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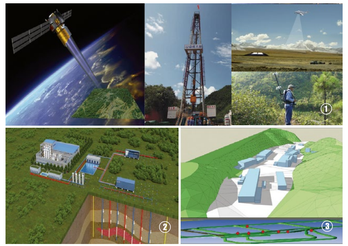


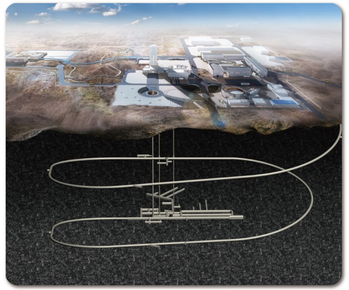
## Nuclear Engineering and Construction

CNNC has formed a complete industrial chain for nuclear power plant construction, which includes overall civil work, installation capabilities, such as earthwork, prestress, concrete, steel lining, hoisting, nondestructive testing, and maintenance expertise.

As of 2022, CNNC participated in the construction of 69 units in China, with a total installed capacity of 80.204GW. CNNC exported 6 nuclear power units to Pakistan with a total installed capacity of 3.53GW.

CNNC has provided civil & industrial services for petrochemical industry, metallurgy, building, materials, residential construction, and municipal projects to over 30 countries.

## Environmental Protection



➤ IAEA-CNNC collaboration center --Beishan Underground Research Laboratory, situated in granite up to 560 metres below ground level, will be used as the test facility of high-level radioactive waste long-term storage.

## Nuclear Technology Applications


**Nuclear Medicine:**
CNNC is capable of providing one-stop nuclear medicine solutions to other countries.

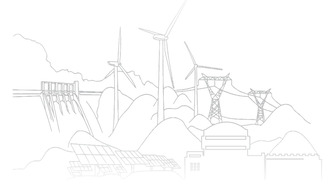
- 5 Medicine Bases
- 30 Nuclear Medicine Centers
- 9 Operational Irradiation Facilities

**Nuclear Fuel:**

CNNC is the only nuclear fuel producer, supplier and trading service provider in China, mainly engaged in the manufacturing of nuclear fuel products (uranium purification and conversion,uranium enrichment, assemblies, special equipment), engineering and construction, research and development of key technologies, as well as import and export trade of uranium products, nuclear fuel cycle equipment and nuclear power technology equipment.

## RENEWABLES

**CNNC has dedicated to the development of renewable energy. Through self-development, investment on and acquisition of hydro-power, wind power and solar power projects, CNNC explores a new mode of coordinated development of "nuclear + renewables".**



## VISION, PARTNERSHIP AND ACHIEVEMENTS

**2022**

| Renewables | Installed Capacity in Operation | Electricity Generation | Electricity Annually Generated by Non-nuclear Clean Energies Equivalent to |
|---|---|---|---|
| Hydro | 2832.9 MWe | 33.528 billion kWh | • Standard coal consumption reduced by 10 142 200 tons<br>• 26 572 600 tons of $CO_2$ Emissions avoided<br>• 86 200 tons of $SO_2$ emissions avoided<br>• 75 100 tons of $NO_x$ emissions avoided<br>• 64 200 hectares of afforestation |
| Wind | 5447.3 MWe | | |
| PV | 13741.4 MWe | | |

CNNC

# CHINA NATIONAL NUCLEAR CORPORATION

PURSUING GREEN DEVELOPMENT

Responsibility· Safety· Innovation·Coordination

# ABOUT US

China National Nuclear Corporation (CNNC) is a major player in China's nuclear power development and applications. CNNC engages in the entire nuclear energy supply chain, encompassing various activities from uranium extraction and enrichment to plant construction, operation, decommissioning and waste management. CNNC's international footprint touches all corners of the globe. It embraces in-depth cooperation with global partners in all areas of the nuclear industry, with a long commitment to working with partners worldwide to promote sustainable development.

