Commissioner Kroes,
Ladies and Gentlemen,

It is with great pleasure that I join you here today in order to speak about competition and innovation and I want to thank Commissioner Neelie Kroes for her invitation.

I am all the more happy to intervene today that energy industry has changed a lot in few years. However we are seldom associated in people’s mind with competition. In such a capital intensive industrial sector, we are much more used to speak about static protected oligopolies, if not monopolies. I am here to tell you that this is not true anymore, in fast-moving energy markets!

[What is competition for AREVA?]

Therefore, before tackling the issue of competition and innovation, I would like to clarify what is the situation of competition on energy markets from the viewpoint of AREVA.

Let me first remind you of AREVA’s activities: our 72,000 employees working in more than 100 countries are specialized in offering to our customers CO2-free energy solutions and in the transmission and distribution market. As a matter of play on CO2-free energy generation – nuclear, renewables- we are facing different kind of competition and maybe I could start by that.

[Competition between energy sources]

First, competition is of course between energy sources themselves.

All the sources of energy may seem to be in competition with each other but the situation is somehow changing:

- First, because the fossil fuels are not eternal, are more and more expensive and despite of the financial crisis, the price of the oil barrel is this morning at 74 $.
- We are going to be 2.5 billion people more on the planet by 2050; some demographers say 3bn more. And all those people are going to need lot of energy.

So I think that we will need all the sources of energy in the future, which is brand new. It's clear also that the business model in our societies, based on fossil fuels will not work anymore for the medium and long term; and that is a very important issue because we were experiencing this business model since the beginning of 1850. Why is it changing? Because of the lack of fossil fuel by 2050, clearly, and also because of the climate change; so the challenge we are facing is to find energy for all with less CO2. In this domain, I think that competition policy is absolutely necessary but it is not sufficient. We need also an energy policy.

This energy policy should take into account competition, innovation but should also take into account the huge investments which will be needed in the years to come. May I say that in
this domain, Europe has progress to make? And it is a big concern for me- a European citizen-when I look at the evolutions in other countries. So it is clear that now we have a CO2 policy in Europe, we have a competition policy in Europe, but we have not energy policy in Europe.

In the same way, can we consider nuclear energy competes against renewable energy? This statement has been the mantra of anti-nuclear movements for a long time. But I think that we can't stick anymore to such a simplistic assertion. I would say that there is a growing competition between CO2 free technologies, whether nuclear, wind energy or in the longer run, coal with carbon sequestration. And I will immediately add that this is very good news. Why? Because this is a fantastic trigger:

- for nuclear energy, innovation is a key word. Now we are ready with a third generation plant and the first of a kind is being build up actually in Finland, in France, I may say out of Europe afterwards, but maybe also very soon in Great Britain;
- for carbon sequestration technology to become mature which is not for today and it does not seem to be before long;
- for wind energy, to innovate so as to reduce its cost- let’s think about 5 MW turbines. And this is why the financial support of this renewable source of energy is justified; as it fosters the competition between technologies and therefore enhances energy security.

You might be surprised to hear from me such a plea in favour of renewable energy and subsidies. But the fact is that we will need all forms of CO2-free energy sources in order to meet the challenge of the energy revolution we are currently going through, and that we can't afford leaving any aside! In this respect, if technologically competing, CO2-free sources of energy must in practice be seen as complementary. My own conviction is that one of the main features of the 21\textsuperscript{st} century will be the development of non CO2 sources of energy, all of them, and that discarding \textit{a priori} nuclear energy, is both non reasonable and dangerous. A portfolio of energy solution is what our customers demand. And if you add that some of these renewable sources are generally only intermittent base load energy and that we don't know how to store electricity, you will understand why we need in complement to have base load sources of energy like nuclear. For example, France emits 8 times less CO2 per kW hour that Denmark, a country were the share of renewables is close to 30%. However, remarkable the development of renewables in Denmark may be, a huge part of its power still has to be generated from fossil energy sources. This is why Europe needs an energy policy coherent with a CO2 policy.

