

Center for Strategic and International Studies

“A Conversation with Patrick Pouyanné, Chairman and CEO of Total S.A.”

**Featuring:
Patrick Pouyanné,
Chairman and CEO,
Total S.A.**

**Moderator:
Sarah Ladislaw,
Director and Senior Fellow, Energy and National Security Program,
CSIS**

Location: CSIS Headquarters, Washington, D.C.

**Time: 9:00 a.m. EDT
Date: Thursday, May 17, 2018**

SARAH LADISLAW: OK. Good morning. Hi, I'm Sarah Ladislaw. I am the senior vice president and director of the Energy and National Security Program here at CSIS. I want to – (audio break).

(In progress following audio break) – that we've been doing on climate change and the national and corporate interest, where we've has a series of government and private-sector leaders come in and talk about the ways in which they see taking action on climate change as being part and parcel of their core interests and how they approached their strategic vision going forward.

And Total has been making a number of remarkable moves recently that really go to the heart of what we're trying to get at in this series, which is how do companies not only address the need to move to a low-carbon transition, but also do so in a way that helps them face all of the competitive pressures that you're seeing across the board on the horizon. So I think most of the folks in the room are familiar, Total is one of the largest oil and gas companies in the world, fourth largest, present in over 130 countries, and has formidable oil, gas, and renewable assets.

But maybe, to get started, Patrick, would you talk a little bit about what – who Total is, what drives you as a company, for those of you who might not be terribly familiar?

PATRICK POUYANNÉ: Total is an old company, 1924. We are born after the second – First World War, because France realized during the First World War that a lack of access to hydrocarbons was a reason of the defeat. And we took over the shares of the Deutsche Bank and the Iraq Petroleum Company. Why do I remind that? Because it's back to one of the important DNA of Total, which is we are born in the Middle East – in fact, in Iraq and Mesopotamia.

The second part of Total, by the way, is born after the Second World War, based on the development of Africa and the only gas field which ever existed in France, which was a gas field in southwest of France, which is over yield now. Which is the second characteristics of the company. It's the only major oil and gas company with no domestic resource. So this company and this group has grown outside of our country – Middle East, Africa, and the last area of focus for the company was North Sea in the '70s, with the discovery – the North Sea venture, where Total has been one of the leaders.

But the second characteristic is that Total is an oil integrity company. We are doing everything with the oil molecule. You know, we explore, we produce, we transform, we refine, we make petrochemicals, plastics. We distribute, which is important. We go (end ?), to the customers.

And the first gas – (inaudible) – which is obvious. Each time I'm going everywhere in the world, people think we are oil company. In fact, we are also producing quite a lot of gas. It's around 55/45 today between oil and gas. And, on gas, we are more a gas producer than an integrated company. And one of the strategic axis I will develop this morning is what is to develop integration downstream, so the gas value chain as well.

And so that's the company, which is a – which has a sort of the right size in this business, where because we face volatility of the commodities and the oil price, we experienced that in the last three years. And one of the lessons is size matters. We have a strong balance sheet in order to be able to weather the storm of this type of up and downs. We have the right size. I mean, and we continue to grow. So that is all, these are the main characteristics, I think, of the company.

We are French, so we are always in French, you know.

MS. LADISLAW: So you say Total is an oil and gas company first and foremost, born in the Middle East. You also have taken a position on the Paris climate accord that you're in support of it and have actually been doing a lot more business that's been making headlines in terms of electric power acquisitions.

I think most people in the U.S. are familiar with your position with SunPower, a solar PV manufacturer, but maybe not quite as familiar with what you've done on the electricity retail side of the business with Direct Energie in France and Belgium.

So oil and gas company, but making a lot of electric power-oriented purchases. What's your vision for the company? What's the purpose of all of that?

MR. POUYANNÉ: OK. So I will be maybe a little long to explain it fundamentally. I will take that question on the strategy.

In fact, OK, you have, of course, the climate change. In fact, it's a question of evolution of our market at the end of the day. You know, we have today a world – and this is the only – I don't have a speech, I only have one slide, which you should all know, which is a view of the primary energy demands in 2017 and what are the projections in 2014.

And in fact, you have various scenarios on this slide. They are what we say, what we call a 2-degree scenario or less than 2 degrees. So 3 degrees, 3.3 degrees and a 4.5 degrees.

And what we can observe from this slide is the oil markets will evolve. And it's important for an energy company or an oil and gas company to look to evolution of our market, you know.

And so, of course, the Paris agreement is fundamental, first, because it has been signed by 195 countries, because in fact it's a reality that there is a climate change. I know that in that country – in this country, maybe my sentence is not obvious, but this is a reality.

Oil and gas companies are clearly part of the problem, I would say. I don't want to be part of a problem, I want to be part of a solution. You know, I consider that a company like Total with our size, with our financing capacities, our engineering capacities, we must take the problem. And it's filled with opportunities, in fact.

In particular, if you think to that as trying to have a roadmap which will be in line with a very – (inaudible) – market. What is the return on this? And it is what I – it's public, it's not secret. Total is just the international – (inaudible) – scenario. I mean, we have our own scenarios. Maybe we published them, it says public.

What is the return value? It's return first, but in 2040 if we want to be in a 2-degree world, we should not consume more than today, globally speaking, of our energy demand, which is an incredible challenge because today we are 7 billion people, 1.5 billion people do not have access to energy. In 2040, we should be 9 billion. So if you think that one objective of the world is that everybody should have access to energy, which is quite a challenge, I think more or less the same global demand is a huge energy efficiency challenge.

So it's part of what any energy company must have in mind. And we are energy consumers, we are energy providers, so, first, thinking to energy-efficiency businesses. And the way we manage our operations is a duty for us.

So again, observation is that, of course, it depends on the scenario. And I'm not sure that the 2-degree scenario will be – will be in place because in that scenario the oil demand in 2040 should be around 18 million barrels of oil per day.

MS. LADISLAW: Yeah.

MR. POUYANNÉ: And frankly, when you use all the technologies we have, even plenty of EVs and plenty of – we don't see a world of 18 million barrels of oil per day. But there could be a lot of innovations between today and 2040, but we need more.

But in that scenario, that means that the demand for oil could be lower in 20 years than today. So, of course, for an oil company, this is a challenge. You know, if we are – if we are working in a decreasing market, we need to find other sources to grow, because my objectives at Total, we will continue to grow in the future. So oil, we have to face that reality.

And the consequence for us in oil is that we want to focus on what I call the low-cost oil. It makes no sense for me to explore oil in the Arctic just to have NGOs against us – (laughter) – to drill a well of 400 (million dollars), 500 (million dollars), \$400 million. I have plenty of ways to allocate better my capital by doing things, but it doesn't make sense from an economic point.

In public, Sheikh Yamani said that 20 years ago. Sheikh Yamani was the Saudi minister, he said the age of oil will not end because of lack of oil, like the age of stone did not end because of lack of stone.

MS. LADISLAW: Yes.

