FOCUS ON ARGENTINA

Valérie Ducrot, Executive Director of Global Gas Center

Tomás, would you like to say something about has been said before. I am very happy to welcome a representative of Argentina because it is an interesting country, new president, new regulations, huge resources.

Tomás Lanardonne, Energy Regulatory and Transactional Expert, Founding Partner of MHR Abogados (Argentina & Uruguay)

Thank you, Valérie, good afternoon, it is really an honor to be here, thank you for the invitation. I come from Argentina, it is a 20-hour flight, 14 000 kilometers distance and I work as a lawyer in a lot of energy, hydro, nuclear, renewables and gas projects in Argentina, Chile, Brazil and Uruguay.

I have come to tell you a case study about the Argentine energy plan. Argentina has the determination to contribute to global security of supply and the mitigation of climate change through its vast natural resources, while carrying out its own energy transition. Just a few facts to introduce my country, at least from an energy perspective. We are a federal republic, a new administration took office one year ago, and you may have heard about President Milei, a free market revolutionary and disruptor who happens to be an ally of President Trump. We have 47 million people, fifth biggest population in America, and have a USD 630 billion economy, the second largest in South America. We are about to produce 1 million barrels of oil per day, and we are exporting 50% of those volumes. We produce 150 million cubic meters of gas per day and exporting 10% of that production to Chile and Brazil. We have a balanced energy mix, no coal, lots of hydro, lots of nuclear and renewables, which in aggregate represent 40% of our energy mix. We only produce 0.5% of global greenhouse gas emissions and our current NDC pledges not to exceed net emissions of 360 million tons of CO_2 equivalent by 2030.

Today, I want to focus on Argentina's energy plan, its main assumptions, fundamentals and action points. What is the plan? In 10 years, Argentina intends to export around 25 billion metric tons per annum through several LNG projects located around its Atlantic coastline, which would entail doubling our current production. In the mid-term, five years from now, thanks to already installed interconnection pipeline capacity, we expect to export around 30 million cubic meters of gas per day to Chile, Brazil, Uruguay and Bolivia. In respect of its neighbors in the Southern Cone, Argentine gas will substitute mainly coal in the case of Chile, liquid fuels and imported LNG as some insurance in dry seasons in the case of Brazil, fuel oil in the case of Bolivia and will be used as a backup for wind energy in the case of Uruguay. In respect of its potential LNG off takers, the government and the Argentine gas industry are

embarking on trade negotiations with the EU, Brazil, China, India and other Asian countries. In fact, we have already signed MOUs with the EU and Brazil.

The main assumptions in this plan are as follows. First, the shale rock is there, its productivity is even better than the Permian Basin and development costs are constantly being reduced. The Vaca Muerta shale gas formation is considered the second largest shale gas deposit in the world with 300 plus Tcf of resources. Breakeven prices are around USD 2 per million Btu, comparable to those in the US.

Second, Argentine gas has a low carbon intensity, as McKinsey recently reported, Vaca Muerta's production processes are among the lowest carbon intensity for oil and gas operations worldwide.

Third, the global energy transition will need Argentine LNG. Towards 2030 and onwards, the gap between projected demand and supply, including existing, under construction and projects with FID, will be around 100 million tons per annum and growing; I defer to you.

I will finish with the action points of the Argentine energy plan:

First, regulatory action. During the past 10 years Argentina has modernized its legislation to foster the massive development of shale gas. It has amended its hydrocarbons law to cap royalties and extend the life of exploitation concessions. It has amended its regulations on the midstream sector to allow contract carrier pipelines financed through shipper-pay, long-term and firm contracts. Finally, it created an investment promotional regime that reduces taxes, eliminates currency controls and provides numerous stability clauses, such as firm export rights and tax stability for 30 years. Now is the time for investors and finance institutions to decide whether to believe in these regulatory promises.

Second, Argentina arranged what I call the domestic business environment. First, it reduced labor costs by negotiating care and sick incentives in the relevant collective bargaining agreements with unions. Second, it secured long-term gas supply to the domestic market by fostering long-term contracts between producers and domestic off takers, mainly power generators and distribution companies serving residential users. Third, gas tariffs reflect the actual cost of narrow gas. Put simply, Argentina is gradually eliminating energy subsidies.

Third, and finally, Argentina is decarbonizing its energy mix through a series of cumulative measures. One is to increase wind and solar power installed capacity by unbundling the sector and allowing PPAs between producers and any type of energy consumers, large and small, and by expanding the grid to reach isolated places with enormous wind potential. It is an interesting fact that in Patagonia, the capacity factors of our windfarms are around 70%. Two, replace fuel oil generators with combined-cycle gas-fired generators through the construction of gas pipelines to move the Vaca Muerta gas to the big industrial cities of Argentina. If we consider past and future conversions, we are talking about 10 gigawatts of power plants that now feed from gas rather than fuel oil. Three, reduce domestic emissions by establishing a cap-and-trade carbon market, sort of copying the emissions trading system in Europe, fostering domestic REDD+ jurisdictional programs, developing CCS projects in salt caverns in Bahia Blanca and depleted gas fields of Bahia Blanca and mandating methane reduction gas targets for the oil and cattle industries.

