so important because even in the shortest of short terms, right, there's been a huge policy maker focus on getting European natural gas storage filled before winter. But of course, even to just make it through this winter without painful shortages, we'll need a steady supply of gas and I'm curious, like what do you see in the market in terms of, you know, is there a sufficient reliable LNG flow scheduled for even this winter?

**Oystein Kalleklev** (15m 19s):

No. I think Europe has been now been able to know fill-up storage at 90%. That has happened because Russia has been flowing gas until recently and Europe has been buying up all the LNGs, but more than 70% of the US cargo gone to Europe last year it was like 20-25%. Usually the cargos from US, 70-80% gone to Asia, nowhere 70-80% are going to Europe and that's happened because China have stopped importing because they're off the COVID lockdowns. Those COVID lockdowns is not gonna last forever. So once they're opening up, they're opening up gradually, Hong Kong, China is gonna import more of the cargos. So next year, so let's, we are 90% now we are gonna draw down this very quickly and once you're getting close to, you know, 30%, you people are starting will panicking and of course we've been lucky with the weather in October.

**Oystein Kalleklev** (16m 15s):

Prognosis is, we're not gonna be as lucky as November and December. So once we're getting out of this winter, and of course we have managed to get to 90% by also destroying a lot of demand in the industrial base because prices have been too high, but next year will be more challenging because you cannot rely on as much flow from Russia and also sourcing as much LNG as Europe has been doing this year, next year might be more challenging because the Chinese might be back buying more volumes as well and then there's not really a lot of new LNG coming to the market next year. So supply of new LNG to the market will be pre-empted both 23 and 24 and then from 25 onwards you will see more up, up, especially from Qatar and other players, but that LNG has been contracted to other people and not Europe because that Europe is not signing up and in Europe take agreements. Germany has signed up one LNG contract this year and it was pretty small as well.

**David Greely** (17m 23s):

Wow and I want to come back to a point you had brought up with Europe's focus on spot contracting and what that's doing to the price and bidding away cargo from other countries that would normally take them in. Now you've said China, a lot of their reduction in demand was coming off of the COVID lockdowns, but there are many other countries in Asia, you know, hearing of blackouts in Bangladesh and shortages in Pakistan where this European pull on LNG, which is helpful for Europe, but it's coming at the expense of other countries and other consumers that are now being priced out of the market. Now I was curious like how much you're seeing this impact, and I know you've said you know, a number of your ships are on a longer term charter at this point, but are you seeing a big change in shipping routes related to all this?

**Oystein Kalleklev** (18m 09s):

Yeah, yes, we do see that. We, see of course a lot more cargos are flowing into Europe, which actually have been beneficial in terms of having cool rotation, a lot of Asian countries still have limitations on getting people off and off on the ships spec. China has been impossible for, for more than two years now. So having people having the ships sailing us Europe makes at least a cool rotation a lot easier. We also see a lot of more ships idling, either idling in floating storage or the ships are just idling in, which you would think is incredible when freight rates are \$400,000, why aren't people renting out the ship collecting a lot of freight instead of idling the ship but the reason is the value of the cargo is so substantial that even if you could make a lot of money, what if you don't get your ship back in time?

**Oystein Kalleklev** (19m 02s):

You are losing out on the cargo economics, which is a lot more. So yeah, we do see that it is affecting the route and actually ton mile been dragged down a lot this year. So if you just looked at the ton mileage sailing distances, you would think that the freight market would be terrible this year. But the thing is that has adjusted for it is the ton time, so the time and the speed has gone, so time's gone

up, speed's gone down so that it takes more time to, to load and discharge a cargo than usual because of the congestion issues and, and the floating storage.

**David Greely** (19m 37s):

You, I wanted to ask about the floating storage because I mean obviously LNG isn't like crude oil or you know, sitting at a tanker like you have to keep this incredibly cold or it starts boiling off. Like how practical is it to have LNG sitting, you know, offshore in these tankers, is there a sufficient or significant loss of cargo?

**Oystein Kalleklev** (19m 59s):

Yeah, it's right. It's, you need to keep it at minus 162 centigrade, which is -260 Fahrenheit and then in order to keep it at atmospheric pressure you need to vent out the boil of gas and the boil of really depends on the ship. Newer ships are a lot better insulation. So if you have like a old steam turbine, typically the boil of rate is 0.2%. So every day, 0.2% of the cargo is lost in evaporation. So you need to take that pressure out of the tank, otherwise it's builds up, but of course you're not venting this, you're burning it, so you are using it as fuel. So it's very handy in terms of you have fuel on the, on the cargo tanks. Newer ships, so typically our new ship today will have a boil off rate of somewhere around 0.05 to 0.85%.