MR. POUYANNÉ: And it's true. I think the idea that we will produce all the oil of the Earth is just – is just something wrong because we have permanent innovations, technologies, and we evolve. We are – we have to think to that. So, on oil, let's focus.

Then the second lesson of it is that there is room for us to have more gas. Gas should – should be – it's a hydrocarbon – it's a hydrocarbon of choice for energy transition because it's more flexible, because there is less emission of CO₂ when you make power. In fact, in the oil fight in terms of market share, it is gas against coal. I know it's also difficult.

It's not difficult, by the way, in this country because it's U.S. – in fact, it's the place where this fight has already been ruined by gas. In fact, it's true. I don't know why the U.S. are perfectly in line with the 2-degree scenario. This may be the only country in the world which is in line in fact with Russia, or its provocation, which is true, by the way, as well.

And so, for us, that means that let's invest more in gas and in the full – (inaudible). And not only in producing gas, but we need to invest in order to create a demand for gas. And so we have seen some – and when you think gas, people don't need gas, they need power or electricity or heating. And so this is why you see Total moving downstream the value chain from producing, liquefaction and

consuming, transforming gas to power, because this is for us the basic economic – we want to be in all the steps of the gas value chain and electricity, and so – including distributing gas and power to end customers because it's part of the business.

And this is a lesson, you know, of the last three years. We managed to weather the storm of volatility thanks to the downstream businesses in particular. And so you have these integration that's fundamental to the economic model and to – and also to the mission. Our mission is to bring energy to the people at the end.

And then what in this slide I have is what you have, a very growing business of renewables. There again, it's electricity – renewables, solar or wind. It's for providing electricity because one of the characteristics of our world is that the demand for electricity is growing much quicker than the global energy demand – digital world, batteries, all that. Our world is we'll use more and more and more electricity. And in 2040 – today, you have only 25 percent of final demand is electricity. Tomorrow, it will be much more than that.

MS. LADISLAW: Sure, yeah.

MR. POUYANNÉ: So this is what you keep in – you need to keep in mind. And so when you build the strategy of our company, yes, we are oil and gas, but we think that we must also prepare for that future because we want to be in 20 years – I will not be there, but I want the company to be still one of the major energy companies. And so it's step by step.

Of course, it's diversification. There are some changes, we can come back on it. But this is why you see us moving. And all that I described, of course, is our contribution to the climate change challenge.

MS. LADISLAW: Yeah.

MR. POUYANNÉ: Because each time that I'm taking – this year I will take \$2 billion – or more than that; \$3 billion, in fact – out of the cash flows which are produced from oil, but I will reallocate that to these low-carbon boosters. I'm contributing with my own – at my level to this low-carbon future. So this is a way I look at it.

MS. LADISLAW: What about folks that say, for companies like Total that's created a venture fund, that's invested in companies like Saft, that's invested in other clean-tech companies that you can make investments in those companies, but how do you integrate them as a core part of your business? And what should the bar be for people that are trying to judge or what's your bar for trying to judge those investments as a success?

MR. POUYANNÉ: Well, two different things. We have a small venture fund. You know, it's for fun, you know –

MS. LADISLAW: It's for fun. (Laughter.)

MR. POUYANNÉ: – for fun, \$200 million – no, it's good. In fact, you know, for me, that's a small – it's a funny story. I mean, it's a – you have, in a large corporation like Total, you have one of the difficulties, because we are successful, it's a form of arrogance, and how can you capture

innovations which are small, which are far from the way our teams could behave mainly on oil and gas. So the capital venture fund is more a way to –

MS. LADISLAW: An experiment.

MR. POUYANNÉ: – some small matters, you know, and to identify innovations which could make sense. And it's also a way to oblige the people to listen and to keep their eyes open to what is happening around us.

More fundamental, when we invested in Saft, we have acquired Saft, which is we spent \$1.1 billion to acquire a battery company, Saft, so that's – it's a real business, you know, like when we are majority shareholder of SunPower, like we will acquire Direct Energie. Direct Energie is the first gas and power B2C company in France after EDF and ENGIE. So it was the first competitor and will become one of the large competitor. And when we acquire this company – this one is for 2.5 billion euro, so it's quite big investment – it's because we consider that if they will be part of a new – I mean, the segment of activity that we want to develop, what we call the low-carbon part, I mean, in gas and value chain.

So these companies, we integrate them. And even if we have – they have the knowledge. You know, there is no way; when you diversify, you need to acquire talents. I have no people in the company who know anything in – knew anything in batteries before, you know. And even in electricity, you have to – we are electricity consumers, but we don't have really the talent. So when we need at a certain point of time, if you are serious, if you want to develop business to acquire not only assets, but people, which is – because people at the end will develop the company.

So all these acquisitions for each of them, and they understand the challenge is to become the core of the development of the Total group within these businesses. So we integrate them. And we also try to respect them in a way that they know better than us their business, you know. But Direct Energie, obviously, will become for us tomorrow the core of the development in the B2C business in Europe for Total. And we will begin by France, Belgium. We'll see what will be the expansion after that.

So, I mean, we have the financial capacity to do that, to attract these talents. And I think one of the interesting matters is that we are considered as being serious. It's not greenwashing, I mean, when you put 1 billion in batteries, 2 billion in the B2C business. And the people are interested to join the group because they see this momentum in which we are, month after month or year after year, building this business.

MS. LADISLAW: Well, and it's an important signal for those industries and those sectors of the seriousness that you put on their ventures as well.

OK, let's move to gas for a minute, because you already brought it up. A very big gas player just purchased or agreement with ENGIE for their LNG business, developing gas here in the United States. You've already talked a little bit about how across the gas value chain is the place to be competitive. But you're not the only company making big moves in the gas space. How do you be competitive developing the global gas market?

MR. POUYANNÉ: There is, again, if we consider, but, yes, the gas demand will grow. And particularly within that gas demand, the energy market is growing very quickly. In the last three, four

years, it was plus 7 percent as an average per year, and in the future it continues to grow. So LNG is a way to connect the markets.

We had the opportunity – there was not many opportunities, in fact, to make – (inaudible) – becoming clearly number the two in these markets. Shell is number one. Shell made two acquisition, Repsol and BG. There was only one left companies, which was ENGIE. So we managed to get. We will integrate it.

So we have no size – we will have a size of 40 million ton per year, which will be more of 10 percent of the world market. In fact, it's important, because there is an evolution in the gas market. You know, it was – before it was original markets. We've not so many connections, because gas has one difficulty. It's difficult to transport, you know, and there is a logistic cost.

But we are clearly going, because we have much more points of productions in the U.S., in Australia, in the Middle East, everywhere. You have plenty of points of production of LNG, and also many customers. You know, there was a technology revolution with the – (inaudible) – storage, and we get – (inaudible) – units where, for 200 (million dollars), \$300 million, you can have a point of access to a market like in Bangladesh, in Pakistan, in Vietnam, in Myanmar.

So we are creating a network of LNG producers and consumers. And so clearly one of the main challenge there is how can you optimize the cost of logistics. And, in fact, it's back to what we've done in oil 30 years ago with oil trading, you know. So you have to be a much more fluid market. And we can drive the cost down, which is fundamental for the gas consumers at the end to bring the gas – the gas price down and energy gas price down if you want to be competitive to coal.

