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Nuclear Power for the 21st Century Conference

Opening speech

by Mr. Patrick Devedjian,
Minister Delegate for Industry
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Mr. Ministers,
Mr. Director General of the International Atomic Energy Agency,
Ladies and Gentlemen,

Mr. Mohamed El Baradei, Director General of the **International Atomic Energy Agency - the IAEA** - and I take great pleasure in welcoming you here today.

Mr. Donald J. JOHNSTON, Secretary-General of the **OECD Nuclear Energy Agency**, was unfortunately unable to be with us today but we will have an opportunity to hear his message to us.

I am pleased to welcome 28 ministers, 74 delegations from countries representing **every region of the world** and 10 international organizations for this particularly important conference.

It is no accident that France wanted and was selected to host this conference, organized at the initiative of the **IAEA** with the support of the **OECD Nuclear Energy Agency (NEA)**.

As you know, France **opted** many years ago **for nuclear power**. Most of France's nuclear power plants will reach the end of their life between 2020 and 2040. In recent years, France has therefore conducted an **in-depth review** to prepare its energy policy for the decades ahead. I will come back to this in greater detail.

Looking beyond the French borders, energy issues are obviously a **critical concern for the entire human race**. We are all aware of this, as witness the **presence of so many stakeholders**.

I. I would like to begin by giving a rapid overview of the issues of this conference

1/ First, our energy environment has changed significantly at the dawn of the new century

- The global demographic trend and the strong economic growth in Asia are accompanied by a **durable increase in energy needs**. We know that fossil energy resources will not meet these needs indefinitely. We need to find energy production methods allowing us to diversify our sources of raw materials.
- A major concern has emerged in recent years, the **global warming** caused by the greenhouse gas emissions from fossil energy sources.

At a time when many countries want **adequate, inexpensive** energy production sources and may have to cope with **programmed cuts** in nuclear capacity, I consider it essential for us to be able to **exchange our views** and concerns and of course to express the sentiment of our fellow citizens.

2. The idea here is not to promote nuclear energy for all needs in all areas of the world but rather to review the role of this source of energy

The comparison of experiences and discussions between experts from different countries can **help** us accomplish this. I want France to **participate** in all forums where these key issues are discussed and I want such discussions to be **democratic and transparent**.

This is the **objective** of the international conference held today and tomorrow, during which country presentations on national solutions alternate with roundtables of international experts, whose debates are intended to **enrich our review**.

We shoulder a **heavy** responsibility and the issue is **complex**. It is our duty to make sure our countries have **enough** energy for the next 10 to 20 or even 50 years.

We want this energy to be **accessible for everyone** at a price which does not **hamper economic growth**.

As you know, this means that it must be produced and supplied at **minimum cost** with **maximum stability**.

But our responsibility **does not stop** at our borders. This is partly because the liberalization of the energy markets - for which a balance must be found between supply and demand - raises **new problems**.

But it is also because the externalities connected with energy production, particularly greenhouse gas emissions, **transcend our borders**.

A first **roundtable** of renowned energy and nuclear power experts will **discuss these issues** this afternoon.

The idea is **to take stock of the global energy situation and to outline the framework** within which to implement energy strategies:

- first, the roundtable will **take stock** of existing and future global energy resources and needs,
- next, discussions will focus on **analysis of major environmental issues** connected with energy, including climate change and the nuclear-specific problem of radioactive waste management.

3. While nuclear power is an answer to the energy problem for many countries, it is not the only one and it certainly cannot take care of all issues

Certain energies – known as renewable energies - are **inexhaustible** and need to be exploited to their **maximum** potential.

We must also **continue research** in all areas permitting the production of energy, particularly electricity, without greenhouse gas emissions. Lastly, we need to **develop the most appropriate framework** for the use of nuclear power. Safety and security are vital issues and need to be controlled.

The total production cost of nuclear power is **competitive** compared with other sources of energy. This cost has a particular structure, characterized by a **high initial investment** and so-called **long-term charges** - i.e. decommissioning and **radioactive waste** management charges - which need **to be factored in** throughout the working life of power plants.

A **second roundtable** will meet tomorrow morning to discuss a strategy for **optimizing the use** of our nuclear potential. This roundtable will not only look at strengths but also at **constraints**:

- first, it will examine the **structural factors** involved in energy choices - including economic, strategy and social factors - and analyze the interest and framework of **international cooperation**,
- the final debate will focus on the **resources required** to ensure optimum use of nuclear power. The objective is to outline an essential framework, particularly the **role of the State** and **international organizations** in providing strong foundations for the **sustainable** development of **safe** nuclear power.

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II. I would now like to say a few words about France's energy policy and the role of nuclear power in France

France has **limited** natural energy sources. Its vulnerability became acutely obvious during the oil shocks in the seventies, which prompted it to embark on a major nuclear program.

1/ During the last thirty years, France's energy policy has been driven by four main concerns

- **supply security** in the short and medium term in order to avoid breakdowns with a negative impact on health, well-being and the economy.
- **competitive cost of energy** for businesses and private citizens. The General Directorate for Energy and Raw Materials at the Ministry of the Economy, Finance and Industry regularly publishes a comparative analysis of power production costs. The most recent study dates from 2004 and shows that nuclear power is the least expensive source of electricity for France.
- **environmental protection**: the purpose is to combat and minimise environmental damage caused by the production and use of energy, pursuing objectives which are at least as ambitious as those set by the European Commission for 2010 (CO₂ emissions, ozone layer, renewable energies, etc.); France is committed to keeping emissions at the 1990 level until 2010 and to divide them by four out to 2050.
- **solidarity between regions and towards the poor**

Thanks to the nuclear program launched in the seventies, **nuclear power now accounts for the lion's share of power production (78%)**, followed by hydro power, which accounts for a significant 12%.

