MANOËLLE LEPOUTRE

Executive Vice President, Sustainable Development and Environment of Total

Thank you. Firstly, I like the title of the workshop, 'Energy and Environment', because energy is part of the environment, as people are part of the environment. The main mission of an energy company like Total is to produce, transform, and make affordable and accessible energy for people, but to produce and transform energy that is natural energy. Historically, Total's main market – main production - is oil and gas, so fossil fuels. When you produce and transform energy, when you are on the market, you have an impact on the environment. We produce natural resources. We have an impact on people. Our role is still to be able to produce and give access to energy to as many people as we can so that they can have a better life. However, we want to do this by better understanding the impact we have on them and on the environment and to better integrate all the challenges. One of these challenges is climate change induced by greenhouse gas emissions and CO2 concentration in the atmosphere, which I will come back to later. Another one is air pollution, water pollution, soil pollution and so on. Yet another is natural resources limitation because the world is a finite world in relation to oil and gas resources, water resources, all other kinds of mineral resources. We also have the development of poverty that we still need to solve on this planet. This is a huge responsibility not only for Total but for all responsible people to innovate and to invest to be able to tackle all of these challenges together.

If we do not tackle all of these challenges together then who will be able to invest in clean energies in the future? We need to link the economy, social and the environment. Now, I will share some observations on energy with you. We all know, and you have spoken about the IEA scenarios, that the energy demand will increase by about 25% between now and 2030. Fossil fuel, oil, natural gas and coal, accounts today for 81% of the energy mix, so it is one of the main sources of CO2 emissions because when you use the natural energy contained in oil, gas and coal you produce CO2 in the atmosphere whether you like it or not. In the future, in 2030, even though I do not like to use these words, in an optimistic scenario we would still have 75% of this energy mix that will be made up of fossil energy. However, there may be a different balance between gas and coal for example, proportionally more gas and coal than today to cope better with the greenhouse gas issue. We really need to invest a lot to create a more diverse energy mix. This is the challenge we will have at a company like Total but it will also be a world issue and policy will be needed also to help with that.

Now I would like to talk about Total and our two main priorities when we consider the environment. Our first priority is to manage the risk associated with our operations, to avoid any major accidents and that is really a constant progress. Certainly, we have a history, all industries have a history of serious accidents and pollution. We have to continuously progress to avoid these accidents and if you look at statistics we have made progress. Nevertheless, we have to do everything we can to avoid these accidents and also to be prepared in case of an accident. You cannot prepare alone because if you are to organise, for example, an anti-pollution campaign and there is a huge accident you will fail. You do everything you can but when there is a big accident you need to have a completely transverse organisation involving states and partners and competitors. Everything has to be prepared for ahead of any possible accident. We have to train people, to invest in prevention and to be prepared for any accident. This is really our first priority because you can talk about climate change and everything else, but if you are not ready for that I think you are not responsible.

The second priority is to identify and adjust the environmental and health impact of our operations. For our projects, in addition to stringent criteria on economics, because we still have to remain economic in order to invest on environmental issues, in the decision-making process we always integrate criteria like lifecycle assessment and environmental risk. We then have to imagine solutions for that. Even in Total to be prepared in the future for price, signal and CO2 all new projects after we integrate in their economic evaluation a price for CO2 which is today EUR25 per tonne, which is very high compared to what you see everywhere else, even in Europe. It helps to push our engineers to try to find solutions to lower the CO2 emissions. Even then the decision is taken and the people will

decide if this price is not realistic today. It pushes our engineers to find the best solution in terms of energy consumption and CO2 emissions.

Every time we start the project we do what we call an environmental baseline meaning that we involve academic and scientific partners in the assessment of, for example, the biodiversity and sensitivity around our future installation. Sometimes this gets us into trouble. I would like to take the example of the harbour that we had to build in Yemen in order to build some energy facilities. Scientists from UNEP told us that there were corals in the area which were very rare and as far as they knew did not exist elsewhere. What could we do? It was too late for us to change our plans so we decided to transplant all the coral and now it is a very good programme for UNEP for the scientific interests and a nice example, so I like to speak about it.

Less spectacular, but very important for us, is the commitment we have taken to lower our flaring. I do not know if you are familiar with flaring. When you produce an oil field, generally with the oil comes gas. In the past when we developed fields in some parts of the world, more precisely in the Gulf area, we had no solution for the gas because there was no infrastructure, so the production was designed to get rid of the gas and to flare it, which is to say to burn it. Today we know flaring is a bad idea because you waste energy and you contribute to the greenhouse gas. We made the decision in 2001 not to develop any fields with continuous flaring and we will soon develop solutions and projects to lower the flaring so that in 2015 it will be half the level it was in 2005. This demands, once again, partnership, agreement, conviction from us and a need to convince the real partners, the states in which we are working because generally you develop solutions where you spend money, you use budget for no more production. We will get there.