And so what – the evolution for me is fundamental. Total was one of the largest LNG producers, but we are becoming today – tomorrow, with ENGIE acquisition, an energy supplier, which means LNG portfolio manager, LNG trader. And the objective will be clearly to make, at the end with LNG more affordable for the consumer.

So, yes, there are competitions, but it's a competition, if you look at it where it's big boys, you know. It's the big major – oil-and-gas major companies: Shell, Total, Exxon, Chevron. So you don't see many small and medium-size companies. Of course you have some national companies like QP, et cetera. But it's a good game for oil-and-gas major. It's a game between us with big national companies in front of us – you know, CNPC in China, CPC in Taiwan.

So this is exactly the type of business environment that we are accustomed to. So, I mean, for me it's an obvious case to try to develop the company. And this is really strong access of development.

MS. LADISLAW: What do you say to folks that say gas is good as far as it goes, but it's not really the kind of – the level of clean fuel that we need, particularly considering methane challenges and things like that?

MR. POUYANNÉ: Yeah. That's a U.S. story. But – (laughter) – no, but, I mean, we have to take it seriously. There is an argument. We made – we need to measure it. I think that that's the type of things which for me is a little – this why I say there is – I know that there are some NGOs which are strong about it. But when we look to the data, as we have internally, and we – so it's a subject we take very seriously at the level of a club that we have created between the 10 major companies, the Oil and Gas Climate Initiative with some of the European companies and national companies.

So we take that subject as the number one subject, in fact, as very seriously. And the first step is to have more data, is to understand the point, because when we look to the chain which we are responsible, which is the production, we have very minimum methane emission. It's less than 0.2 percent. So we are very far from the 2 to 3 percent that I can read in some papers.

And, in fact, that doesn't mean that we are not responsible, because the more we look at it, the more we begin to understand that it's more a matter of city gas distribution networks. So if, in the city of Boston, you have a very old city gas network, you could have some leakage there, which – but maybe – we are also – even if it's not our business, to look into and understand, because it's a question of global approach.

And we cannot say we are not responsible of what is happening with the products that we provide, because we want these products to be developed. And we are all convinced fundamentally, you know, when you produce power, electricity with gas, the emission is twice less than before. And I know that people advocate in particular here for clean coal, but frankly, clean coal means a lot of – means a lot of CCS, and I would like to see where the CCS is or technologies are. So, I mean, it's easier to – with gas.

By the way, you probably all know that if today, with a magic tool, we are able to switch in this world all the coal-fired power plant to gas-fired power plant, immediately it would be under two-degree scenario – immediately. So when people speak about big technologies and all that, it's not fully true. You know, gas-fired power plant is not high tech. It's just a matter of bringing the natural resource. It's a matter of convincing China and India and the U.S. to give up on their coal-fired power plant, I mean, which is complex –

MS. LADISLAW: It's very difficult.

MR. POUYANNÉ: – because what is complex behind, if that – in the energy world is mainly driven by the affordability of energy. Affordability or low-cost energy is fundamental. And this is the surreal antagonism for me, fight between climate change, to be able to get on the roadmap to 2 degree, is that, in fact, what drives the world is having access to low-cost energy, to an affordable energy, because it's primary element of any social-economic development of any country.

And so wherever I go around the world, when you go to Southeast Asia and in the emerging country, it's a real issue for the policymakers is to have access to the lowest-cost energy possible. And today it's coal. So they produce – they develop coal, you know. And so that's a real challenge to convince the people. Again, it's back to of can we drive the price of gas at a lower level? I mean, that's what we need to do.

MS. LADISLAW: OK. So you've mentioned a couple of times where in the U.S. we had another prominent French individual, President Macron, here not too long ago. And he addressed the U.S. Congress.

I want to talk to you a little bit about your perspective on the U.S. in relation to this challenge in particular; just a quote. The president addressed the U.S. Congress and had some comments on climate change, which were – some people think that securing global – current industries and their jobs is more urgent than transforming our economies to meet the challenge of global change. I hear those concerns, but we must find a transition to a low-carbon economy. What is the meaning of our life, really, if we

work and live destroying the planet while sacrificing the future of our children? And to be honest with you, I think that maybe there are a lot of folks with whom that comment resonated within the U.S. Congress, but there were also a lot of folks for whom that probably was a non-started and not really where the U.S. addresses these issues. How important is it for you, particularly because you have a large and growing presence, a Washington office now as well – how important is the U.S. perspective on this challenge for your business?

MR. POUYANNÉ: This is – obviously, the U.S. important. But, again, I think what whatever is the decision of your policymaker is, in fact, the reality is that it's one – the country where we have seen the most positive evolution in the last 10 years. So it's strange to me for Russian oil man to say that in a country where, in fact, you have been a strong evolution in the direct direction for the climate change, because you have one treasury which is all the gas which have been discovered in this country. You are – you are sitting here on a huge bubble of gas. Every days of oil – you produce shale oil, you produce more shale gas, and gas, and gas. I think it's a big country which will benefit from a very long-term, low-cost gas resource, as a low-price gas resource. And we have seen a shift from gas to – from coal-fired power plant to gas-fired power plants.

So whatever policymaker – and I think this country is driven first by economics more than policymaking. The reality is that you have here some – and so I'm optimistic whatever the position is – that was the agreement. And I'm sure that one day the U.S. will come back within the agreement, if it ever exits, by the way. So I think that President Macron was right. And on that point, he will maybe have a success.

For us, I mean, I have no doubt about we need to invest in the U.S. And mainly, by the way, as a – again, the gas value chain. And so this is why one of the important tasks actually in the energy acquisition is that we are becoming shareholder for the Louisiana Cameron LNG plant, which will start the end of 2019. Producing LNG in the U.S. from this local gas base is an obvious business case. I mean, I have no doubt. That's why we need to be part of it. It's also a place where you can – you have a benefit from these low-cost gas – so low energy price.

So when you think to developing downstream business, petrochemicals, I don't mean – I mean, it's not very complex. Again, I'd have to build a new cracker, I make it in the U.S. I will have access to local seafaring, low taxation, a stable country – I hope so. (Laughter.) So I mean, I would be – I'm not a chemical company. I mean, in have my petrochemical arms. But I will be a chemical company, I would put my own oil – or, not oil, but a lot of money in the U.S. So, I mean, for us it is really – this is a reality.

So, and, you know, we have done last week – or two weeks ago, we have announced that we have invested in a company called Clean Energy. Clean Energy is a U.S. company which is developing natural gas for trucks network. It's very interesting, you know. And why did we make that investment? It's a company, market cap, what, \$3 billion five years ago. There was a big event, yes, I mean, in the U.S. about the NGV trucks and CNG trucks and all that. Then when the price of oil collapsed, and we see the spread between oil, diesel and the natural gas narrowed. So the market cap collapsed to \$300 million.

