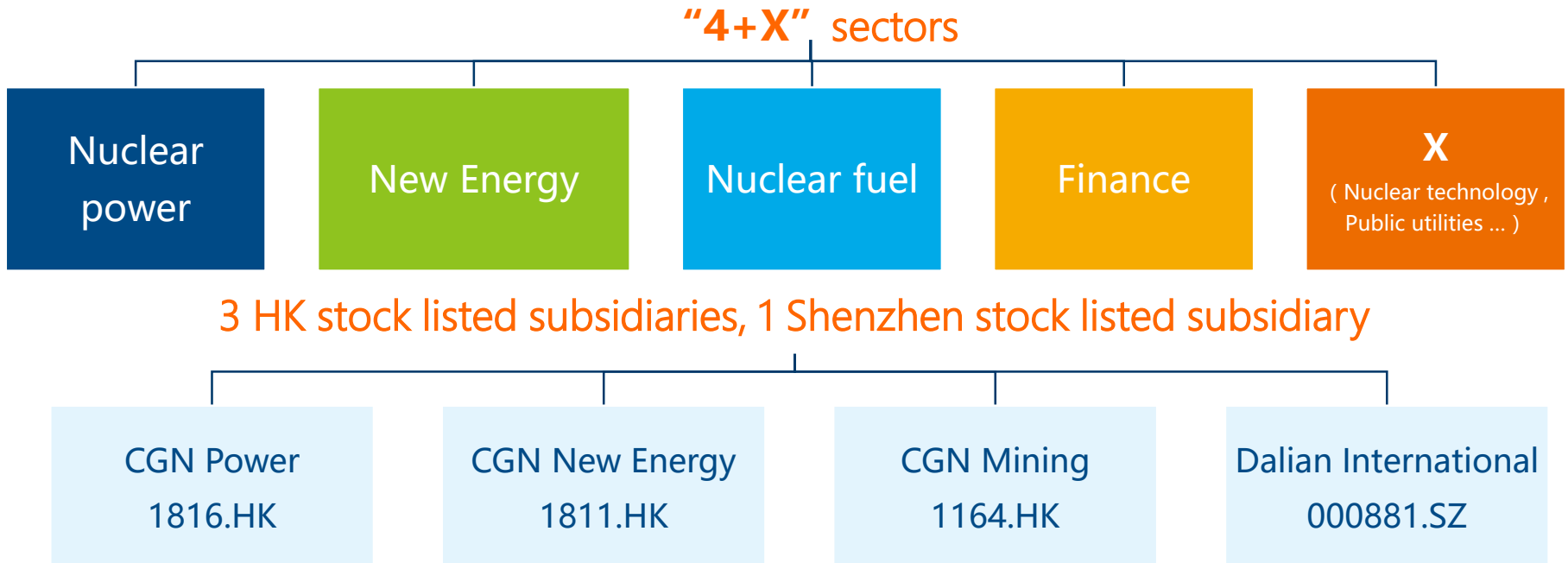


# **CGN's Proposal for Sino-Czech Cooperation on Nuclear New Build Projects**

**November 8th, 2017**

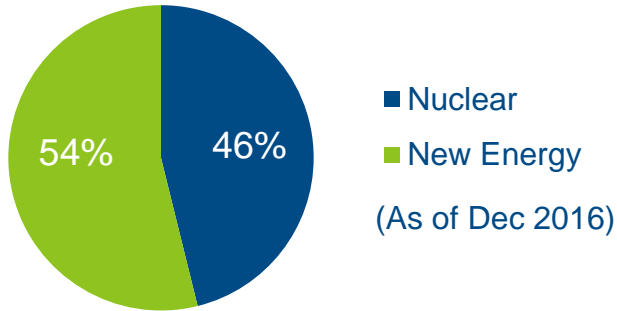
## About CGN

- As of June 2017, the total assets reached up to **\$90 billions**
- **Business lines** includes four plus X sectors
- Full range of premier nuclear capabilities and extensive experience in all aspects of nuclear power plants