This has generated the following **benefits**:

- an **energy independence rate** of 50%, up from 26% in 1973,
- an **energy bill** representing 1.8% of France's gross domestic product, down from 5% in 1981.

In 2004, the use of nuclear power allowed France to save 36 million tonnes of **carbon**, or one-third of annual carbon emissions. France believes that nuclear power can play a key role in sustainable energy development provided we pay close attention to three conditions. First, industrial operators need to continue to maintain a high level of safety. Secondly, safe long-term storage solutions must be worked out for all types of radioactive waste. And thirdly, the public must be informed and allowed to contribute input.

In Europe, nuclear power accounts for 33% of total electricity production. The greenhouse gas emissions avoided this way correspond to the emissions of the entire European car population! Worldwide, the existing nuclear power base already lowers CO₂ emissions by 2.2 billion tonnes, compared with total emissions of 24 billion tonnes. This is twice the reduction

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which the Kyoto Protocol requires from the developed countries by 2008 and 2012 at the latest.

2/ France's installed base of nuclear reactors is still young (on average 19 years old). However, we need to prepare for the future

As part of initiatives to prepare ourselves for the future, we launched a **national energy debate** in 2003, which concluded inter alia that nuclear power plays a key role in the French energy mix. Our objective is therefore to optimize the balance between new energies, nuclear power and technological innovations in order to be **prepared for 2020**, the year when we will have to start replacing our installed base of nuclear power plants.

When the new energy bill was discussed in the spring of 2004, the French government proposed four indissociable priorities:

- **Rekindling energy control efforts** in order to reduce energy intensity by 2% per year until 2015 and by 2.5% out to 2030 and - going beyond compliance with the Kyoto Protocol - to divide France's CO₂ emissions by four by 2050;
- **Keeping the nuclear option open** with the launch of the European Pressurized water Reactor (EPR), a joint French-German project;
- **Developing renewable energies** such as wind energy and biofuels;
- **Breathing new life** in research into new energy technologies.

In addition to this bill the “**Climate Plan**”, published in July 2004 by the French Government as part of its commitments in the fight against greenhouse gas emissions, contains measures for all economic sectors and for households in order to save almost 15 million tonnes of carbon equivalent a year out to 2010. Most of these measures target energy, which accounts for about 80% of emissions in France.

France has therefore decided to build a **3rd-generation demonstration reactor, the EPR**, in order to obtain the data needed to base preparations for the 2020 deadline on an informed choice. This reactor is scheduled to be commissioned in 2012.

But we need to prepare for an even remoter future. France is therefore a member of the **Generation IV** International Forum set up to develop future nuclear systems which could be available by 2040, and participates in ITER, a project with an even further horizon set up to explore controlled thermonuclear fusion.

France further supports its nuclear energy choices with a **broader analysis of the conditions under which nuclear power must be developed**.

We will particularly need to find answers to the **nuclear waste management** problems raised by existing power plants, especially to keep the nuclear option open when the time comes to replace the installed base of power plants. Indeed, this is a **major concern** for the French, 28% of whom feel that "the production and disposal of radioactive waste is the main drawback of nuclear power".

In this area, France has opted for **processing and recycling spent nuclear fuel** as part of its **sustainable development** strategy. This process makes it possible to **separate** such high-activity products as plutonium and uranium from other waste. Thus, this technology allows us to save raw materials and to diminish the quantity of final waste. Another advantage is that it helps **fight proliferation** by recycling the plutonium left after the fuel has passed through the reactor.

France is moreover committed to finding **management solutions for high-level long-lived radioactive waste**.



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France is reviewing its entire nuclear strategy under the so-called Bataille Act, adopted in 1991 at Mr. Bataille's initiative. As part of this process, the government will present Parliament in 2006 with the combined results of fifteen years of scientific research and democratic dialogue. I want to thank Mr. Bataille for having given France an opportunity to carry out this **arduous and lengthy task** early enough to permit decisions to be taken on optimum conditions.

France has moreover adopted an administrative and regulatory framework allowing it to achieve, particularly in the area of nuclear power, a **very high level of safety and radiation protection**.

This result reflects **ongoing, concerted analysis** at both national and international level. As part of this process, we redefined the **status** and **missions** of our Nuclear Safety Authority in 2002, and supported the initiative taken that same year by Mrs. de Palacio to provide the European Union with **binding legal instruments** to align nuclear safety levels with the highest standard.

Our will to make the most of our experience, particularly in the area of nuclear safety, has prompted us to forge **bilateral cooperation programs** with many countries wishing to develop a civilian nuclear industry. In this context, France considers it extremely important to work out a **clear and strict framework to prevent proliferation**.

France offers its nuclear technologies and the possibility to use this energy only to those countries which have agreed to put their nuclear sector **entirely** under the control of the Vienna Agency and to comply **strictly** with their international nuclear non-proliferation commitments.

France wishes to **discuss the energy challenges** ahead with anyone who wants to do so in a spirit of frank and open exchange. I hope that this conference will set an example and will allow all of us to improve our understanding of the role of nuclear power in the 21st century.

I would now like to give the floor to Mr. Mohamed El Baradei, Director General of the IAEA.

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