**Oystein Kalleklev** (20m 56s):

So the boil of has been reduced 50 to 80% and some of them also have relic system, so you are actually able to take the boil off that's coming off the tank and re-liquefy it and put it back to the tank. Of course it consumes some power, but that's also feasible. We have partially leak system four or four ships and fully relic on three of the ships, so, so that makes it a bit more handy to, to storage them. But as you said, it's not like hood though where you can be sitting for a long time. So, so floating storage tend to be shorter in nature, typically one or two months. It's very rarely you see ships idling with cargo more than two months. So, that is, and also because you either you need to basically flare the boil off in the funnel because you don't want to rent it since it's meeting, so you then are just flaring it, which is, you know, wasteful or you need to use power to re-ify it. So that is kind of like a economic hurdle of having longer storage time.

**David Greely** (22m 04s):

Right, you've brought up several times that Europe is still pretty much keeping itself reliant on spot cargoes, the spot market for LNG not undergoing longer term contracting in any significant way in part because of what you said was the incoherent energy policy of believing, well we're gonna be off all fossil fuels, you know, in 10 years or 20 years or what have you, but I'd like to get some of your other thoughts on some of the longer term effects of this crisis. On the nature of the LNG business. Do you see it as, you know, having a long term impact on the nature of the LNG trade and like outside of Europe as the structure and terms of contracts changing in response to the crisis?

**Oystein Kalleklev** (22m 50s):

That's a good question. Talking about kind of the LNG spot market that really developed in another crisis, which happened 11 years ago, which was the Fukushima, there was no spot market for LNG until Fukushima hit Japan and then certainly with all the nuke storm, they really had a shortage and that created the LNG spot market. We know today it was a bit different because it was portfolio player basically rebalancing the supply and pushing more LNG into Japan. So 11 years later it's another crisis, which is the war Ukraine is, you know, changing the spot market of LNG where Europe is coming in. Where it'll change I think, you know, the people in Brussels are, they are thinking very short term, that's the problem. No, where, where I'm aside is one of the biggest gas exporters in the world. We had long term contracts with Europe or not we, but the oil companies had long term contracts linked to oil at a discount.

**Oystein Kalleklev** (23m 51s):

So typically like the Asians are buying today, there's not really a LNG crisis in Japan or China, South Korea because all the supply is linked to oil with a discount of 20-25%. So we are paying in Europe, let's say today close to \$200 barrel of oil equivalent, they are paying \$70. So we had this contracts in Europe as well and then the European Commission said this is on the competition and they forced a breakup of existing contracts because they wanted to have a spot price on all the contracts and Europe saved a lot of money for 10 years on this because the spot price was much lower than what the oil price index would have made, especially in COVID in 2020, the price of LNG in Europe or TTF gas was breaking below \$1 per million BTU, which is equivalent to \$6 per barrel of oil, This year has gone up to more than \$100.

**Oystein Kalleklev** (24m 56s):

And now they are saying they want to have price caps and they want to renegotiate contracts. This is not really a way to have policy and kind of predictability for the actors in the industry to invest. If policies are changing, depending on market developments all the time, how are you gonna invest if you're gonna invest in LNG export plan today, you basically need to have a horizon of 25 years. You probably need to set aside five years to develop and finance and get the project going and then you need at least 20 years to sell cargo in order for this economics to work, but then if you have these kind of changes in policy all the time, how are you gonna cope with it and that's the problem I think in Europe you need to kind of, if you have, you have to be a bit more longer term, but then if you're saying that everything's gonna be carbon neutral in 2050 I can understand that utilities are not signing up on new contracts and then there's not gonna be more supply.

**Oystein Kalleklev** (25m 54s):

So who are gonna sign up on those contracts, are we gonna leave it and only to Shell, BP, Exxon and they are taking the risk that Europe will be reliant on buying the spots markets, cargo could very well be, but you are not incentivizing a lot of new projects by doing it this way or you know, you should have like European buyers going to US and signing up 20 million tons, signing up 20 million tons from Qatar, maybe 10 million tons from some of the African exporters and really doing a much bigger, because the Russian flows, we are replacing are huge.

**David Greely** (26m 32s):

Yeah. And do you see other countries say outside of Europe, in Asia, South America taking advantage and saying, well we want to sign longer term contracts to ensure some reliability of supply for us even if Europe's being shortsighted?