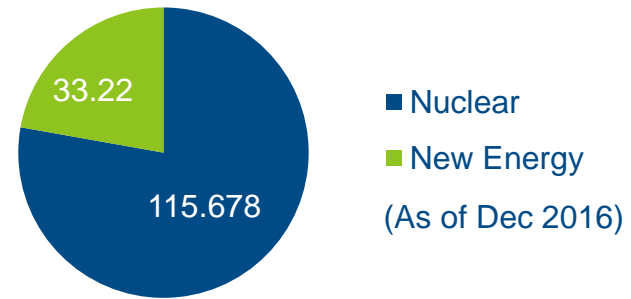


# About CGN

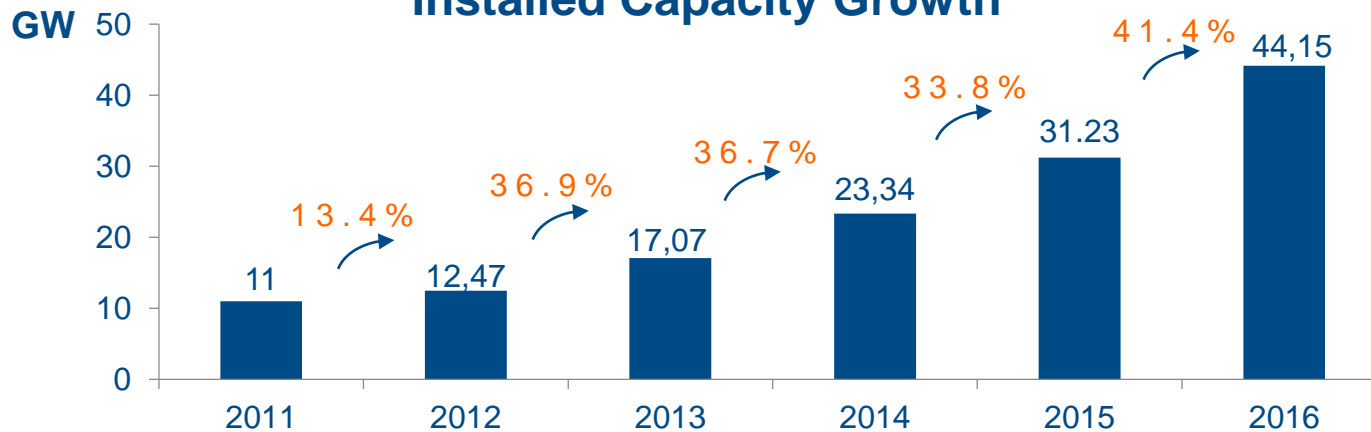
Installed Capacity



Domestic Power Generation 148.9 TWh



Installed Capacity Growth



# Status quo of CGN Nuclear Power Business

## Units in operation



**x20**



**21.5GW**



**62%**  
domestically

## Units under construction



**x8**



**10.5GW**



**19%**  
globally



**44%**  
domestically

HPR1000 Units Approved by the Chinese Government for Implementation in the future 20 to 25 years