As you know, each country is devising its own energy transition, considering its energy mix baseline, its natural resources endowment and its economic possibilities. All these decarbonization measures require capital and financing, and the goal of Argentina is to finance part of that energy transition through its LNG exports. Thank you for your time.

Majdi Abed, Vice President International Public Affairs at TotalEnergies

I have three short comments. First, we are investing a lot in Argentina, so I support and totally agree with you.

Second, I have a question about nuclear and SMA. We remember Fukushima and all the catastrophic events of climate change, so I wonder if there are any problems or risks there?

Third, I would like to come back to methane and just say that the issue with torching is also very important because we can use this gas to produce electricity and use it with renewables. That is what we are doing in Iraq, and it is working, so it is not just for the planet, which is very important, but this gas can be used to produce electricity for the country and help improve its balance sheet.

Valérie Ducrot

Do you want to comment or reply, Tomás.

Tomás Lanardonne

Just on nuclear, which Argentina is maybe not very well-known for, but it is part of the international organization of nuclear countries. We have three reactors, and we have developed technology for small 25-megawatt reactors, maybe the gentleman in the room knows about that. There is a social license for that so we think that Argentina will grow that, but I think the elephant in the room with nuclear is the capital cost. I just read that the last nuclear reactor in the UK took 15 years and more than GBP 10 billion to build, so for me that is the issue about nuclear.

Jeffrey Lewis, Partner and Member of the Executive Committee of the international law firm Cleary Gottlieb

That is interesting, I just have a couple of questions. When you say that natural gas will no longer be subsidized for local consumption and will be sold at actual cost, do you mean at the international price? If you are going to have the alternative of selling through LNG exports or pipeline to Chile, will the domestic market be paying the same price as the export market or will there be an inherent subsidy?

Tomás Lanardonne

That is a big question, and the US had that dilemma. Henry Hub is still low despite all the exports, so the US helps to answer that question, at least for Argentina because we are going to compare with what happened in the US market. I can tell you that we exported around 13 million cubic meters back in the nineties and those exports and long-term contracts with Chile and Brazil did not affect domestic prices, which is a big market.

Jeffrey Lewis

Were those contracts not ultimately breached because the gas was diverted to local consumption?

Tomás Lanardonne

Exactly and maybe the answer is that at some point when populism arrived in Argentina in 2000 with the commodity boom, etc., the government interfered in domestic gas prices and exacerbated gas demand. It was similar to Venezuela with the crude oil price and fuels and exacerbating gas demand. What the government is now doing is for the gas price to reflect the actual cost, those breakeven prices I am talking about, so that we do not exacerbate demand. And, at the same time, producers also intend to sell to the domestic market, which is 150 billion, so it is good. If the export contracts compete with the domestic market, we still need to see that and if you base it on the US, I think it is going to be a success. At the same time, what the new regulation establishes is that there will be no interference in export permits once they have been granted, so those contracts will be protected.

Participant

Would your prices be pretty much the same as Henry Hub?

Tomás Lanardonne

Argentina has had a very liquid market with almost 24 provinces connected to the grid, and it is the second largest country for gas penetration after Russia. What I am saying is that as long as the government allows the cost of gas, those breakeven prices, to be transferred to the residential users and power plants, there is not going to be a problem.

Jeffrey Lewis

Could the problem be that if I am producing gas and I can sell it at a higher price by exporting it then why would I sell it at cost domestically? I guess that is the problem and that is what happened in the situation you talked about with Chile. You are right, there were tons of export gas to Chile but eventually it started to choke the domestic supply, so the gas was diverted, and the contracts were breached. I think that happened because gas producers were unable to get the same price domestically as they were internationally. It would be interesting to see how the policy evolves.

Tomás Lanardonne

Of course, and just 30% of the domestic market is regulated, the other 70% is free with industries, mining companies, etc. And the Argentina government would not be interested in protecting copper industries or powerplants, so the gas price would be freely negotiated. That means the problem is limited to 30%, which I do not think is such a big problem. Of course, every exporting country except the US has a domestic gas supply obligation so maybe when they issue the export permits, they establish that at least 30% of production must be rerouted to the domestic market.

Christophe Poinssot, Deputy CEO and Scientific Director of the Bureau de recherches géologiques et minières (BRGM)

I want to respond to what you mentioned regarding the cost of nuclear reactors. I do not entirely agree with what you said because you have to keep in mind that if you only build one or two reactors it is certainly going to cost a lot, you need to industrialize the project. That is what we achieved in the past in France with success and it is what China is doing right now. When you look at China, they can build a reactor on time and on cost, which means between four and five years at a really competitive overall cost. I can give you more information if you want, I was nuclear counsellor at the French Embassy in China, so I followed this program very closely.

Arash Duero, Managing Director of UAE-based Big Picture Strategy LLC

Just to come back to that price issue and your question. Obviously, if you start exporting to Chile you are going to have less supply, and this is basically a given if you are pursuing free market policies. That means the supply to Argentina will go down during that time, which will drive up the price once again so that the market can recalibrate in that sense. I am sure they have got that rationale behind that policy.

Regarding nuclear, I think it is a fact that there has not been a single nuclear plant that has ever been constructed without subsidies and that might also be in the calculation of a free-market type government. I think that is something you have to keep into consideration.