So maybe today when I see – thanks to the U.S. as well – when I see the oil price going up and up and up, maybe it's the right time to reinvest. And so it is there – for me, if there is one country where this natural gas for trucks could work, it's here because, again, I believe you have for a long with giant resource of low-cost gas in the U.S. So there are plenty of reasons, you know, again, and to – and

so why we are investing. By the way, in the last three or four years, we grew our asset base from \$6-7 billion to \$10-12 billion.

And so in the U.S., whatever policymakers think, first the reality of climate change is there. Second, in fact, you are – because again, it's – for me, when I began my career 30 years ago, I began in environmental matters. In fact, I was in charge of controlling the emissions of plants in the north of France. And what I'm considering environment progress only because economic decisions are taken, not because of regulations. It's not true. You can regulate, regulate. But, you know, even when you regulate, at the end of the day you have to convince the company, the industries, to make the right investments, to go in the right direction.

It's more a question – and they will do it or not to do it. Even if you fine them, it does not enough. At the end of the day, if you want the environmental – the air quality, for us you need to convince them to make the investments. And so in the U.S. it's working. The economic dynamic is positive and will continue to be positive. You will see.

MS. LADISLAW: So you brought up the regulatory environment. I must ask you – I mean, this administration has really regarded its deregulatory efforts as one of the things it's doing that's positive for the industry, in addition to tax reform. Are you seeing the regulatory and policy environment in a positive way here in the U.S., or is it really back to sort of the economic –

MR. POUYANNÉ: Honestly, I think compared to Europe, the regulation were much lower, I can tell you. So deregulating something which is much lower is fine, but it's not fundamental, from my point of view. No, the difficulty in the U.S. for a European company is your legal – your legal system. In fact, what is not much lower at all is the level of fine, because we are facing – there is a strange mechanic system. And I think in Davos we had a dinner with your president. And he wanted to meet 12 or 13 European leaders. And we told him – he told us, what is the risk of the U.S.? And the answer was, your legal system, because we can face incredible suits – legal suits with all your lawyers and all that, which for European companies are very strange, you know.

And we face sometimes – we are able to oblige to negotiate deals, which to us are much higher to what we should do in a normal world. So that's the difficulty. But it's another way to approach the legal matters. So we'll need to – or, we are obliged to learn that, which we learn every day. So honestly, I think one point which was on – which has probably a positive influence was after the Macondo accident. So regulations on the deep – on the offshore, regulation for exploring oil and gas in the Gulf of Mexico was currently very tough and very stringent, and very costly.

So I think that some moves which have been done recently are opening again. But really – it's probably because the regulation was an answer to a lot of legitimate emotion, you know? So of course, policymakers may think very stringent after the Macondo accident. And even in oil companies, by the way, we have also – and as a level of specifications – but we have been probably too fast. So it becoming – for us, becoming too expensive. So, again, by the way, in the Gulf of Mexico, when you see the players today, it's more big players who are coming back. So companies who have capacity to face this type of risk.

And I think it's a good move to have – to be less stringent because we can – I'm convinced we will drill. And we have made a big, beautiful discovery with Chevron, so more discovery the beginning of the year. We can drill very safely without being – without being obliged to over-specify the well that we are drilling.

MS. LADISLAW: I want to touch on oil markets and geopolitics for a minute before we open it up to the audience for questions. You mentioned a couple of times already the last three years have been one in which companies have to find out a way to be resilient to a volatile low oil price environment. We seem to be in a different step now, whether you call it a rebalanced market or just a period where prices are a bit higher. OPEC is starting to look at new targets, making new signals. Where do you think we are today as far as oil –

MR. POUYANNÉ: We are – we are in a new world. We are in the world where the geopolitics are dominating the oil price again. I'm not sure we are rebalancing. It's not true. It's not true. According to our internal calculation, we – the inventories are still \$100 million – the OECD inventories are still \$100 million above where they should be. Where they should be is, in fact, a question, because the republic has made something strange. You know, they tried – they tried to correct it, by the way. It was to compare the OECD inventories to the five-year rolling average. Of course, as there was a growing supply, you have five-year rolling averages are going up and up and up. In fact, the reality was just if you take the level of inventories in 2010-2012, more or less around 58 days, the demand has increased in the meantime. So if you apply the same ratio, we are still above – we still have above in terms of inventories. So we are not fully in balance. It's not true.

What is clear in the market, you have a strong demand for – strong demand – dynamic for demand of plus-1.5 million barrel oil per day. That's clear. The OPEC/non-OPEC, with Russia – Saudi Arabia-Russia agreement, has been implemented efficiently. They are very compliant. That's also true. But on the top of it, clearly, you have geopolitics, and the announcement on Iran clearly is pushing the price up. And I would not be surprised to see \$100 per barrel in the coming months because, clearly, you will have some impacts. And we all have to – we know we are back to the situation we were before the 2016 agreement, and in the meantime Iran has grown its exportation by 1 million barrel(s) per day. So this 1 million barrel(s) per day is in question today. And the top of it you have Venezuela, which is really a catastrophic situation and their production is declining. So you have many impacts on the supply for many geopolitical events not linked to supply and demand, not linked to OPEC, which are impacting the supply in an iffy way.

And of course you have the dynamic of the U.S. dynamic, with the Permian and shale oil. But even here you have strong investments, but you have a lack – you have some bottlenecks in the pipeline for oil, pipeline for gas. And when I discuss with my peers who are involved in the Permian, they all tell me that it will take 18 months before to solve. And so we can face the situation there between today and the end of '19 with not enough new oil coming into the market and a lot of disruption of the supply.

This is why you see the price going up and up and up, and we are at \$80 Brent last week. We reached \$80 Brent again. I think it could continue.

Is it for long? I am not convinced. So it's why – maybe because also I have experienced, you know, to become CEO of a company when the price collapsed to \$27 per barrel. (Laughter.) You know what it means to be a little poignant.

So we continue to drive the company at \$50. I continue to maintain the idea that there will be volatility because once these bottlenecks will be solved, the U.S. machine will come back again, because if the price remained on \$80 the investments in the industry will come back again, and so we will recreate the dynamic which will create again supply back.

And at \$80 per barrel there will be some impacts on the demand. I don't think – I think a mistake which is not in the comments today, people consider that the demand is good for this year – that's true – that it will continue next year. It's not true if we are at \$80. I can observe – even in France, you know, I begin to see people complaining about the gasoline price because in the – in the last three years the government, of course, as the price of oil was very low, has increased taxes, which is good game, but you know, today you have the high price and the high taxes. So you have people complaining. And France is not important, but in emerging countries I begin to see that move of governments. And if you just read the weak signals in newspapers, there are matters of subsidies again back in some emerging countries, which will damage the economic growth. And so I don't believe we will keep a strong demand of 1.5-1.6 million barrel(s) of oil per day per year at \$80 per barrel. It's not true.

By the way, you look what was increase of demand when we had this type of price six or seven years ago. It was less than 1 million, around 1 (million).

