NICOLAS TERRAZ

President of Exploration and Production and Member of the Executive Committee of TotalEnergies

Olivier Appert, Chairman of France Brevets, Scientific Advisor of the Centre for Energy and Climate of Ifri, Former President of the French Energy Council

Okay. If there are no more questions, you may afterwards ask a question. Now, I leave the floor to Nicolas Terraz, who is the President of Exploration and Production at TotalEnergies. You made a wonderful presentation yesterday, thank you for being here for this session. Now, I leave you the floor.

Nicolas Terraz

Thank you, Olivier. It is a pleasure for me to be here to share a few comments about the energy context, and then about the strategy of a company like TotalEnergies in this context.

When thinking about the energy context, the first point I want to make is that the demand for energy is increasing today – not decreasing. It is increasing because of population increase, particularly in emerging countries in the global south and also because of aspirations of better living standards. Therefore, we have to meet this growing demand for energy.

At the same time, of course, we have a collective responsibility to address climate change and to achieve climate neutrality for the planet.

The third point I want to make is that people not only need energy, but they also want affordable energy. It is a common pattern in many countries, in France, in Europe, in Brazil, in Nigeria, when energy prices are no longer affordable, people don't accept it and there are some social protests. There is a need to make energy available, but also to ensure that this energy is affordable.

All this is in a system where, today, fossil fuels still represent 80% of the global energy mix. Therefore, there is a growing demand for energy, a climate neutrality imperative, a need to provide affordable energy, a starting point which is, today, 80% fossil fuels, and a massive investment required for the energy transition. I think if you consider those four elements together, it gives an idea of the magnitude of the challenge that we are facing in our sector.

Let me just focus a bit on the various energies. I will start with oil. Oil, today, is about 30% of the energy mix. The global oil production is approximately 100 million barrels per day. The International Energy Agency and a number of other organizations aremaking forecasts of the future oil production and when oil demand will actually decline.

At TotalEnergies, we see, more or less, the oil production stabilizing over the decade, and then starting to decline from 2030 to reach a level in 2050, when we aim to be carbon neutral, of somewhere between 40 million and 60 million barrels per day compared to 100 million today. There will still be a demand for oil for a number of uses that are difficult to substitute.

Now, the reality today is that the oil demand is not decreasing, so we are not yet on the decline curve. This year, the oil demand will be 102 million barrels per day, more than two million compared to last year.

To give you an idea, a company like TotalEnergies is producing 1.4 million barrels per day of oil globally. Therefore, two million more in one year is 1.5 times the oil production of a company like TotalEnergies.

I think it is important to understand that all of us are expecting to see a decline in the oil production but, today, it is not yet the case.

I talked about the demand, now I will talk about the supply of oil. I mentioned it yesterday but I think it is always important to remember that there is a natural decline of oilfield production, which is much greater than for gas. It is about 4% per year. Therefore, if you do nothing every year, out of your 100 million barrels per day, you lose four million in the face of a demand that is increasing by two million.

That is why, in our company, we are saying we need investments in new oil and gas projects. We can stop investing, of course, but if we stop investing, there will very quickly be a large imbalance between supply and demand, and prices are going to increase substantially, and we are back to the issue of affordability of energy and acceptability of all this.

Today, gas is about a quarter of the global energy mix. We see gas as a great fuel for the transition, simply because there is still a huge potential to substitute coal with gas, particularly for power generation. The share of coal in the energy mix is slightly higher than the share of gas. Coal is more than a quarter of the energy mix still today. Therefore, there is a large substitution potential, we see a demand for gas actually increasing over the coming years.

A key requirement for gas to be an acceptable transition fuel is, of course, to eliminate all the methane emissions from gas production, gas transportation and gas use, to make sure that gas is a positive contributor to the reduction in greenhouse gas emissions.

Electricity is, of course, at the core of the new energy system because we know that electrification is going to play a very important role in the decarbonization of the energy system. It is a key lever for the energy transition and it will continue to mobilize massive investment in the future, not only in electric power generation particularly for renewables but also in power transmission networks.

Power systems will become more and more complex – at least that is the way we see it – with the massive arrival of renewable power generation and the impact it has on the management of power systems.

What we need to also remember is that electric power users want firm power, they do not want intermittent power, which means that, even if renewables play a very important role in

the future, they need to be complemented by flexible power generation sources – for instance, gas-fired power generation - or storage.

Those are the few ideas I wanted to give you about the energy sector, and now let me move to the strategy of TotalEnergies, what we are trying to achieve in this context, which is both challenging and exciting.

We summarize our strategy very simply by saying we want to produce more energy with less emissions. More energy, for the reason I mentioned, because there is a growing demand for energy by a growing population and, in TotalEnergies, we expect to continue increasing our energy production while diversifying our mix with more low-carbon energy.

At the same time, we made a commitment to decrease our greenhouse gas emissions by 40% between 2015 and 2030, and I will say a few words about how we are going to achieve that. However, my first message is that a company like TotalEnergies, and I think a number of our peers are actually pursuing similar strategies, is to be able to supply more energy to people with less emissions, which is a real challenge.

