

**Jean-Bernard Lévy Special Address**  
**IEA Workshop on Nuclear Power**  
***Nuclear Power in a Clean Energy System***  
**25 February 2019**

Your Excellencies,  
Distinguished Ministers,  
Dear colleagues,

Thank you for the opportunity to take part in this extremely timely and important meeting. As you know, time is of the essence if we are to successfully decarbonise our economies.

I would like to share two deeply held convictions with you today.

**The first is that, without nuclear power, our chances of winning the fight against global warming will be highly compromised.**

We now have a wealth of quality studies, notably from the IEA and the IPCC, as well as regional reports, such as the EU's recently published 2050 Long term Strategy.

All reach similar conclusions on key points:

- Decarbonising our economies will require massive electrification of transport, buildings and industry. The IPCC estimates that electricity's share in final energy will have to more than double by 2050 to meet the Paris Agreement goals.
- As a direct result, electricity demand will increase around the globe – in emerging countries of course, but also in the OECD. For instance, the European Commission's scenarios put the rise in electric power consumption within the Union at between 36% and 75% by 2050.
- In this context, we will clearly expand increasingly in renewable energies. Under the IEA's 3°C scenario, annual additional TWh of wind and photovoltaic would need to increase by 50% from the current trend. A 2°C scenario would require a threefold increase.
- Without nuclear power, this already demanding pace would have to be even higher. Yet, we would then risk reaching the limit of the potential of renewable energies. That is precisely what is demonstrated by the German energy agency DENA's recent findings. The study assessed the country's long-term energy mix without nuclear: it showed how the potential of wind power and biomass would quickly be exhausted, resulting in massive imports of electricity and synthetic fuels.

Ultimately, these studies point to the same conclusion: to address the climate challenge, we must leverage the complementarity of nuclear, renewables and energy efficiency.

**This leads me to my second conviction: now is the time to mobilise our forces to ensure nuclear can continue making its indispensable contribution.**

**This means acting on both fronts – existing nuclear plants and new build.**

**First, existing nuclear.** The world's 452 reactors currently produce more than 2,600 TWh annually with no direct emissions. This means that more than 2 gigatonnes of CO<sub>2</sub> are avoided each year, a major asset for the climate.

This is a vital asset. We must maintain its full potential over the long term.

60% of all existing reactors are more than 30 years old. In the OECD the figure is two out of three. If the life span of existing plants is not extended beyond 40 years, nearly all plants in Europe will have to stop producing by 2050. For the European Union, the amount of zero-carbon generation lost would represent ten years of the emissions reduction efforts required to keep global warming below 2°C.

Therefore, there is an urgent need for regulatory frameworks that ensure fair long-term returns on existing nuclear. They should guarantee proper returns on capital already invested and make it possible for operations to be extended safely.

There is a great deal at stake, of course, for the climate and security of supply. There is a great deal at stake for the economy, the industry and the job market.

In France, extending the life span of existing nuclear plants beyond 40 years is by far the most competitive way to produce decarbonised – and furthermore dispatchable – electricity. This makes it a major growth opportunity for industry and employment, with investments amounting to €48 billion between 2014 and 2025. These funds will allow for the development of skills in a nuclear industry that already boasts 220,000 high-skilled jobs, just for France.

**It is indispensable that we continue to draw the full potential from existing nuclear going forward.**

**Yet we must also forge ahead on new nuclear.**

Under the IEA's scenarios, close to 400 GW of new nuclear capacity must be developed if global warming is to be kept to 2°C.

A huge part of the responsibility for meeting this challenge lies in the hands of industrial firms:

- Choosing a design that makes it easier to build new plants with enhanced reactor safety
- Organising projects in such a way as to optimise work and reduce construction times
- Maintaining and developing skills at every level of the value chain

- Driving innovation and R&D to boost performance and plan for the reactors of the future, including SMRs.

It is important that these efforts and energies be supported by a clear framework created by states to ensure:

- Visibility on the medium and long terms, to preserve the highest level of skills within the industrial fabric and to keep costs in check through scale effects and standardisation
- And regulations that send the right investment signals over the long term.

Such frameworks must also drive down the cost of capital through smart risk allocation between all players: operators, builders, suppliers, consumers and the state. With projects as highly capital-intensive as nuclear power plants, this can make a huge difference. We can – and must – innovate in terms of contract engineering to make sure major industrial projects, such as new nuclear, benefit our energy and climate policies.

Ladies and gentlemen,

We cannot afford to waste any time in the race to contain global warming.

Our best chance to succeed is to leverage the complementarity of nuclear power, renewables and energy efficiency. A growing number of studies, including those of the IEA, support this conclusion.

We must work together to nurture the right industrial ecosystem and implement the right regulations so that we can move forward on both key fronts: existing nuclear plants and new build.

The study being prepared by the IEA ahead of the Clean Energy Ministerial Meeting in Vancouver will be key to creating a shared vision of the challenges we face. It will also be crucial to help identify the solutions needed to address them.

Industrial firms in the nuclear sector and EDF in the # 1 seat are engaged and fully committed to this collective effort.

Thank you.