So that's why we are – there is volatility, because you never manage to – and I know that our OPEC colleagues, they dream to have a stable price. I mean, it's just a dream, you know? But you know, three years ago I said whenever I interviewed there is a theory of a price – a price ceiling. There was a price floor; no, there is a price ceiling, you know. Before, it was never under 80 (dollars). Today it was never above 60 (dollars), three years. I would tell you all that is absolutely wrong. So – (inaudible) – the market – there are – you have moves in these markets which could be much quicker but what you think. So the idea of stability is a dream for the ruler of producing countries, but it will never happen. So we'll see what the OPEC will do.

I would be them, I would – I would tell you I would not change my policy. I would stick to the policy, because for them obviously, it's much better to stick to the policy, to see the price of 80 (dollars), than to see – to keep – to lose, it disappear.

But, you know, if you have cycles, it's because fundamentally you lose discipline. You forget. And one of the main challenge for me and my company will be to try to manage to maintain the discipline. But even for me, you know, of course when I see (fires ?) coming to me today, last year, when we made the Maersk Oil acquisition, we acquired it at \$50 per barrel. By the way, it was a good move because (it's at 75 (dollars)), so it's much better than what we anticipated. We never – we were not – (inaudible). I didn't dream about it. So we were right to acquire the low cycle.

But it's true that today, when people came to my office, I'm looking to 50 (dollars) and I'm looking to 60 (dollars), you know? It's a question of human psychology. You cannot – so the question of keep the discipline is really – for me, the cycles are linked to this difficulty of maintaining to be permanent. Of course, we'll try to do that. So that's point.

MS. LADISLAW: If oil price stability is the dream of OPEC, maybe capital discipline is the dream of –

MR. POUYANNÉ: Yeah. But, you know, yeah, it's a dream because, in fact, it will be clear for us. We made huge efforts to have a break-even going down to \$30 per dividend and 50 (dollars) post-dividend. I think 75 (dollars), OK, we are very comfortable. So one of the objectives will be to keep that break-even at that level because that means that then we can deliver more dividends or buy back shares – (inaudible) – our shareholders, but also we can grow, use part of these revenues to grow

the company in the new energies, low-carbon businesses, you know. So I will – if I'm doing more today in these business(es), it's because part of the extra money we allocated to this type of business.

MS. LADISLAW: I know everybody's going to want to ask you questions. The last thing I want to ask before we open it up is clearly there was the JCPOA announcement that's been the subject of much speculation here. You released an announcement on it yesterday about what it means for you in South Pars. What would you like to say about how that changes your perspective on investment in Iran – your investment in particular, but then also just the regional dynamics? You're so familiar in so many places in the region. Do you think it will have a broader effect as well?

MR. POUYANNÉ: Of course it's – it will have a broader effect, but I'm not in charge of – I'm not a politician, neither a diplomat. So, of course, it's not neutral at all. It has a major effect on the dynamic in the region. We are – we will see the effects month after month.

I mean, for us, to be clear, I've always been very clear we have decided to look to that project in Iran because of the JCPOA, which means end of secondary sanctions. As soon as the U.S. decide to put back in place the secondary sanctions, there is no possibility for us to be a major company, a global company.

You know, I will just like to – three examples, you know – (inaudible) – statement. Secondary sanctions means that the U.S. president can decide that Total cannot have access to any U.S. banks. I cannot run a company in 130 countries without any access to any U.S. banks. It's impossible. This is our world. Ninety percent of the financing of Total are linked to U.S. banks, so it's not possible.

The second possible secondary sanction is that it could give order to investors not to invest in Total. I have more than 30 percent, almost 35 percent, of U.S. shareholders. I will not lose them. It's not possible.

And then he could also give order that we could be – have problems with our assets in the U.S. I have more than \$10 billion. We intend to grow.

So this – it was always clear to us. We decided to sign South Pars because there was an international framework by the JCPOA. We have done it fully legally. It was an opportunity. We negotiated it. I think it was a – it is a project which is not growing the export – (inaudible) – Iran, domestic gas. We made even – as we stated, we – people probably discover that we were very stringent with our terms because we told them we don't want one single Revolutionary Guards being any economic interest in any of the contractors we will work, and we implemented strictly that policy. So we participated, I think. So let me be clear, it's not because we invest that we are naïve and we don't see the global/regional dynamic where we are very involved.

So, at the end of the day, I am in charge of protecting Total, you know, and our interest of the company. And the only way, if we want to make that project, it would be to have a project waiver from the U.S. I'm not sure it will be easy to obtain, to be honest. But we have also a contract with Iranian – with Iran that we will respect, which is asking us to ask the support of the French authorities to get that waiver. French authorities will discuss, and as we said, we will – and we are engaging to examine if it's a possibility to get it. If I'm in Washington, I will meet the people. But again, to be clear, today and at this stage I gave instruction to make no further commitments to South Pars 11 because the global trend is that by November 4th we'll have unwind all operations in Iran. I mean, that's the law and that

is the rule of the game, and we are playing and we are working with the rule of the game in the best interest of the company of Total.

So what will happen to the dynamic of the – of the region will be another interesting position to observe. You know, we have a strong position in that region, in Abu Dhabi, in Qatar and in Saudi Arabia mainly. We will – we are continuing to invest in these three countries and will, I hope – my big hope is that it will not be a – we'll not see in that region a sort of an explosion, I mean, not see an armed conflict. Maybe we are no so far, but we will see. That's not my job to try. We do our best to do that.

Let's be clear, at the end, South Pars 11 for us was a nice opportunity and we would have – but we have been quite prudent. We remind to everybody, because there are plenty of figures, what we spent only, you know, \$40 million. You know, we had – (inaudible) – who understood what President Trump will do. And so that's a – that will be a – so we will do our job and engage with the French government and the U.S. authorities. But at the end, my duty and the board of director's duty is to protect the company and we have many opportunities in that work, you know.

MS. LADISLAW: Great, yeah.

OK, what we're going to do is I'll take questions from the audience. Name and affiliation, question in the form of a question. Wait for the microphone. I'll take three at a time.

So I don't know if you want to grab a pen.

But I will start with David and then – hold on, sorry, you all jumped up – and then Richard and then this gentleman here, and then I'm going to take over here.

David?

Q: David Goldwyn, Goldwyn Global Strategies and the Atlantic Council. Thank you for your illuminating and candid comments today.

My questions are about Venezuela. As you may know, the United States is considering banning the export of diluent and the import of hydrocarbons from Venezuela as a way of pressuring them to respect their legitimate constitution, and the prospect that they may steal the next election is kind of a forcing event.

So two questions: One, for Total, what would be the impact of those sanctions if they were implemented on the sector? Would it just change flows or would it actually achieve its purpose of forcing a decline in production? And the second is, how do you evaluate the ethical or reputational risks of operating in a country like Venezuela if it – if it – if it steals an election like that and is considered by the international community as illegitimate?

MS. LADISLAW: Thanks, David.

And then go to the one behind you – Richard. Thank you.

Q: Yeah. Richard Newell, Resources for the Future.

Something totally different. You know, Total is a French company and France historically has been heavily invested in nuclear power and the electric power sector. As Total becomes increasingly involved in the electric power sector, do you have a view on the role of nuclear either in your company's portfolio or, more generally, within the power sector?

