

The role of nuclear energy in the post-COVID recovery



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Director General

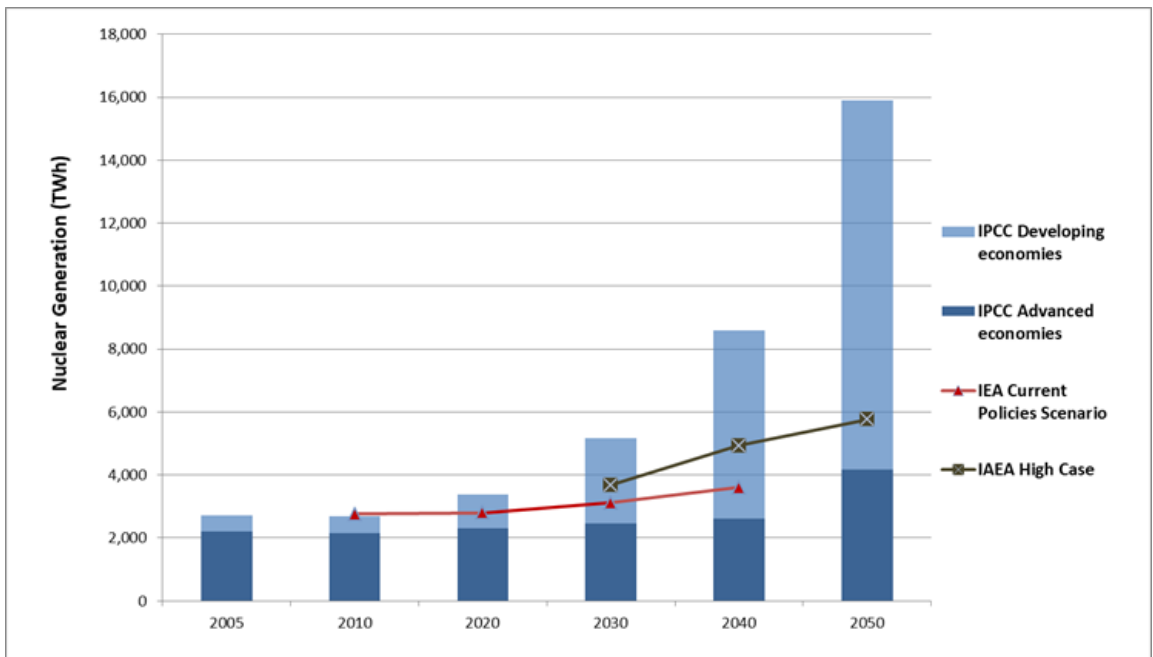
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Corona virus reveals the future of electricity

“The corona virus crisis reminds us of electricity’s indispensable role in our lives. It’s also providing insights into how that role is set to expand and evolve in the years and decades ahead.”



The expectations on nuclear energy are growing



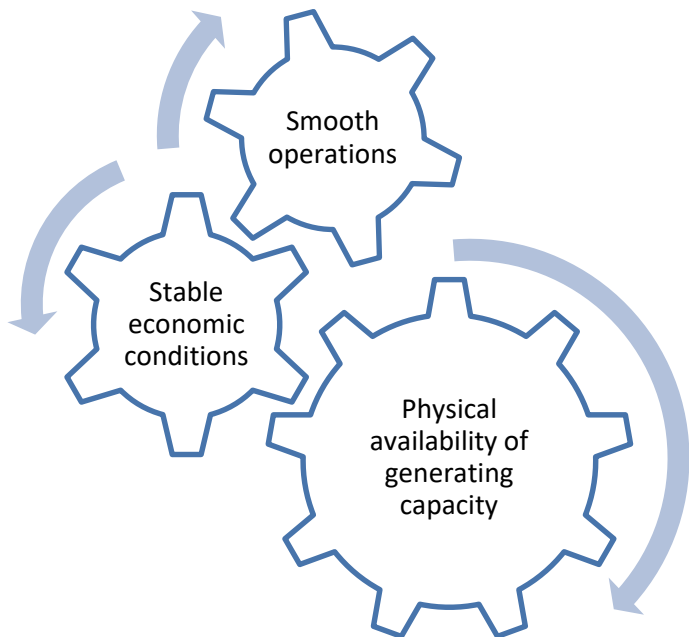
Data Source: IPCC Special report on the impacts of global warming of 1.5 °C, 2018, IEA World Energy Outlook 2019, IAEA Electricity and Nuclear Power Estimates for the Period up to 2050, 2020