[\textbf{Competition between industrial players}]

\begin{itemize}
\item The second kind of competition we are facing is the one we are fighting against other players.
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Areva is born in 2001 and built according to a very innovative model; the integrated model which I also call the Nespresso model, which enables Areva to provide its customers with enrichment services, fuel reactors and services as well as fuel recycling.

To reverse the problematic of this conference I would say that this innovative business model helped new competitors to emerge. For instance, Russia decided with Atomenergoprom to copy our business model at AREVA.

[\textbf{The new energy equation requires new solutions}]
I would also like to say that the key issue is people. By recruiting more than thousand new people every month for now 2 years, you will have understood that the “nuclear renaissance” is a growing reality. And to find the appropriate people, what is absolutely key for us and for innovation, is the educational and training issue in the adequate field. Because the energy sector needs a lot of people to function and expand, we need more people, more engineers, more commercial managers, more political consultants; and I think that high-qualified people are absolutely key for innovation in the long term. It means that we need the appropriate school, the appropriate universities, the appropriate training and also the appropriate link between universities and companies. How do we deal with this situation? By recruiting, integrating, and developing our employees’ talents. Of course we have our own University, our own job institute, but I would like to add - and it seems maybe contrary to competition, but I think that we have so much in common that we have all to join our efforts- that we have created among the competitors the World Nuclear University. That is a concrete example of competition being an incentive for innovation as it brings together the expertise of each one to better train the new generation of employees in the nuclear sector. So in some high level technologies I think that we all need to join efforts, and in space activities I think that it is also the case.

AREVA is also mobilizing innovation through its R&D program in which we are spending 9% of our sales, which means 1bn € every year because we are convinced that R&D makes the difference, innovation makes the difference. If you are not technologically one step ahead of your competitor you are going to lose out one day or another. In this regard let me seize an issue which I know is often supported by Commissioner Kroes, “being open about standards in order to facilitate interoperability”:

We have this huge issue in Europe, we are 27 countries, and we have 27 national safety authorities. So it means that when we are creating new reactors, what do we have to do? We have to license each reactor (which means average 3 to 5 years) in each open country. Thus, we have national safety authorities with different standards, different requirements and reactions. We are in a situation that it is easier to work outside Europe than to work in Europe. Let's contemplate the issue as it is: we have been licensed in Finland, we are licensed in France and in Germany and we are going to restart a licensing process in Great Britain! In China and South Africa for example, you obtain your license more rapidly if your model has already been licensed in other countries… So we could imagine that to sustain innovation in Europe we should have a fast track licensing system.

[Partnership as another support for innovation]

- Another kind of innovation for us is also the fact that more and more we are in partnerships for innovation: partnerships with competitors or partnership with customers.

- Partnership with customers, for instance is the case with Duke Energy, the very famous US utility. We launched two weeks ago a common joint venture, 50-50, to develop biomass plant in the US. So, we share the risk together. Same thing for instance in uranium mines. We have now thirty years of experience joining our efforts with Japanese utilities, with Spanish ones, or recently with Chinese ones.

- We are also promoting partnerships with competitors. For instance on the nuclear side, we have concluded partnership with the Japanese MHI to develop a mid-sized power,
third generation plus reactor, an innovation designed to meet customer's demand in new countries. It is a way to be quicker, cheaper and to aggregate the added value of both.

- We are also number 3 in transmission and distribution. Because it is not sufficient to produce electricity, it needs also to be delivered to the final customer. And I think that transmission and distribution plays a double key role:
  - First, in the security of delivery, the smart grids coming from the combination of the existing grids and a lot of software are a way to secure and also to save a lot of energy.
  - But the double role is also to promote the competition among utilities. If the utilities are interconnected, the electricity flows in Europe. So automatically it is the best way for competition. Interconnection of the existing grids is, in my view, in energy a very important issue.

Through these few remarks you will have understood that in the energy sector, where national and global stakes can be both intertwined and antagonistic, competition and innovation must be completed by the third dimension of partnership. This tripod is the only answer to the other tripod which forms the drivers of the energy markets today: competitiveness, sustainability and security; drivers which condition the guarantee for the consumer to enjoy clean, safe and affordable energy.

Thank you for your attention.