MS. LADISLAW: OK. And then this gentleman in the white shirt right there.

Can you just put your hand up?

There you go, nice teamwork.

Q: Hello. Rob Pitman from Natural Resource Governance Institute.

In recent years, there's been increasing momentum around the idea of disclosing contracts between governments and companies to increase accountability and trust. There are now 40 governments around the world that are doing this, and 18 companies have come out publicly in favor of the policy.

Total has been a really, you know, strong mover in this – in this space. It was the first super major to come out with a policy in favor of contract transparency, and it also goes further to say that it would also advocate for contract transparency in the countries in which it works.

I'm just interested in how you're going to be rolling out this policy.

MR. POUYANNÉ: OK, interesting questions.

First, Venezuela. Yes, we are – we are involved in Venezuela for two assets. We are producing gas, domestic gas. And frankly, it's a zero-negative operation, so it's not very important. And then we are still producing heavy oil within GV which is operated by PDVSA, together with Statoil, in the Orinoco belt. The production is declining because you have a lack of everything – a lack of money, a lack of tools. A lack of maintenance has become an issue. We have really some safety concerns. We made some audits recently in order to see because we are running an upgrader, so we are – decision to continue or not to run the upgrader is there.

I mean, there is also the political landscape. We have been obliged to put all our people out. There is no more expatriates in Venezuela. It was impossible to keep families and even for, you know – as we have seen what they are – the government that is willing to take some people and to put them into jail for – (inaudible) – acquisition. My first duty is to take care of my people wherever they are, not only the expatriates but also the Venezuelans. So we are – we are trying to take care of all of them, and so that is clearly a big concern.

The philosophy in Total is that – and it has been – it is deeply rooted in our DNA, we stayed in Myanmar for decades, despite all the criticism and the reputation risk, because we considered that as long as we can conduct our operations according to our code of conduct we must stay, even during difficult times. Because there is – it's easy for us to say we'll leave because we don't like it. But again, if I don't like Myanmar by that time, I don't like Venezuela, tomorrow it will be South Sudan. I am not in Sudan, but oil and gas is where it is.

And, OK, I could maybe choose, but we are deeply thinking that it's also a matter of standing together with the people of a country where there are difficulties. Having said that, the limit of what I said is the international laws. If it's forbidden to stay, if it's impossible to stay according to our code of conduct, then we'll have to leave.

And so today, the situation is clearly degraded. And I will not make any political comment. But obviously, we can also – it's a country which was, 20 years ago, a very beautiful country. You know, PVDSA was one of the best companies in the world.

For me, it's a pity. I mean, it's incredible to see the degradation for the people living there, for the economy. And we are observing the collapse of a country in fact in the 21st century. That's a matter of – it was a democracy, it's maybe not the case today, to be clear. So we continue.

At the end – at the end, it became clear for Total, it's not very important in terms of capital and employees, it's not very big, you know. But the philosophy, the DNA is that you have to stay as long as you can because people will remember, one day it will come back. I think Total will be there for longer than the political regime of Venezuela. So people, like in Iran, they remember when the company stands together during difficult times, even the politicians, you know. So this is the way.

And in this business, leaving a country is a very tough decision because it takes a lot of time to convince the people that we can come back, that we are loyal. It's a question of loyalty, it's a question of values of that. So again, if the values are no more – our values are no more respected, we will have to leave.

Nuclear is – clearly, Total will not invest in nuclear. I've been very clear about it. It's capital-intensive. If I was in charge of an oil and nuclear company, I would do only nuclear and not oil. Why? Because nuclear has plenty of security concerns, you know, securities. And for me, it's difficult to be – it's a segment where I think the state has to be involved. And so I'm not willing to have the state on my shoulders. I prefer to be a nice company, privately run, no problem.

No. But nuclear, I think, for me, more seriously, there was, before the Japanese accident –

MS. LADISLAW: Fukushima.

MR. POUYANNÉ: – Fukushima and after Fukushima. Fukushima for me has changed the views that we have all nuclear, because you had a huge accident in one of the most developed countries where we all think the Japanese and the capacity at technological level and capacity of control was strong. So that reveals that there are some – and which was a major accident. I mean, more than a major accident, it was catastrophic.

So from a CO2 point of view, from a climate change challenge, the nuclear share in the energy mix should grow because it's CO2 free. And the question of nuclear waste is a 1,000-year-scale effect – (inaudible) – the CO2 challenge is 100 years. So you could – rationally, you could do more nuclear. But I think you have the security issue, which is a major point. And I think it is difficult to promote civil nuclear while at the same time you don't want to have military nuclear because all that is mixed somewhere.

And so France is a very specific country. We have – you know, we are always strange in France. You know, France is an independent country. We have built this nuclear industry which is –

EDF is a beautiful company, running very well. You have a consensus in France. The public opinion is not against, very strange, despite Fukushima, despite Chernobyl. So we have a strong belief between the French people and their nuclear industry, even if we'll have to face some renewal. The cost of nuclear is increasing because the safety standards are increasing. So all that makes a big debate, even in France, where we are willing to go to a – (inaudible) – and to lower the nuclear share, to go more to renewables. I don't think there is a big future for nuclear. One country may be the exception, which is China. But even in China, after Fukushima the rhythm of building new nuclear plants has gone down, even there.

And then transparency. I think it's – I mean, let me be clear. When I became CEO, I had a debate about fiscal transparency with my colleagues, because we were criticized because we were not publishing the list of all the countries – the (18 ?) affiliates of the company and where they were established. And I took a strong position. I told them: In the 21st century, we have to be transparent. A company like Total, in fact, we are global companies. We are a form of economic power, \$170 billion of market capitalization. And so society is looking to us as being more powerful than many countries, in fact.

And so we cannot just say we are, because we are businesses, we mean we are – (inaudible). We are – I'm not hidden at all in France, I can tell you. I discovered that when I became CEO. Each time I was seeing something publicly, it was making – (inaudible). So it's not true. A company like this, we have to assume our responsibility vis-à-vis society. And society is asking us more and more, they want to understand how you can make billions of dollars. And I think it's a legitimate – we can – and this is important. It is for me something that we need to take into account, all the global companies.

If you see populism growing in many countries, it's also a message to us. It's a message to us. And we cannot just say: We pay our taxes and we are rid of that. But we have made our duty to our society because we pay taxes. People are asking us, otherwise it is all business model which will be into question. You know, when people are – in many elections are voting against – for less protectionism, less open trade, et cetera, more protectionism, less protectionism – it's against us, somewhat. And so I wanted to be more proactive. And transparency is part of it.

So I have published the whole list of subsidiaries with – and yes, we had still 11 subsidiaries in haven – tax haven country. So we did. Eleven out of 1,000 is not much. You know, we have done big efforts. And so, on the contract story I think we have to encourage the government. The limit is that I'm not ready to publish myself on my internal side all the contracts, because these contracts are with governments. I have to convince the governments proactively. And, you know, there was a debate, for example, in Senegal. We have obtained last year direct exploration contract in Senegal by direct negotiation, which was perfectly clear. It was – my staff, I went there.