**Oystein Kalleklev** (26m 48s):

Yeah, even with LNG imposed down 20% plus in China this year, last 18 months of the 100 million tons of new SPAs, China has done 50% of it. So they are certainly signing up a lot of new contacts and they are have been doing well on that. They signed up a lot of contracts after the trade war with US as well and they have been reselling those cargo into Europe because the beauty of the US cargos are, there is fully destination flexibility. So Chinese who are buying those at plus \$3, so even if Andrea buys \$8, \$11 full price can sell those cargoes into Europe at \$30, \$40, whatever the price is. So they're making a fortune on it, but they are thinking 20, 25 years, they're not thinking today all the time.

**David Greely** (27m 38s):

Right and do you see you know, private players doing that as well where they're saying, well we'll secure LNG at a lower fixed price and then we're gonna take advantage of the optionality that we can resell it because we think there will be price spikes like this in the future?

**Oystein Kalleklev** (27m 53s):

Yeah, these are, Shells and Exxon and Chevron and some of the trading houses like Trafigura and Ganvo they are doing it as well because they see that the European buyers, they need gas, but they are not willing to sign up this long contracts. So they are buying portfolio of contracts and then this is of course a bit more like the oil place, you know, Germany Inc. is not signing up 5 million barrels of oil from some countries. Basically it's market participants doing it. So I'm not saying that the government should intervene to do it, but the problem is their policies and the signals to the market actors are resulting in them not signing up on something because they don't know whether there will be a mark the 10 years' time, so kind of the problem for the government or the policy makers in Europe is more lot of ambiguity and uncertainty they are creating.

**David Greely** (28m 49s):

Right and even with the, the talk of price caps, now, private players aren't gonna invest if they think that every time the price goes up and those investments begin to.

**Oystein Kalleklev** (28m 59s):

Yeah they are pushing the bill to somebody else. But then let's say you are developing a gas field head in Norway now and, and usually almost everything has gone to pipe to Europe because it's very close situated that it's only one LNG export plant in Norway. It's very far in the north where the pipeline would be very long, but let's say you are in investing in new projects today, would you rather build the LNG plant instead of pipeline, probably because you don't know if suddenly the price goes up and Europe is starting saying that they want to cap the price, it wouldn't it be better than having a LNG plant where you can just ship that cargo to, to Asia, so you know, it's

gonna be good for, for me which is in the LNG business if everybody else is rather than building pipelines that building LNG plants instead, but it's not really the right policy if you have a gas field shore to market pipeline is the most efficient, but for European politicians they could very well undermine that by talking about these price gaps.

**David Greely** (30m 00s):

Right and I wanted to ask you, you know, in terms of the, the investment in LNG infrastructure, clearly we've seen periods lately where there weren't enough ships, weren't enough regasification and I'm curious, is the investment in LNG infrastructure responding or is this policy ambiguity stifling at too much like our order books for new ships growing, you know, what are your plans for growing your own fleet?

**Oystein Kalleklev** (30m 26s):

Yeah, you know, as I mentioned, this new billing price has gone from \$180 to \$250 and actually the order book is more than 40% of the fleet and then that should worry any shipping investors including myself, there's a couple of reasons for this. It's, one thing is of course there's a lot of new projects Qatar have today our name plate capacity of the export of 77 million tons per year. They are gonna first stage, no increase it by 33 million ton and then maybe add 16 tons on top of that. So the Qatar is probably gonna order hundred ships together, and then you have some new projects in US especially venture global and Genia, they are pushing forward new projects. So, so there's a lot of new projects. Of course, it's not enough if, if Europe is gonna replace all the gas from Russia with, they can't replace everything with renewables.

**Oystein Kalleklev** (31m 19s):

They need actually to replace most of it with gas. What we are doing in Europe now is we replace it with spot LNG and a lot of coal which is the opposite where we were planning, so you need a lot of new ships for new projects. So we have seen a lot of investment on the shipping side, but mostly almost all of those ships are built towards our new contract, so not on speculation. On the upstream part of the business you would have thought it would be more, I think the problem is, as I mentioned, if you're doing this multibillion dollar projects, you really need to have contract coverage for 70, 80, 90% of the volumes otherwise is to risk it to give it the green light with the cost and then when you have the player that should be signing up the most contracts Europe not doing it that makes you reliant on the super majors and the traders that they are signing up. But they can, you know, Europe should probably sign up \$50, \$60, \$70, \$80 million, a million tons of LNG and so far they haven't done that. So that is holding back investment on the upstream part somewhat with this kind of huge challenge you have replacing pipeline gas from Russia with LNG and also getting rid of coal in Europe, then investments should actually be bigger in my mind.

