Foro Nuclear
Foro de la Industria Nuclear Española

EXECUTIVE SUMMARY

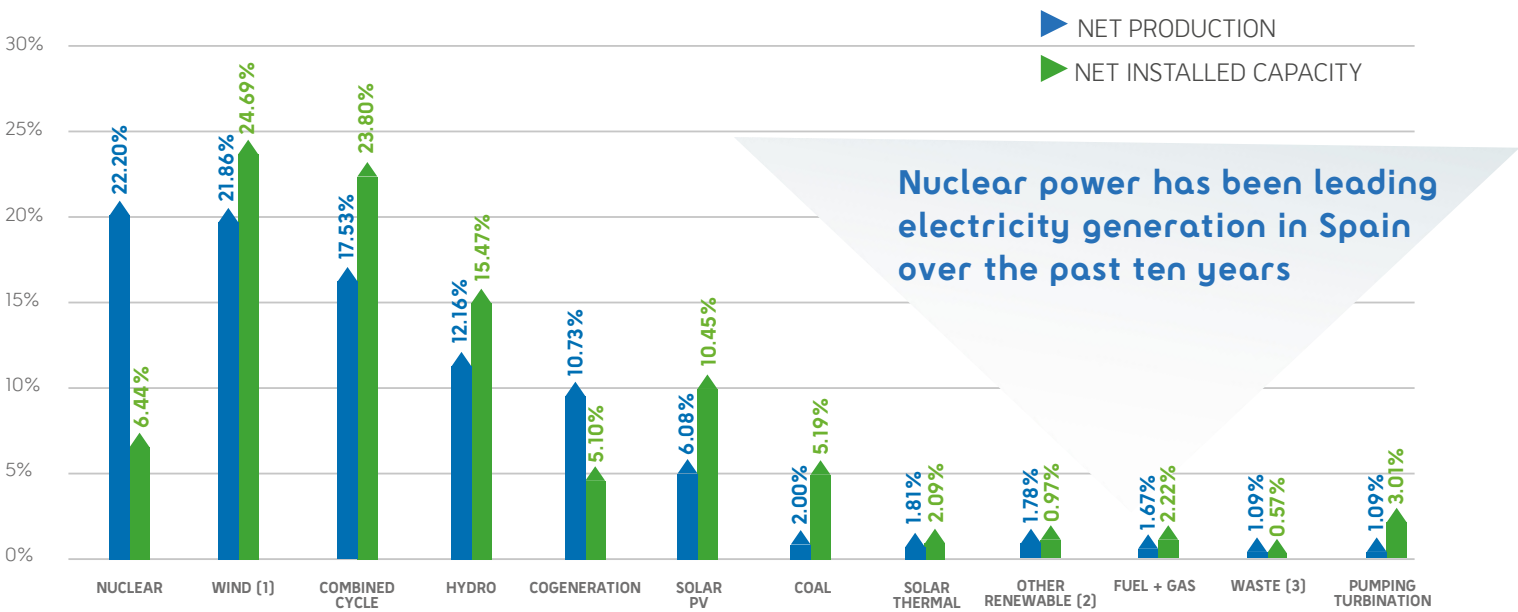
NUCLEAR RESULTS IN 2020 AND FUTURE PERSPECTIVES

Nuclear power in Spain

In 2020 Spain's seven nuclear reactors generated 55,757 GWh of net electricity, which amounts to 22.20% of the country's total net electricity production. The gross output was 58,299 GWh. For the tenth consecutive year, nuclear was the technology that produced the most electric power in all the Spanish electricity system.

Nuclear generation accounted for 33.14% of all the CO_2 emission-free electricity generated in the country, it being the source that prevented most emissions.

As of 31 December 2020, the net installed capacity of the Spanish nuclear fleet was 7,117 MW, 6.44% of the total net installed capacity in the country. The gross capacity stood at 7,398.7 MW at the end of the year.



Nuclear power has been leading electricity generation in Spain over the past ten years

(1) Including wind-hydro. (2) Including biogas, biomass, marine hydro and geothermal. (3) Including renewable and non-renewable waste
Source: Foro Nuclear with data from REE

Operating licenses

In Spain, the lifespan of nuclear power plants is not set for a fixed amount of time. Operating licenses are renewed after the plants' condition has been assessed by the Spanish Nuclear Safety Council, said renewal being granted by the Ministry for Ecological Transition and the Demographic Challenge.

On July 23, 2020, the operating license of Unit I of Almaraz NPP was renewed until November 1, 2027, and the operating license of its Unit II until October 31, 2028, whereas the operating license of Vandellós II NPP was renewed until July 27, 2030.

On March 31, 2020, Cofrentes NPP applied for the renewal of its current operating license till November 30, 2030, which was granted on March 18, 2021. On March 27, 2020, Ascó NPP applied for the renewal of the current operating permits of its Unit I until October 2, 2030 and of its Unit II until October 2, 2031.