And there was a debate. And we have convinced the Senegal government to publish it. And it's public. There's nothing secret. But this is – as we are working with sovereign rights, you know, they are wording the license. They have to do it. I will not do it myself. And recently there was, I think, a report about transparency. Oxfam has published one. We were among the top five. So my board was very proud of it. But there were, I think, five categories. Leaders, only two companies. Leaders are the ones who published themselves. So I will not publish themselves. I will remain sub-leader. But that will be a – I will continue to be a leader towards the government.

I think it's part – and it's in the interest of the governments as well, you know, because the limit of transparency is what we are doing today with – because there is a European regulation which is not in place by the way in the U.S., which is a distortion of competitiveness, of controls. We are publishing a table with all the money that we are giving to governments. Frankly, this table is absolutely not understandable. (Laughter.) You know, we have big figures, and we have tables, and we have plenty of this. It's very complex to establish. And last year, we had a debate about Angola, which was an absolutely wrong debate. But people wants to reconcile what is the taxation paid by a company, which is a complex system, with what they can see in the state budget. It's absolutely not possible.

So I think there is a dream there that the more you publish – but I have no problem to publish that figure. The issue is then we face questions that are wrong. And that is the beginning of a sort of a – I would say dispute, which was absolutely no ground – it was wrong. So we had to explain again. So, again, let's consider it is part of what we need to do to be acceptable to – with the society.

MS. LADISLAW: Great. OK, we'll do another round. Get your hands. Let me get you in order. OK, were going to go here, the gentleman all the way in the back, and the person next to them. So I promised this side of the room.

Q: Hi. Hello. Peter Semler with Capitol Intelligence, Middle East and North Africa.

My question is more of an old question. National players in Europe seem to be, like, passé or anachronism. Your footprint's very similar to Eni Group of Italy. You're both sort of state-influenced. Is this time that you'll be merging with Eni and Total? I mean, it would make sense on risk diversification, bringing it back, and being more, like, a free-market player in the oil business. Thank you, sir.

MS. LADISLAW: Fun to announce in Washington. Here you go. And then go to those in the back? OK.

Q: Yes. Haik Gugarats with Argus Media.

The phrase we heard from Brussels was “practical guarantees” – practical guarantees for Iran to continue – be able to sell its oil and, you know, products. What kind of practical guarantees would Total take to offset what you described the effect of secondary U.S. sanctions?

MS. LADISLAW: Great. And the person next to you, please.

Q: Oh, that's me. Hi. Anar Virji with Al Jazeera English.

I just wanted to clear something up in the issue of applying or a waiver. Today President Macron said that Europe will try to protect its companies doing business with Iran, but companies like Total can make their own choices. So just to clear things up, is the French government supporting Total and asking for a waiver? I know you mentioned that Total has asked the French government for support.

MS. LADISLAW: OK. We'll take those three.

MR. POUYANNÉ: Merging today – you don't think I will answer? (Laughter.) And I will answer. I already answered. I told you that I don't want the state to among the – any state to among the shareholder of Total.

Then next question: practical guarantees. I answer, again, we will engage with the French – and we are engaging with French and European governments to understand what they can propose. But fundamentally, we need the U.S. waiver because this is the only way to protect us from a unilateral decision from the U.S. to apply sanctions to Total. So maybe the diplomacy between Europe and U.S. will find a solution, and we will look at it. But at the end, we'll have to take all decisions in the interests of our company and to protect the company.

And there was a precedent in 1996-1997, when we made the first South Pass Project, we had such a waiver. It was a precedent. It was a result of a diplomatic discussion between Europe and the U.S. We are in a situation today where we could have it. Again, I will consult with many U.S. officials and French officials. So, yes, we will engage. I cannot tell you, again, because it's also a matter of loyalty vis-à-vis Iran. We have a contract. We have to respect the contract. We have some way forward. Maybe to opt out at the end. And this is, again, I told you that if there is no clear answer before November 4th we will have to unwind operations.

But I think it's a – it's probably a big test for the European – U.S.-Europe relationships. But, again, it's beyond Total, right? Total is a huge operation. We are a commercial company, you know. And we are one case. We have other objectives in the company. And so we cannot mix the – I'm not a government, I'm not – so my job is not objective, you know, and we are not – we have to continue to develop a group in the best possible way. And if we can do it, we'll do it. But I mention the reason why the U.S. are important to Total. And that's the case. So Europe has a challenge – the world has a challenge, in fact.

What would be not good, neither for the U.S. nor for Europe – last comment on that – is that at the end if only Russia and China can make business with Iran, I'm not sure it's very good for what we represent in the world, Europe and the U.S. And this will be the reality. So if you think from a wider point of view, and the global interests of the world, the way that I think the allies – or, the Atlantic allies should think of that, do we want to give to all this Middle East region to China and Russia? This is what we are doing, step after step. That's a more global comment.

MS. LADISLAW: OK, we'll do one last round. I have a Twitter question, though, so I'm going to get that one in, which is companies struggle with effective communication, yet Patrick has personally developed a strong Twitter platform, clearly highlighting where Total is going. How are you the only CEO brave enough to do this? (Laughter.) So that's one.

Let's see. We'll do one right here and then this lady right here. Right here.

Q: Warren Wilczewski, Energy Information Administration.

Total seems to be following a pattern that has been established by one of your peers, Exxon, which is going downstream past the refining sector. You made a major – you are making a major investment in the United States in a joint venture with NOVA Chem and Borealis. You've also announced last month a joint venture with Saudi Aramco, and then just this week another one with Sonatrach in Algeria.

So while you mentioned that the petrochemicals are a minor component of your business, it seems like this is where a lot of your money is going right now. Would you mind commenting as to what kind of a trend you're seeing in the energy sector vis-à-vis the petrochemical industry?

MS. LADISLAW: And then we'll do one final one right here.

Q: Ivana Jemelkova, FTI Consulting.

Mr. Pouyanné, you have taken a leading role on an initiative known as the Hydrogen Council, which was launched at the World Economic Forum in Davos last year, bringing together CEOs of energy/transport industry companies to essentially create a vision for hydrogen in the energy future. So, going back sort of a full circle to where you started with your vision for Total's transformation and your vision for the role of gas in that transformation, where does hydrogen fit in, and concepts such as renewable hydrogen, power to gas, and so on? Thank you.

MR. POUYANNÉ: Tweeting – I'm not sure I'm the only one. It's a challenge for my communication department. (Laughter.) I think – no, I think it's – but I can tell you all the tweets are emitted by myself. We have no delegation at all.

MS. LADISLAW: Good to know.

MR. POUYANNÉ: I refuse to do that, because it's my – when something is emitted, it's my name. I sign it. And so –

MS. LADISLAW: You have to –

MR. POUYANNÉ: – even if sometime they help me to prepare to send me the photo, I've become an expert. I can make, you know, copy, paste and blah, blah, blah. (Laughter.) I can do that, maybe because I'm younger than some of my peers. (Laughter.) Even I think – I'll be clear. I think I'm – I think you have a new generation. It's a question of generation, of CEO generation.