Today, we see our future activity and our strategy based on two pillars. The first pillar is oil and gas. The second pillar is what we call integrated power.

Today, we dedicate about two thirds of our capital expenditure program to the first pillar, oil and gas, and one third of our capital expenditure goes to the second pillar, which is renewable power generation, low-carbon molecules. This, in fact, is a massive shift compared to where we were five years ago, when the second pillar was close to zero.

For the first pillar, oil and gas, to achieve our more energy/less emissions strategy, we are focusing on oil and gas projects which are both low-cost and low-emissions. We want our projects to be resilient through the cycle – and Olivier mentioned the oil price variations over the recent period, we are in a very volatile market. Therefore, we have set ourselves the criterion the need to have technical costs below USD 20 per barrel.

Having low emissions is a way to achieve our target of decreasing by 40% our greenhouse gas emissions by 2030.

What does low emissions mean? It means that, when we look at the emission intensity of our production – the quantity of CO_2 that we emit for one barrel equivalent produced – today, the figure is 20 kilograms of CO_2 equivalent. By the end of the decade, our target is to reach 13 kilograms of CO_2 equivalent per barrel.

To do this, we work both on our existing production base and on our new projects. With our existing production base, basically, our emissions are coming mostly from our own energy consumption and also from flaring.

Therefore, we are gradually eradicating flaring. Routine flaring will be eradicated from all our facilities before 2030. Then, we are deploying new technologies to completely stop flaring, including the safety flaring that we usually have in our facilities. We have systems of closed flare where, today, we can produce oil and gas with zero flaring.

We are spending USD 1 billion to improve the energy efficiency in our facilities. We are doing what any industrial company would to reduce its energy consumption. We are improving the efficiency of the power generation units in our offshore production facilities instead of traditional gas turbines. We are electrifying our facilities on a number of projects with renewable power generation.

Therefore, we are taking care of our own emissions and, of course, hoping that the energy users, our customers, will follow the same approach.

One principle that we have set for ourselves is that all our new oil and gas projects must have a greenhouse gas intensity below the average of our portfolio, the average of our production. By doing that, we can gradually reduce the emissions from our production.

Low emissions for us is also aiming at zero methane emissions because, as I mentioned, we see gas as a great transition fuel, provided we can eradicate methane emissions. We decreased our methane emissions by half over the last decade and our target is to further reduce by 50% by 2025, to be near zero methane emissions by 2030.

I am going to talk about the second pillar of our strategy, which is integrated power, as I mentioned.

Electricity was about 5% of our overall production last year and our target is to bring this to 20% by 2030. Some people may say 20% is not a lot but to be able to go from 5% to 20%, we need to invest every year USD 4 billion in our integrated power business, which is probably one of the largest investments by a single company in Europe in this sector. This year, we invested USD 4 billion in electricity power generation, mostly from renewables.

We have got this massive investment program. We are planning to generate over 100 terawatt hours of renewable electricity by 2030. However, when we say ‘integrated power’, our objective at the end of the day is not only to generate more renewable power but is also to provide firm power to customers, which is what is required.

Our strategy is really to integrate this renewable power generation with flexible power generation from combined-cycle gas turbines, with storage from batteries to manage intermittency from renewables, in order to be able to deliver this firm, clean power to our customers.

We are also trying to build an integrated power business which is also a profitable business, because we are a company and we have shareholders. Therefore, we put a lot of energy and focus on producing better, developing projects better at a lower cost and selling better.

For projects, I think we recognize that there are a lot of utilities around the world which have much more experience in the electricity power business than we have. Still, we have great offshore experience, for instance, so we try to focus on areas where we can be competitive – such as offshore wind.

I will finish with that, because Olivier is telling me that I have passed my time already. However, we also try to develop more and more multi-energy projects. A good example of this is what we are doing in Iraq, where we have a four-component project where we develop the

production from an existing oilfield, we gather and process natural gas that is currently being flared in Iraq to supply power generation in the country, and at the same time we develop a one-gigawatt solar plant in the same area, in the south of Iraq, to supply power to local people.

There is a fourth component, which is basically to build a large sea water treatment plant to be able to replace ground water being used for injection into the oilfield in the south of Iraq by treating sea water – and so alleviate the hydric stress.

We believe that this type of multi-energy project today is a good solution for a responsible energy supply and it is also a good solution for the acceptability of what we are doing.

I am going to stop there.

Olivier Appert

Thank you for that very interesting presentation. Are there any questions on this presentation? Yes, please, you?

Narendra Taneja, Chairman of Independent Energy Policy Institute in New Delhi

Just one quick question on this Iraq thing that you mentioned about natural gas flaring being converted into electricity. Any plans by TotalEnergies or your partners there to monetize even deeper and more comprehensively to convert that into LNG for export?

Nicolas Terraz

No. In fact, the project in Iraq is really to supply electricity for the local requirement because the local needs are huge. Today, in Iraq, there is a lot of gas being flared but, at the same time, the country is importing gas.

The idea is pretty simple – to supply gas for the local power generation plants which exist already and to substitute imports by local production.

