STÉPHANE MICHEL

President Gas, Renewables & Power and Executive Committee member of TotalEnergies

Marc-Antoine Eyl-Mazzega, Director of the Center for Energy & Climate of Ifri

May I turn to Stéphane Michel. Stéphane, you are a member of the Executive Committee of TotalEnergies, and you encompass the need to work both on molecules and on electrons, and on intertwining them per your functions. Your CEO, Patrick Pouyanné, has been extraordinarily present and active at the two past COPs, notably pushing a deal on reducing fugitive methane emissions. Perhaps to start with, and continuing our conversation, you could tell us what takeaways you have on your list from these COPs in your investment plans and how you concretely translate that into investment projects.

Stéphane Michel, President Gas, Renewables & Power and Executive Committee member of TotalEnergies

Two good questions. Thank you. Good afternoon. I think that COP28 was indeed a very important COP because for the first time, the West, the Global South and the oil and gas companies discussed, without taboo, one of the key questions, which is what the place is of fossil fuels in that transition. Thanks to the leadership of Sultan Al-Jaber, we came up with, at the same time, a pragmatic plan, and an ambitious one, with the idea that we should speed up the transition and invest more money, because we are not at the pace we should be at, and at the same time respect the legitimate right of the Global South to use their fossil resources to develop themselves, because they actually need that, especially Africa. That is one.

Then when you look at the outcome, I believe there are three interesting ideas. The first one is clearly to triple the amount of gigawatts of renewable energy produced by 2030, which means at least doubling the pace at which we are doing that. The second is to acknowledge the role of gas in that transition, because today, as you mentioned, we continue to increase the consumption of coal, and we continue to invest in coal fire plants, which is total absurdity when you know the difference. The third is to ask the oil and gas industry to work on decarbonizing its production, which 54 companies have now agreed to do, signing the Oil and Gas Decarbonization Charter. Patrick Pouyanné is currently chairing that group, and that group already represents around 50% of the industry, with plenty of national companies, and with concrete actions to improve the industry's emissions, and notably to reduce the methane emissions to zero.

Therefore, this COP was very important. Baku was interesting in the sense that we made progress on Article 6 and the way we can use credit, but I would say that clearly the one in Abu Dhabi was key.

Has it inspired our strategy? I would say no, because we changed our name from Total to TotalEnergies a few years ago, and our strategy was clearly to say that we cannot stick with fossil fuels. At the same time, we need to build a new pillar based on integrated power and renewables. However, it clearly reinforced our strategy, which is consistent with that time.

Just to give a few examples, we will reach 28 gigawatts of renewables worldwide this year. We will be at 35. We are on track to reach 100 gigawatts of renewables by 2030, and we are notably quite active here in this region, in Oman, in Qatar, although not in Abu Dhabi because Masdar does not need us to do the job, but we are present in Saudi Arabia. If I go a bit further, we are currently building, with our partners, the largest solar plant in the world (20 gigawatts) in India. That is just amazing. That is six nuclear plants on a single site. That is taking place, and that is USD 4 billion of investment per year.

However, at the same time, it cannot only be renewables. It needs to be gas as well, and decarbonized gas. I am glad to say that we are currently building a small plant, but a nice one, 1 million ton of LNG in Oman, fully decarbonized using electricity coming from solar panels, a 300-megawatt solar plant. That will be the lowest emitting LNG plant in the world, and so the lowest gas, and it will be used for bunkering LNG to allow the maritime industry to switch from the current fossil fuels to LNG, improving their own emissions. Therefore, clearly, those COPs reaffirming where we should go are an inspiration for the strategy we put in place.

Marc-Antoine Eyl-Mazzega

Many thanks. Therefore, basically, that involves working, of course, with all the different molecules, and when we mentioned molecules, I should have perhaps specified that we are talking about natural gas that is progressively decarbonized, either via biomethane or via carbon capture and storage, if they are related to emissions. However, you can also have, of course, hydrogen, and we will talk about that in a second time, because there are different types of hydrogen and of byproducts. Now, perhaps, could you tell us a bit more about the one or two flagship investment projects that to your mind combine this ability to deliver both on the molecule and on the electron front? You mentioned the extraordinary investment in India in solar. By the way, India also wants to be a hydrogen giant, and maybe there are opportunities related to that. However, one thing that has been coming up over the past two or three years in terms of importance as a solution is carbon capture and storage or reutilization. Do you also have this in your toolbox? What are you doing in this field?

Stéphane Michel

Yes, for sure. You need to do so because in 2050 you will continue to use oil and gas, and you will continue to emit CO_2. Therefore, that CO_2, if you really want to be net zero, needs to be stored somewhere. That is why it's important to develop the CCS industry. That has started in Europe with one project in Norway, in which we participate with Equinor and Shell. It is starting now, where we are going to store CO_2 captured from European industry, liquefied and transported by shipping, and then stored deeply in Sleipner field in Norway. We have also acquired several acres in the US to try to do exactly the same thing. Therefore, that is one for CCS.

Then the bulk of the transition is electricity and how the world is going to move to electricity. Actually, we are also a shareholder of an EV battery gigafactory in Europe because you need to think about production as well as demand. If we are not able to reduce the cost of that transition on the demand side, then it is not going to work. That is an important point. One of the challenges, as you mentioned, is to produce the molecules in a different way. To do so, you first have to use biomass to produce biofuel. We are transforming our refineries one after the other into plants to process biofuel. That is already the case in France, notably in La Mède and in Grandpuits.

Then there is the question of whether you can use electricity to produce molecules to decarbonize. That is the touted question of green hydrogen, which I believe my colleague will discuss. On our side, we want to decarbonize all the hydrogen of our refineries. That is 500,000 tons by 2030. That is why we have launched a big tender to be able to purchase that hydrogen. We are going to partly source it from Saudi Arabia and partly from our own production. We have a big project in Europe in France and in the Netherlands for electrolyzers to produce green hydrogen. We produce green hydrogen and use it in our refineries to decarbonize that production.

Marc-Antoine Eyl-Mazzega

Thank you. We will be able to dig into that later because I am sure there will be questions. As we are addressing the issue of hydrogen, perhaps let me take one second to explain to the audience that you do not find hydrogen on the ground (or only exceptionally). You do not find it in the air. It is an energy vector – it results from a chemical process. The bulk of hydrogen consumed and produced today in the world is very carbon-intensive. It comes from coal, and it comes from gas. It is a large share of global greenhouse gas emissions, so there is an opportunity to clean this carbon intensive hydrogen, but there is also an opportunity to use more hydrogen and to produce more for new users. One of these users is energy storage.