You know, I'm the first CEO in Total which is using emails and all these tools immediately, which creates some problems, because you have direct access. And, by the way, my direct report needs to reinvent the way they interact with me, because there is not a question of you have access.

So you run the company different ways. And tweeting is for me also what I answered today, communicating with people. I think we need also to – sometimes it's just seeing where we are, what we do. But it's a way to – we have a society which evolved, and we need to be part of it. We cannot be out of it. OK, so (there are small ?) exercise. But, by the way, people, even in the company, they follow me for the tweeting, you know, as a tweet. So they know where I am. And we go around the world and we – and it's also a question of motivation, and people are proud. And so we – (inaudible).

It's the way that the world is working, you know. So it's not because we are one of the major company in what is considered as an old industry. We are not an old industry at all. We are modern and very useful industry and participating to these debates, even if it's only in the energy fields that I intervene, where I am competent. I think it's part of being an actor of the society. We need to be – we are in the society. Second – but I'm proud to be one of the leader, you know.

Petrochemical. No, don't – (inaudible). I mean, we invest more than \$3 billion per year to downstream businesses. I was in charge of (funding in ?) petrochemicals. So the strategy is to invest in large integrated platform. In that way, I copy Exxon. When I joined this business – this was in 2011, because I was only – (inaudible) – before – I had a very interesting meeting/dinner with the Exxon president – (inaudible). He told me there's only one way to do it, is to invest permanently on the same platforms during years and years and years and years and years, and to capitalize both on the investment. So we have five, six big platforms in the world. One is in the U.S., in Port Arthur. So there is logic here. You will see us continuing to invest around this platform.

And refining is more complex to me to understand exactly. Investing in refining is a little dangerous because to have a competitive advantage in refining is not so obvious. We had one in Saudi Arabia because there we were able to build a giant refinery, together with Saudi Aramco, and then get access to very low cost of energy and heavy fuel. So we had two advantages.

Petrochemical, it's easier, because the problem of business of petrochemicals, you have 55, 60 percent of the world plastic petrochemicals, which is based on naphtha. So as soon as you can have access to an advantage feedstock – ethane in the U.S., ethane in the Middle East – you are sure that your petrochemical plant will be competitive compared to naphtha crackers. So for me it's a game – you will not see Total investing in any naphtha crackers, or that means that I'm becoming to have a problem.

You will see Total investing in petrochemicals where we have an advantage on the feedstock. And this is a case in all the countries' projects you mentioned, either in the U.S. because of the gas price, or in Saudi Arabia, or even in Nigeria.

By the way, we are not so small, and we are number 10 in petrochemical in the world, you know. So we are – we are not such a small company. But what I think is small is that, in fact, it's a business where you can't develop – add another \$100 million, another \$100 million of results. But a particular project will not suddenly give you \$1 billion of additional profits, you know. So it's a lot of step-by-step approach.

But again, we are – yes, there is a demand for polymers. We have to be careful, however. And I'm sure that we'll see a collapse in polymer price soon because you have too many projects.

There is one thing that people forget, is the recycling of plastics. And recycling of plastics, when – is really a request of the society. You have more and more regulations. And you – like always, we are going too far, 50 percent, which is absolutely not achievable, but OK. Let's do more and more and more. But this will become reality, and this will impact the necessity for new – (inaudible).

So you have somewhere people consider that the future of oil is only petrochemicals. No. I mean, yes, but there is a limit like always, you know? You cannot just consider that. So this recycling phenomenon, you need to take that into account.

So, for us, it's petrochemicals, but only on – (inaudible) – which have an advantage. Otherwise, let's others investing.

You have some people with a different view, which is good, you know. I don't say I'm right.

Hydrogen. No, I'm not a leader on hydrogen, you know. I can be – so here a leader of the Air Liquide. You know, Benoît Potier is much more competent than I am. We are friends. So why are we backing that is I have a strong belief that a company like Total, we need to understand all these energies. All that is interconnected. You know, I cannot just decide I invest in natural gas for trucks without understanding the dynamic of hydrogen for dedicated truck fleets because it's a question of competition between all these energies.

Our view is that today hydrogen is still more expensive than natural gas. And there is – so it can work, for example, you can imagine in cities where you will have – because of air quality in cities, that you will have a sort of big hydrogen station at the entry of a city where the trucks will rotate. But it's quite a heavy infrastructure. You cannot dream about having a hydrogen pump at each station. It doesn't work that.

You have also a question of source of hydrogen. And fortunately, people are dreaming – I know about power to gas, but you know, making hydrogen – (inaudible) – is a very high-cost technology. That's why, you know, we're finding – we are making a lot of hydrogen, but taking methane to make hydrogen, which creates CO₂. So you have there a problem of where the hydrogen is coming from and the global CO₂, I would say, calculation about the best way to do it.

We have decided, with LNG, to invest to make – in particular in one of our biorefinery that we are investing in France, we will make – we have a contract (lapsing ?) by 2022, so we want to make it on an industrial scale because it's good to understand the challenge. When you really invest, you see the figures, you understand what are the challenges, and then you open your mind. So I think – but my view on it is that it's more longer term, the natural gas. But maybe in 20 years. So we need to invest, even if the question after that is how much do I invest and what are my priority in terms of level of capital allocation.

When you think about initiative, there is another initiative I did not mention at all in my speech that I am in the U.S. I want to speak about it, which is the Carbon Price (sic; Pricing) Leadership initiative – Coalition. I think carbon pricing is really fundamental. Well, I should have said that during my – sorry if I missed it.

MS. LADISLAW: That's OK.

MR. POUYANNÉ: Without any carbon pricing, there is no way to reach a world of 2 degree, because this is the only – this is the economic element which will drive the choice of the economic investors. We don't need to have \$100. This is too high. We make a mistake, we afraid everybody by saying that, and nobody wants to do that.

You know, the U.K. experience has been superb. In the U.K. they have just put 20 pound per ton, or 18 pound per ton, and in two years we have seen the electrical system of the U.K. shifting from coal to gas. So it's not – and we joined. That was an initiative by some of you older U.S. treasurers, wise men, and we joined it last year to call for \$30 or \$40 per ton in a system where, in fact, it will not impact the consumers because you will recirculate the proceeds. I think it was – it's a brilliant idea, and I hope that we will be able to put that in place.

We cannot advocate for a world price. This is nonsense. Obviously, the world economies cannot tax at the same level in India than in Europe or in the U.S. So let's stop that idea that we need

to have the same. But let's try to make step-by-step approach on it because it will help the transition that we were discussing and to make the right choice (according these element ?).

MS. LADISLAW: Absolutely.

MR. POUYANNÉ: Thank you for your attention.

MS. LADISLAW: Patrick, it is always so great to have you here. I hope your opening of a Washington office means you'll be back more often. You are always welcome at CSIS. Thank you for sharing your thoughts. Please join me in thanking Patrick. (Applause.)

(END)