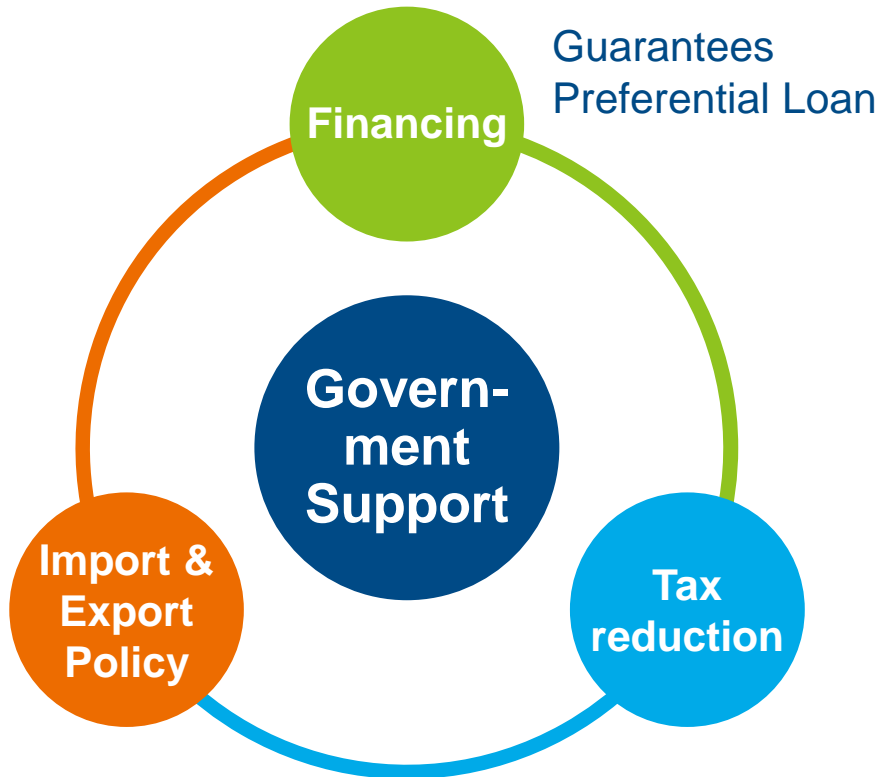
**x22**



**25GW**

(As of April 2017)

## Strong Investment and Financing Capabilities



With “The Belt and Road” initiative, international cooperation for civilian nuclear power development fully supported by Chinese government

The gross asset of CGN is \$90 billion with incredible annual growth. Net profit yearly growth is up to 16.5%.

**Large asset scale and profitability**

### Self-capabilities of CGN

#### Strategic partners

The strategic partnerships with Chinese banks and financial institutes

## Advanced Technology with Large Scale of Implementation—HPR1000

- Based on over 30 years of experience of continuous design, construction and operation of nuclear power plants in China
- Integrated innovation by adopting proven technologies
- Fukushima nuclear accident feedback adopted in the design
- CDF  $6.9 \times 10^{-7}$ ; LRF  $7.3 \times 10^{-8}$
- 6 units are being built in China and overseas, and many more are prepared in China



## Advanced Technology with Large Scale of Implementation—HPR1000

### Single Unit-Layout

Optimized Single Unit-Layout  
Better for physical separation  
Easy for construction, Operation and Maintenance

### Active + Passive Systems

Secondary Passive Residual Heat Removal System  
Passive Reactor Cavity Injection System to prevent the melting accidents

### Advanced I & C

Digital I & C  
Diverse Auction System  
Advance MCR with Emergency inhibition system

### Double Containments

Double Containments with large volume Ventilation System in double containments  
Resistance to impact of large airplane crash