Responsibility· Safety· Innovation·Coordination

## CNNC's Industrial Landscap


# OUR ADVANTAGES

- We are a Fortune 500 company.
- We have a complete nuclear industrial chain.
- The top contractor of global nuclear engineering projects in China.
- The dominating investor of domestic nuclear power plants in operation and under construction.
- A dedicated supplier of nuclear fuel cycle technology, with natural uranium products， and a service provider and general contractor of uranium exploration technology.
- The only company has constructed nuclear power projects for over 30 consecutive years.
- One of the three major global $Co^{60}$ producers.
- Over the past 60 years, an effective nuclear security regime has been established, maintained and sustained, and no nuclear materials have been lost, stolen or missing.

# OUR CAPABILITIES

## Nuclear Power

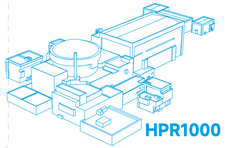
As of March 31, 2023， CNNC had 25 units in operation, 9 units under construction.

In the year of 2022, CNNC's operating units generated 185 billion kWh of power, with outstanding operating performance.

In 2022, 18 CNNC units got full marks in the WANO comprehensive index:QINSHAN-1,QINSHAN2-1/2/3/4,QINSHAN3-1,FANGJIASHAN1,TIANWAN1/2/3/4,FUQING1/2/3/4,CHANGJIANG1/2,SANMEN 2.

## HPR1000

HPR1000 is an advanced GEN- III nuclear power technology with the significant feature of an active and passive safety design philosophy, developed by China National Nuclear Corporation.



HPR1000

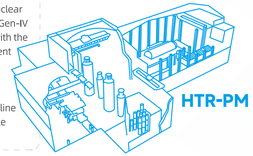
## ACP100

ACP100

ACP100 is a multi-purpose small modular reactor(SMR) designed for electricity production, heating, steam production or seawater desalination. In 2016, ACP100 became the first GEN-III SMR to pass a Generic Reactor Safety Review by the International Atomic Energy Agency.

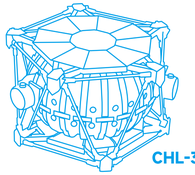
## HTR-PM

The advanced nuclear technology with Gen-IV characteristics, with the features of inherent safety, simplified system, modular design and construction, on-line refueling, multiple applications, etc.



HTR-PM

## CHL-3

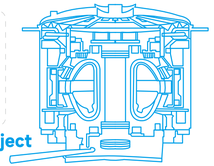


CHL-3

The largest controllable nuclear fusion device in China, has made a significant leap in China's nuclear fusion research from theory exploration to large-scale devices experiments.

## ITER Project

CNNC participates in the large-scale scientific engineering plan of the ITER Organization, by providing key technologies and components for ITER.



ITER Project

## Nuclear Fuel

Chart for the nuclear fuel supply capacity of CNNC

| Fuel Assembly | Uesr |
|---|---|
| CF1 | Qinshan NPP, Chashma NPP, etc. |
| CF2 | Pakistan Karachi K2/K3 NPP |
| CF3 | HPR1000 |
| AFA3G | Qinshan II NPP, Daya Bay NPP, Ling Ao NPP, etc. |
| TVS-2M | Tianwan NPP |
| CANDU | Qinshan III NPP |
| AP1000 | Sanmen NPP, Haiyang NPP, etc. |
| HTGR | Shidao Bay HTGR Demonstration Project, etc. |
| R&T Fuel | CIAE, NPIC, CAS, CSIC, etc. |

## Natural Uranium

CNNC employs advanced mining techniques, integrating space-based remote-sensing and airborne geophysical, ground,and deep-well exploration. Uranium mining has reached a depth of 500 to 1000 meters.

The third-generation uranium mining technology, represented by "$CO_2$+$O_2$" green in-situ leaching techniques, has achieved large-scale industrial application, qualifying for advanced international standard.

CNNC has digitalized and integrated mine exploration and exploitation by using advanced automatic control, computer, network communication and modern management technology.