Another act is what my colleague Paal will call negawatt, I do not like this word, but it means trying not to use the energy when it is not useful, so being more efficient in the use of energy. This is a huge programme that concerns us in our own plants. We use a lot of energy in our refineries. Sometimes 70% of the operational costs of running a refinery is linked to the use of energy so the operational people are very keen to try to lower their energy usage. What we have to know is this needs maintenance, this needs good practice but this needs also sometimes more and more R&D and new technology. Therefore, in Total we invest a lot in R&D to be more efficient in our own plants.

We also acknowledge that if only five per cent of the emissions of CO2 are linked to the oil and gas activity in the street, 33% of the CO2 is emitted when the products we produce are used by our customers, either in cars, flights, plants or houses and so on. We have developed a programme which says that maybe with the knowledge and the competence we have we could also put on the market products and services that are more efficient in terms of emissions of CO2. For that we have to study the products throughout their life from production to the end of life. We have a stringent programme which we started two years ago and today we have 31 products that are analysed and in one year in the market share they represent, which is quite limited, they avoid emission of 74,000 tonnes of CO2 which is quite a lot as you can imagine.

We do work as scientists but Paal will speak about that. We have a group collaboration on that, because we believe that CCS will be in the future one of the solutions for the concentrated flow of CO2 so for electric power generation with coal. I will not go into detail on that, but Total invests a lot in it. Our priority is to prepare for the future so that we are able to produce oil and gas in a more responsible way. I think that being able to produce more from existing resources is one of our responsibilities because we have a problem of limited resources. I do not believe in very short-term limited resources but nevertheless they are limited. Our duty is to produce without wasting all these resources.

We will soon invest a lot in new energy but in new energy that we think will be affordable compared to others. This means that we do not invest in energy if we think that in 10 or 20 years it will need to be subsidised to be competitive with others. We believe in solar which is why we are now the third company in solar after our acquisition of SunPower. We believe in biomass, but biomass has to be taken very carefully to be sure that there is no competition with food. There are possibilities because when you talk about biomass you have to look at it with local and regional views and not only global views and with some local and regional views biomass will be a solution. That is why we invest in that.

I do not know if you want me to conclude by addressing the global governance of the environment and the view we have of it.

William RAMSAY, Senior Advisor of the Center for Energy at Ifri

Let us take a moment on that.

Manoëlle LEPOUTRE, Executive Vice President, Sustainable Development and Environment of Total

I think when you speak about environment a lot of people, especially in France, I do not know if it is the same elsewhere, speak about climate. Climate is a key issue and the climate issue is a global issue so if you emit a tonne of CO2 a year it will have the same impact as if you emit it elsewhere in the world. Definitely for CO2 we think that there is a need for global rules. I do not know if it has to be a UNEP rule and all that. However there have to be fair global and visible rules for us to invest in it because all our investments are long term investments. Today when you invest in a project in ENP you will start to produce in five, 10, sometimes 15 years from now. Therefore as we do not know what will happen tomorrow with Durban for us it is very difficult to understand what kind of investment we should make in that situation. Therefore we really need an agreement that is global or at least clear if it is bilateral between countries, that is visible and with gradual implementation so as not to kill existing economies. We are waiting for Durban we are not very optimistic.

Look at the local environment, for example water, because water is generally a local issue - water pollution, water scarcity or look at soil pollution, local air pollution with dust, and so on. We have had for decades, in developed countries, additional and progressive additional regulations piling one above the other and at the end of the day not giving the possibility to an industrial for example to have a global view of its impact. We just have to follow regulation and sometimes regulations are competitive between them and do not help to optimise social, economic and environmental.

If in Rio more than 20 people want to build a world environment organisation I think we have to be very careful of the rules of this organisation. It has to be something which would give general expectations and the basic requirement, for example, the labour organisation, but if starts to be very predictive, very restrictive it will prevent local possible optimisation. In doing that the economics of the projects will suffer and if you do not have an economy you will not have the ability to take care of the environment. Therefore, I think it is a complex issue because we are all progressing with science, with industry, politicians and so on and we have now begun to understand that punitive regulation is sometimes the enemy of a good analysis of global impact and global action of the environment.