Nuclear power plant	Date of entry into force of the current license	Valid until	Next renewal
Almaraz I	7/23/2020	11/1/2027	---
Almaraz II	7/23/2020	10/31/2028	---
Ascó I	9/22/2011	9/22/2021	September 2021
Ascó II	9/22/2011	9/22/2021	September 2021
Cofrentes	3/18/2021	11/30/2030	---
Trillo	11/17/2014	11/17/2024	November 2024
Vandellós II	7/23/2020	7/27/2030	July 2030

Nuclear power in the world

As of December 31, 2020, there were 443 reactors in operation in 33 countries around the world. Another 54 new reactors were under construction in 20 countries. Five reactors were connected to the grid and four began to be built.

As of December 31, 2020, there were 107 reactors in operation in 13 of the 27 European Union Member States, which generated more than 25% of all the electrical energy consumed in the EU. Another four units were undergoing construction in Finland, France and Slovakia.

Spent fuel management

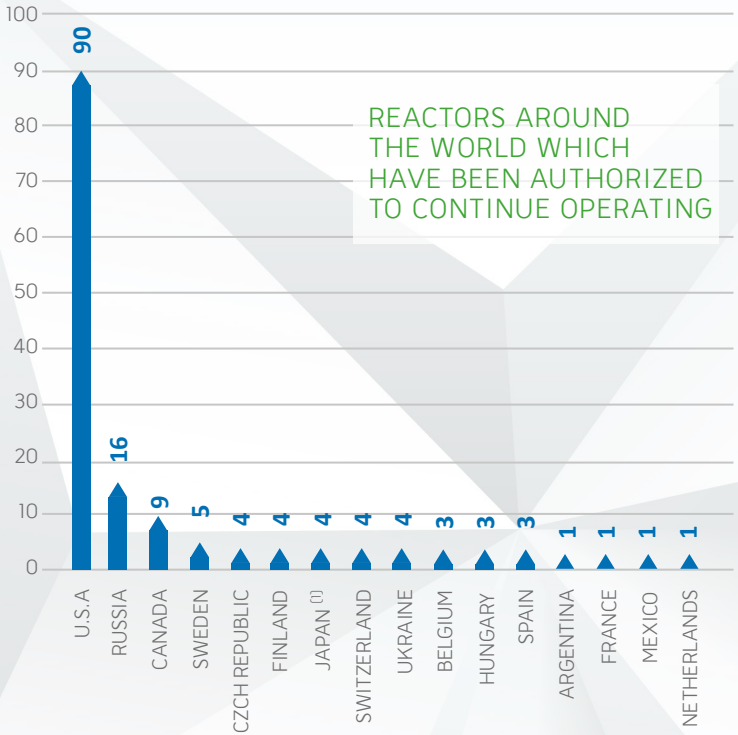
Spanish nuclear power plants store -at their facilities- their irradiated fuel in the pools they have for this precise purpose and, when once these are full, in Individual Temporary Dry Storage Facilities (ATIs). José Cabrera (currently undergoing dismantling), Trillo, Ascó and Almaraz NPPs have ATIs up and running. Santa María de Garoña NPP (which is in the pre-dismantling phase) has built its own ATI, although it is not in operation yet, and Cofrentes NPP expects to commission its own in 2021.

As of December 31, 2020, there were 16,542 irradiated fuel elements temporarily stored at Spanish nuclear power plants, of which 14,501 were stored in pools and 2,041 in ATIs.

Continuity of operation of nuclear power plants

Many countries have opted for an energy strategy consisting in the continued safe operation of their nuclear power plants.

As of December 31, 2020, 153 reactors around the world had been granted authorization to operate beyond 40 years by the regulatory bodies of their respective countries. In the U.S.A, four reactors have already been authorized to operate 80 years.



(1) The four Japanese reactors have been shut down since March 2011
Data as of December 31, 2020.
Source: Foro Nuclear with data from PRIS-OIEA, NRC, Rostechnadzor, CNSC, SSM, SÚJB, STUK, NRA/Jaif, ENSI, SNRIU, FANC, HAEA, MITECO, ARN, ASN, SENER/Mexican Government and ANVS

The spanish nuclear industry

A large number of Spanish companies have focused their efforts on the nuclear sector, which has led to the creation of a competitive and experienced industry. **In the past few years they have ramped up the internationalization of their nuclear endeavors, and now are involved in projects in over 40 countries.**

The Spanish nuclear industry is present throughout the value chain of the nuclear fuel cycle and is prepared to address the continued operation of the Spanish nuclear fleet.

Despite the fact that during 2020 the activities of many companies have been affected by the global health crisis triggered by Covid-19, the Spanish nuclear industry continued to develop and launch many projects, both domestically and abroad.

What is Foro Nuclear?

The Spanish Nuclear Industry Forum (Foro de la Industria Nuclear Española) is the association that represents the interests of the national nuclear industry. It brings together 50 companies and organizations, including electric utilities, nuclear power plants, engineering companies, service companies, system and large-component suppliers, industry associations, foundations and universities. Its main purpose is to boost their international presence and to support the conservation and continuity of Spanish nuclear power plants.

FORO DE LA INDUSTRIA NUCLEAR ESPAÑOLA

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