Nuclear energy needs to grow rapidly if we are to satisfy energy demand, achieve climate targets and help the world meet the sustainable development goals.

The projections from the IPCC 1.5°C Report Middle of the road scenario see nuclear energy grow six-fold by 2050, with 2243 GWe capacity, representing 25% of electricity generation

Nuclear energy helps build resilience at many levels

Three dimensions of a resilient electricity system



Key nuclear energy resilience attributes

Technical Design

Defence In depth, high standards, multiple layers

Energy system

Dispatchable and flexible, provides grid stability, onsite strategic fuel stockpiles

Organisational

Emergency preparedness, safety culture, continuous learning, international cooperation

Socio-economic

Low and stable operating costs, local high paying jobs, taxes and revenues, education

Stabilising the grid with nuclear energy

Nuclear plants are reliable baseload energy sources

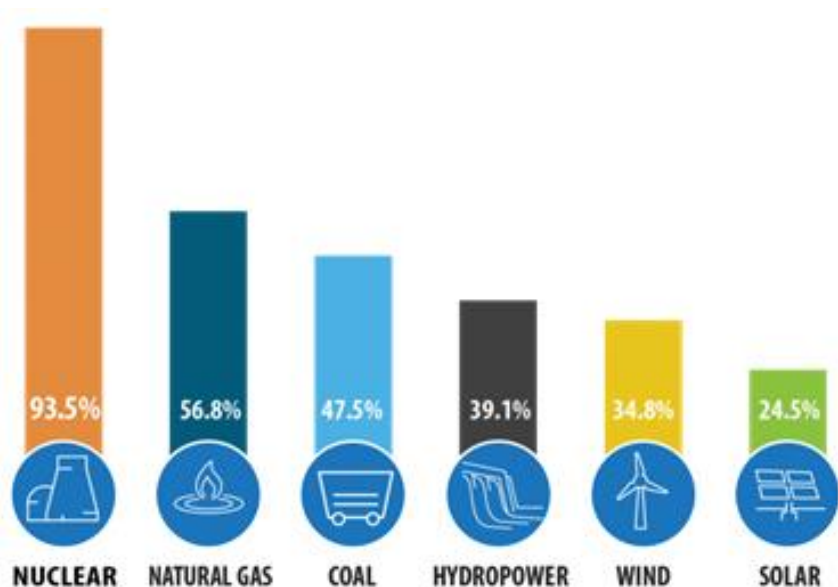


Chart showing capacity factors of different electricity sources in the USA for 2019. Source: US Department of Energy

...but can also operate flexibly if required!