**David Greely** (32m 42s):

Yeah, and that brings me to, you know, the final question I wanted to ask you, and I think we've touched on parts of this, but you know, looking beyond this winter and out over the next, you know, 5, 10, 15 years as the CEO of a LNG company, like what do you need to do your part in providing reliable, affordable energy to Europe and to the world?

**Oystein Kalleklev** (33m 03s):

Yeah, for all businesses basically to, to transport LNG to the market, which is willing to pay the highest price. Of course, we are not instructing our ships where to go, actually every fixture in LNG is a time charter. So the guy renting the ship, they will instruct where to load the cargo and where to discharge and this is up to market forces, which is should be what we are delivering is the most efficient LNG ships. So with ships built between 2008 and 2021 are the most efficient with the most modern diesel engines. So that is, as I mentioned, resulting in the efficiency of these ships compared to the older ships has been increased 60%. So, so that is all part of the value change and we have built all our ships on speculation actually. So we haven't built them to contracts, we have sorted, these are really good ships, prices are good, let's invest \$2.5 billion in these ships and let's see if we can fix them out.

**Oystein Kalleklev** (34m 02s):

It takes usually three years to build LNG ship. Right now lead time is more like four, four and a half years and then I actually, I listened to one of your podcast recently, which was with Jeff Currie in Goldman Sachs, which I've talked to in in the past and he has a very good point because it's, there are some similarities today we have this inflation. Yesterday was US CPI numbers still above 8%. So inflation is high and of course inflation today as back in the 70s is driven a lot by energy. People thought energy was irrelevant, it was so small part of GDP, energy's companies in the SNP index went from 15% of the market to I believe they were down to 3%. So a kind of energy was this dinosaur old industry that nobody really taught much about.

**Oystein Kalleklev** (34m 51s):

Now with energy prices coming up, we do see how important energy is and having reliability of supply and also affordability and then we, as he mentioned something about, you know, when inflation came down by Paul Walkers, he questioned, was it Paul Walker who did it or was it the CapEx boom in the oil industry after oil price took off after the OPEC crisis in the 70s and I think we at exactly the same point in time today, we have high inflation because of high energy prices, especially in Europe when it comes to gas and how are we gonna drive down inflation, it's a CapEx boom in LNG So that's what you have to create. I don't think people in Europe are willing to start doing shale. They don't even are willing to take out more gas from the running and gas field because house owners don't like it.

**Oystein Kalleklev** (35m 49s):

So if you don't want to use that gas resource, then you need LNG. So you need a CapEx boom in LNG, much bigger than we are seeing today. We are seeing quite rapid growth on the LNG upstream part. I mentioned there is a lot of ships for construction, but it's not big enough because the challenge we are facing is much bigger than people are realizing. We're trying not to patch it up with some gas subsidies caps, but this is a much bigger problem. We have to start thinking 10, 15, 20 years and then we need more LNG, but also the LNG industry also need to start decarbonize. So of course CO2 emissions replacing coal with natural gas, you reduce it 50, 60%, but there's a big problem and it's the methane emissions, they will need to be reduced to close to zero.

**Oystein Kalleklev** (36m 39s):

And that's, people say it's difficult, but it's possible, Equino has reduced methane to virtually nothing in their value change. So it's about kind of, I think, you know, you should have a price on methane as well, so getting methane emissions down and then also on the upstream part, how you electrifying it in order to bring down emissions on the upstream part, I think you, every upstream project today have to start thinking about CO2 capture. So you are capturing the CO2 during that process and then we also need to start thinking about the CO2 capture when you're burning the natural gas because if you are managing to do that, you have basically made CH4, which is methane into hydrogen. So you have been able then to create hydrogen in a much easier way than burning hydrogen because that's complex and inefficient process and for all part, I think, you know, we are happy to invest in that story. But right now with the LNG new billing prices at \$250 and all the ambiguity about policy, we are sitting on the fence like a lot of other people in the industry.

**David Greely** (37m 49s):

Thanks again to Oystein Kalleklev, CEO at Flex LNG and Executive Chairman at Avance Gas. We hope you enjoyed the episode. Join us next week with Greg Sharenow, Managing Director and Portfolio Manager for Commodities and Real Assets at Pimco. We will be discussing the energy crisis inflation and what it all means for investors.

**Announcer** (38m 09s):

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