Therefore, no plans for LNG simply because the local demand is there.

Narendra Taneja

How do you plan to capture all that gas which is being flared so that it can be monetized maybe for the benefit of the local population or the local economy?

Nicolas Terraz

Sorry, I was not clear. The plan is to collect gas that is currently being flared, to process it to commercial specs and to supply it to gas-fired power plants – but locally.

Jeremy Fain, CEO of Blue Water Intelligence

Thank you very much for this talk. Jeremy Fain from Blue Water Intelligence. I have a question regarding peak. In any energy system, the system needs to be balanced and you

mentioned that you are developing battery capabilities to handle the peak in a low-carbon way.

First of all, what is the capability of your batteries at the moment? Because it is not simple technology at a large-scale.

Are you considering other energy sources? Intermittent energies are not the solution for peak, so typically countries look at either nuclear for capability or hydro power for storage, dams in particular. Are you looking at these?

I believe not nuclear because it is written in your annual report, but who knows? It may change but what about hydro power? Are you considering this?

Therefore, I have three questions – battery capability, nuclear yes or no and are you looking at hydro power? Thank you very much.

Nicolas Terraz

The battery storage capacity required is assessed for each project, depending on what the market is, what the demand structure is, what the pricing structure is, what the customer requirement is.

Typically, for a many of our renewable projects today, we associate them with batteries. You were asking what the size of our storage is. It depends but, typically, for a one-gigawatt renewable project, we can have a storage capacity ranging anywhere between 300 to 600 gigawatt hours. Therefore, it is pretty large.

Then, yes, you are right – batteries are not the only solution to manage intermittency. There is pumped storage hydropower plants and other ways to do it and we are looking at this, definitely. We are always looking to manage intermittency.

Regarding nuclear, no, we are not investing in nuclear, which does not mean that we do not believe nuclear is a good solution. Nuclear has certainly a role to play in a decarbonized energy mix, but it is not a domain in which the Company is investing.

Nuclear is not our competency and we have no experience in nuclear power. Then we tend to also look at the long-term liabilities and we think, for a private company like TotalEnergies, managing the long-term liabilities associated with nuclear is not easy.

Olivier Appert

Thank you. Yes, you have the floor.

Renaud Girard, Senior Reporter and International Columnist at *Le Figaro*

Renaud Girard from *Le Figaro*. I would like to know the impact of a small geopolitical event that happened in February 2022, which was the invasion of Ukraine by Russia, on TotalEnergies' business.

What was the shift of your business? Can you tell us the shift of business from January 2022 to January 2024 and how much it cost the company, this small geopolitical event? How could

you face it? Did you have reserves? Did the government help you? Did the European Union help you? How did you face this change of business?

Nicolas Terraz

First, Renaud, the impact on our business, I think we communicated transparently and clearly on the business principles we decided to apply after the invasion of Ukraine. We firstly said that we would abide by sanctions, regardless of the impact on our activities – and we are doing so.

Secondly, we stopped the purchase of oil and petroleum products from Russia. We also announced that we would gradually suspend our activities in Russia. We had one oil production field in Russia, Kharyaga, that we sold. We had a gas field for domestic supply, Termokarstovoye, which we exited. Then we communicated that we deconsolidated our interest in Novatek.

We have kept our interest in Yamal LNG, which is a liquefaction plant supplying Europe, one of our principles being that we continue to supply LNG from Russia to Europe as long as European governments actually consider this desirable and that there is no sanction of that.

The cost of all this is public because we took a total depreciation on Russia of over USD 14 billion.

No, the French government did not provide us with financial support. It is not the practice in the company to ask for monetary support from the government. I do not think we would get it anyway, we are trying to manage our business by ourselves.

Jean Abiteboul

Usually, it is the other way round.

Nicolas Terraz

Yes, it can be the other way around.

Olivier Appert

You mean that you are not like the big banks? When you have a problem, you do not ask the government to help you?

Nicolas Terraz

No. The company can manage this type of crisis. We have a limit to the amount of capital employed that we put in each individual country, as part of our risk management. It is a sane rule and, actually, the Russian crisis has again demonstrated to us that we need to stick to that rule.

Renaud Girard

What is the maximum? It is 15% per country or what?

Nicolas Terraz

Ten.

Renaud Girard

Ten percent, thank you.

Nicolas Terraz

That is what I can say after, of course, there is an impact on our production. If you look at our annual reports, we were a 2.8-million-barrel-equivalent-per-day company two years ago. Last year, we were at 2.4, this year 2.5, so there is a gap.

We are developing our LNG business outside Russia. We have a number of projects. We recently announced that we joined Rio Grande LNG in the US. We are participating in the very large North Field Expansion in Qatar, with six new LNG trains. We have working to be able to resume Mozambique LNG and to sanction our Papua LNG project. We are participating in expansions with Nigeria LNG and Oman LNG. Therefore, we are growing our LNG production from outside Russia.

We have actually increased a lot our LNG imports to Europe from other sources last year and I think we contributed in a meaningful manner to the continuity of supply of gas to Europe.

Therefore, that is what we are doing.

Olivier Appert

Thank you.