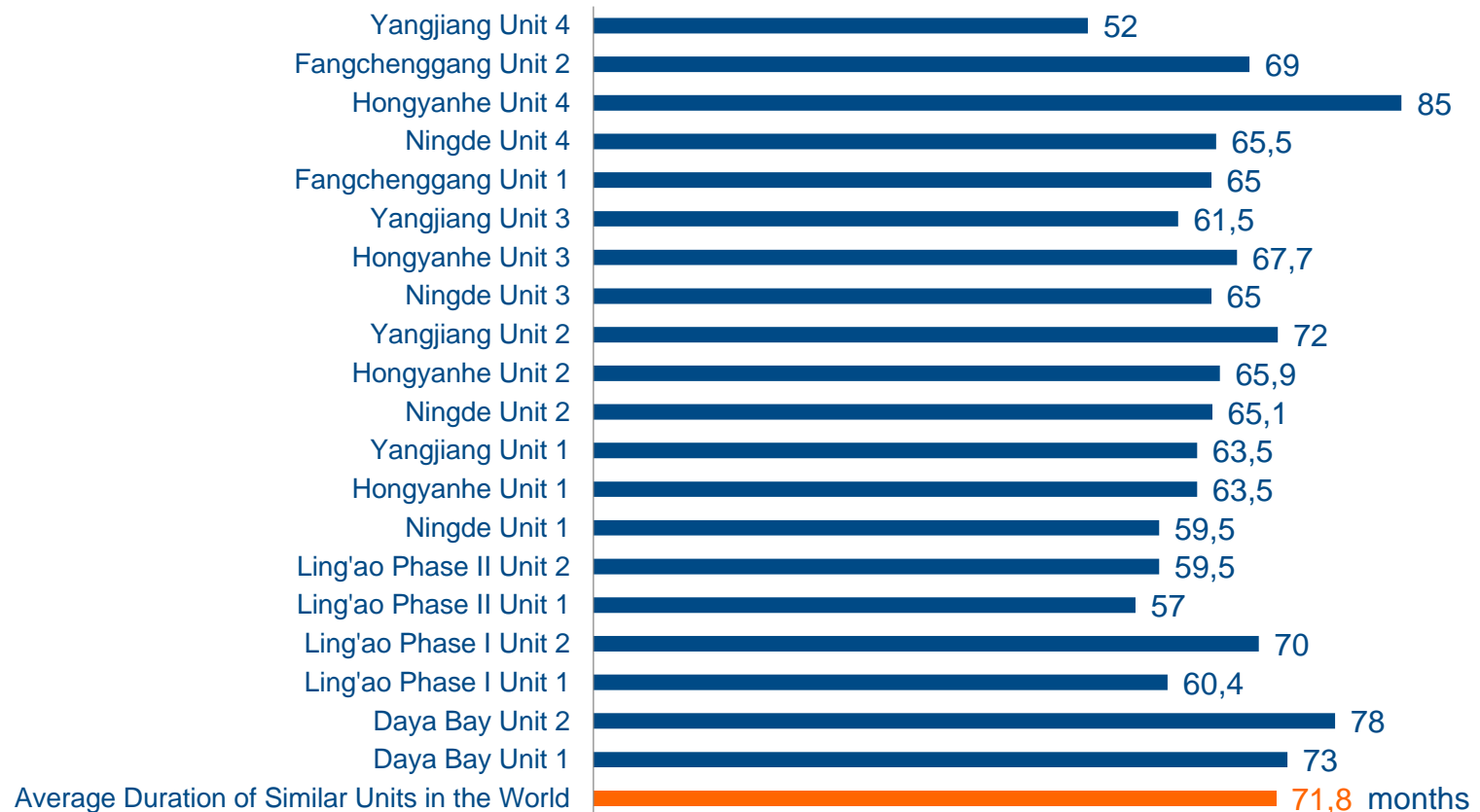
### Three Safety System Trains

3x100% redundant systems for safety safeguards, fully independent and physically separated  
Effective resistance to accidents and internal and external hazards



## Continuous Nuclear Power Project Construction Experience over 30 Years

Superb performance on project controls for nuclear new build projects. The average construction duration of nuclear new build projects by CGN is **66.2 months (from FCD to COD).**

















## CGN's Proposal for Sino-Czech Cooperation on Nuclear New Build Projects

1

Based on the capabilities and experience of both sides, CGN and Czech companies will take charge of EPC of Nuclear and Conventional islands, respectively.

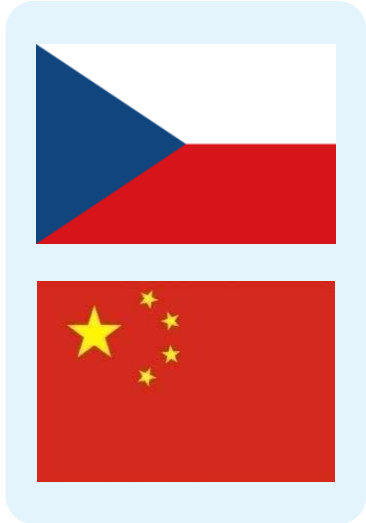
2

When awarded NI of the two Czech nuclear new build projects to CGN, CGN will equivalently award CI to Czech companies on two CGN nuclear new build projects in China simultaneously.

3

Furthermore, CGN-led Chinese enterprises and Czech enterprises can participate in each other's nuclear new build projects as well as jointly in the third country nuclear power new build projects.

## Being Czech Strategic Partner



- Combining the premier capability and extensive experience of both sides in nuclear new build projects ensuring CGN complying with Czech legal and license requirements for siting and construction
- Promoting the sustainable development of the nuclear industry in both countries through the nuclear new build projects
- Making full use of the human resources of both sides
- Establishing long-term technical, research and education cooperation with Czech research institutes and universities based on CGN's sound research and education systems
- CGN's abundant localization experience can be effectively applied to the manufacturing and construction of nuclear new build projects in Czech Republic
- CGN with the high investment capability and rich financing experience is willing to provide the most competitive packages to our Czech partners
- Setting a benchmark of cooperation in the world nuclear power industry



THANK YOU

中广核  CGN  
Natural Energy Powering Nature