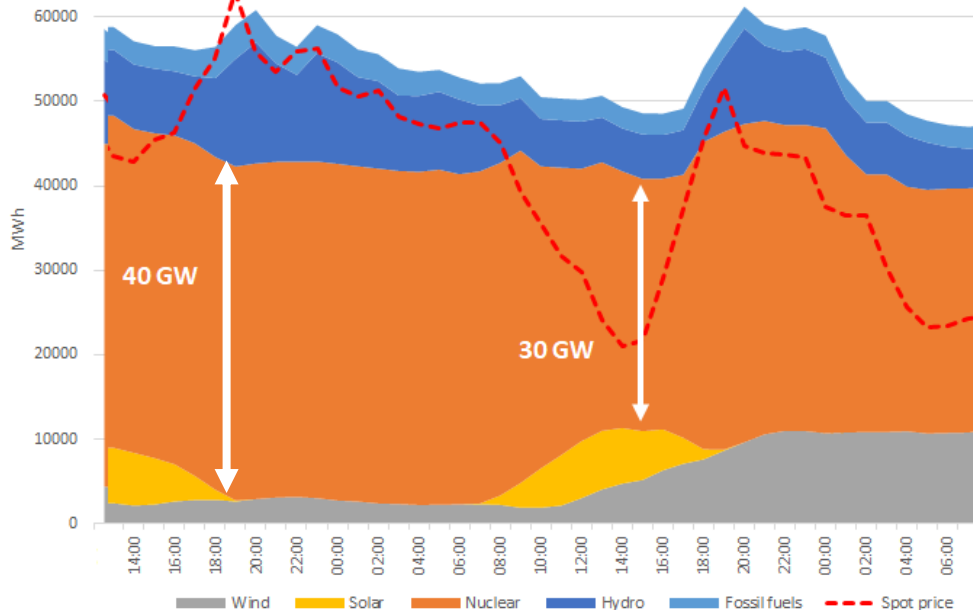
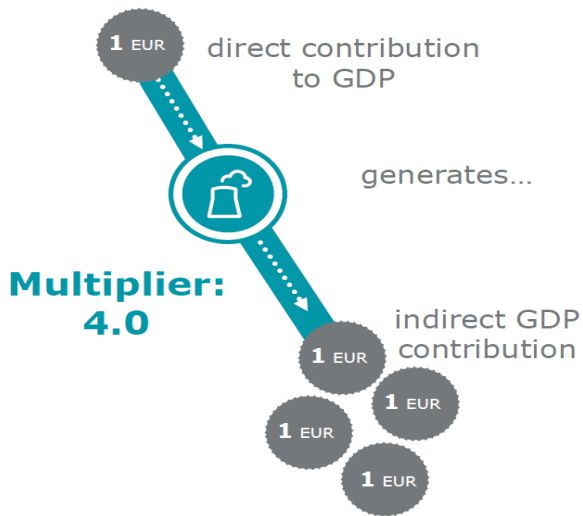


Chart showing load following of French nuclear plants on 27 – 28 March this year. Source NEA LTO report (forthcoming) based on data from RTE and Nord Pool

Empowering the economy and workforce with nuclear energy

Nuclear projects provide many socio-economic benefits throughout the wider economy



Impact of the Nuclear sector on the EU economy in 2019. Source: Foratom, Impact Report -Vision to2050

Nuclear sector pay is typically the highest for any energy technology

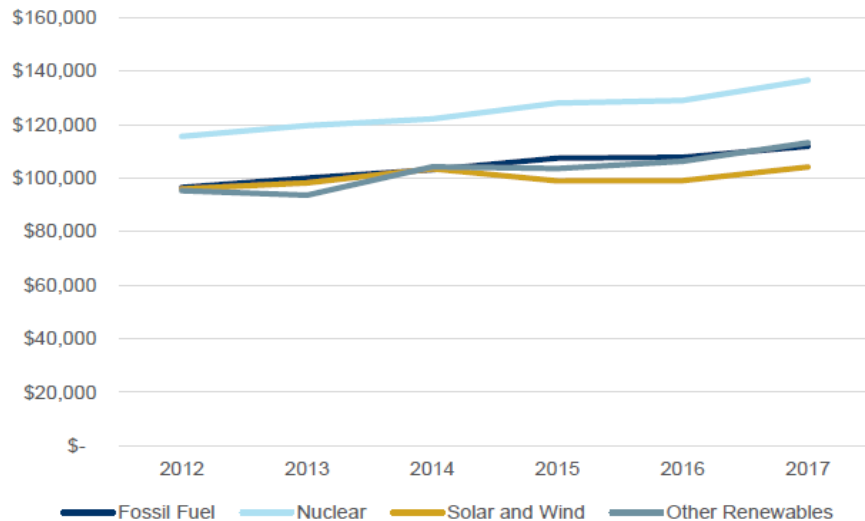


Figure. Average US energy worker pay trends. Source: Oxford Economics, 2019, Nuclear Power Pays

New policy papers

OECD NEA - The role of nuclear energy during COVID-19 and beyond policy briefs

Resilience



Building low-carbon resilient electricity infrastructures with nuclear energy in the post-COVID-19 era

Building resilient and low-carbon electricity infrastructures is a key challenge for the world. Nuclear energy offers a range of advantages in this regard, including its ability to provide a stable, secure, and low-carbon source of electricity.

What's the problem?
The world is facing a range of challenges that are making it difficult to build resilient and low-carbon electricity infrastructures. These challenges include the need to meet growing electricity demand, the need to reduce greenhouse gas emissions, and the need to ensure the security and reliability of the electricity supply.

Why is this important?
Building resilient and low-carbon electricity infrastructures is important because it is essential for the world to meet its growing electricity demand, to reduce greenhouse gas emissions, and to ensure the security and reliability of the electricity supply.

What should policy makers do?
Policy makers should take a range of actions to build resilient and low-carbon electricity infrastructures. These actions include: supporting the development of nuclear energy, investing in research and development, and ensuring the security and reliability of the electricity supply.



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Jobs



Creating high-value jobs in the post-COVID-19 with nuclear energy projects

The post-COVID-19 economic recovery is a global challenge. Nuclear energy offers a range of advantages in this regard, including its ability to provide a stable, secure, and low-carbon source of electricity.

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Cost-effectiveness



Nuclear power and the cost-effective decarbonisation of electricity systems

Fast permanent recovery growth is needed to meet the world's growing electricity demand. Nuclear power offers a range of advantages in this regard, including its ability to provide a stable, secure, and low-carbon source of electricity.

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Financing



Unlocking financing for nuclear energy infrastructure in the COVID-19 economic recovery

Government should consider nuclear energy as a key component of its energy strategy. Nuclear energy offers a range of advantages in this regard, including its ability to provide a stable, secure, and low-carbon source of electricity.

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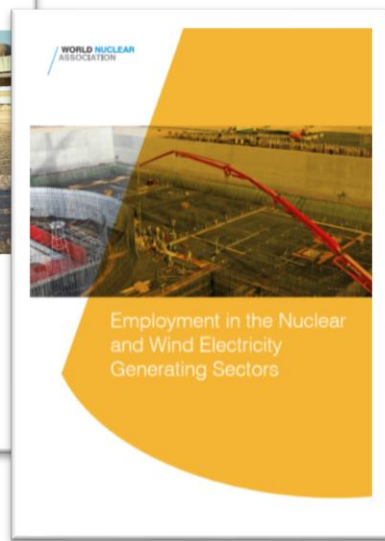
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World Nuclear Association - COVID-19 recovery and nuclear jobs



Building a stronger tomorrow
Nuclear power in the post-pandemic world



Employment in the Nuclear and Wind Electricity Generating Sectors

<https://world-nuclear.org/our-association/publications/policy-papers/building-a-stronger-tomorrow.aspx>

<https://www.world-nuclear.org/our-association/publications/technical-positions/employment-in-the-nuclear-and-wind-electricity-gen.aspx>

Recommendations

Given the urgent need to promote economic recovery, to achieve the SDGs and to limit climate change, the World Nuclear Association calls on policy makers to:

1. Consider nuclear and its socio-economic, environmental and public health benefits in any energy transition plan, and enact policies to ensure the realisation of the many benefits of nuclear energy;
2. Accelerate the implementation of the 108 reactors which are already planned by governments, and ensure the long-time operation of the 290 reactors which have been operational for 30+ years;
3. Unlock finance by providing the appropriate frameworks that will drive investment and provide better value for consumers.
4. Encourage the multilateral banks to reconsider nuclear and adopt a technology neutral approach for low carbon solutions, especially in developing countries.