

# SESSION 3: NUCLEAR SCIENCE AND TECHNOLOGY APPLICATIONS: SUSTAINING, ENABLING AND EMPOWERING

## PANEL 3.2: Sustaining nuclear technology through capacity building



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China

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Jianlong Wang has been in charge of many projects in the field of water and wastewater treatment, the removal of volatile organic compounds and the treatment of sludge and fermentative residuals of antibiotics with radiation technology





# Nuclear technology applications in China – challenges and opportunities

**Mr Jianlong Wang**

IAEA Ministerial Conference on Nuclear Science  
and Technology,  
28-30 November 2018, Vienna, Austria

# NUCLEAR TECHNOLOGY

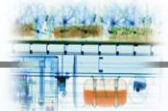
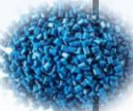
## SCIENCE

Chemistry Biology  
Archaeology Geology



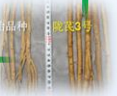
## INDUSTRY

Public security  
Environmental protection  
Material modification  
Container examination  
Food preservative



## AGRICULTURE

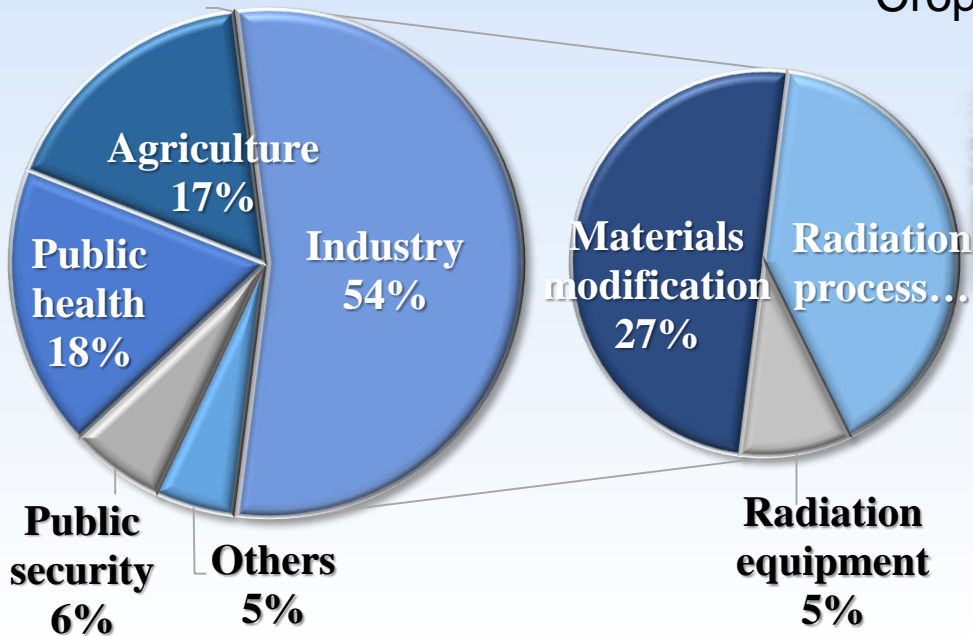
Crops  
Herbal medicines  
Energy crops



## HEALTH

Diagnostic imaging  
Radiotherapy





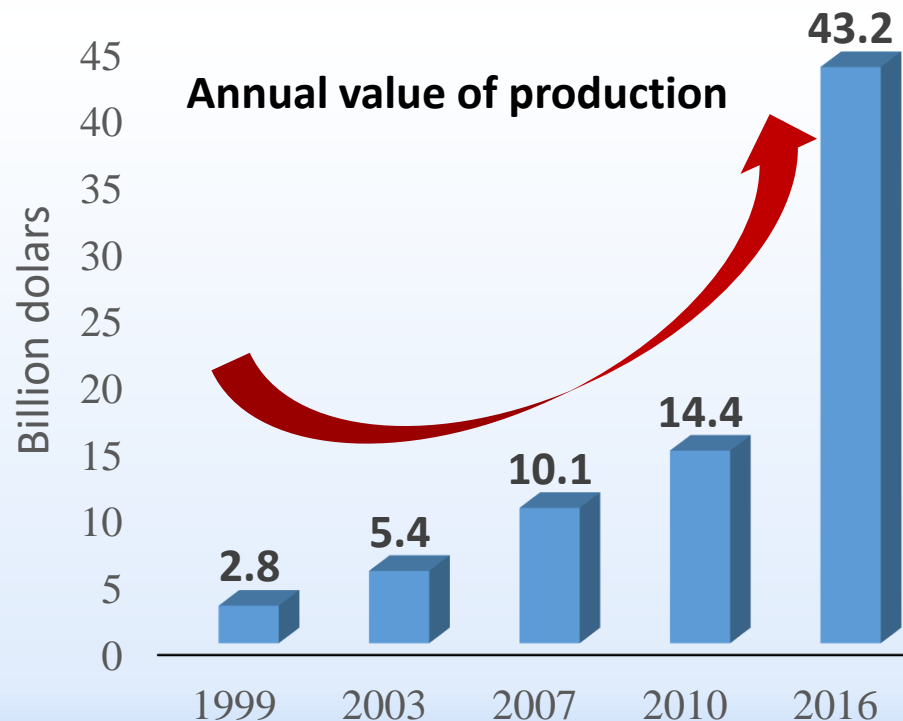
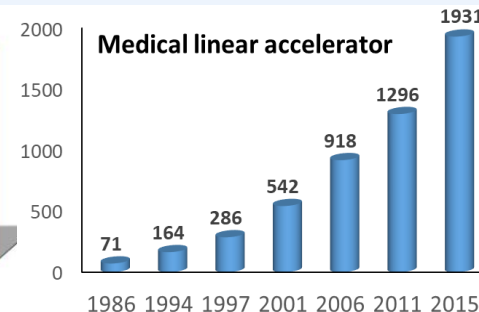
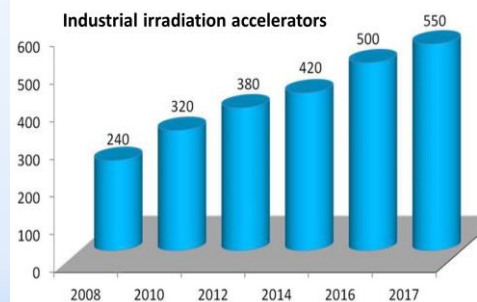
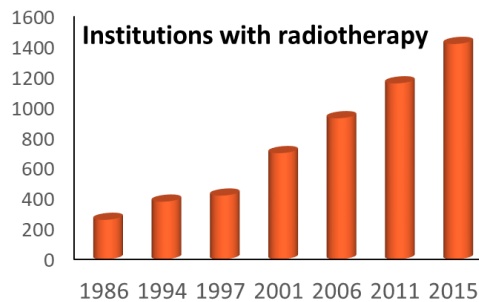
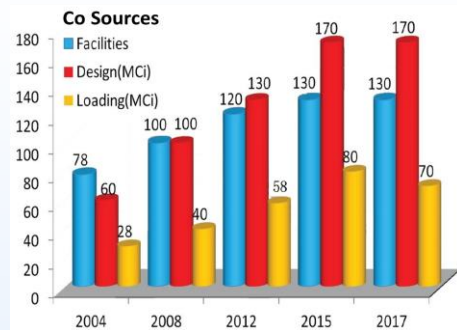
Crops can be stored for **several months**

international market **30 %**



Sorgho in desert

Over **33 thousand hectares**



## Wastewater treatment

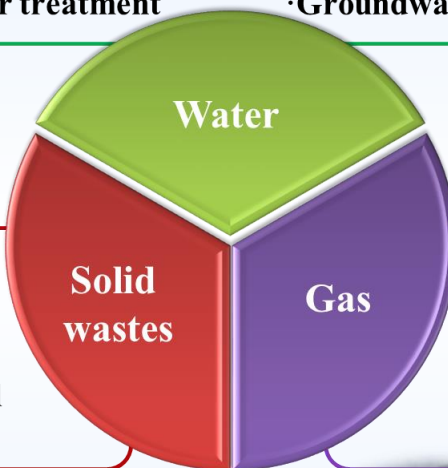
## Pollutants monitoring

### Electron accelerator for water treatment

### Algae blooms

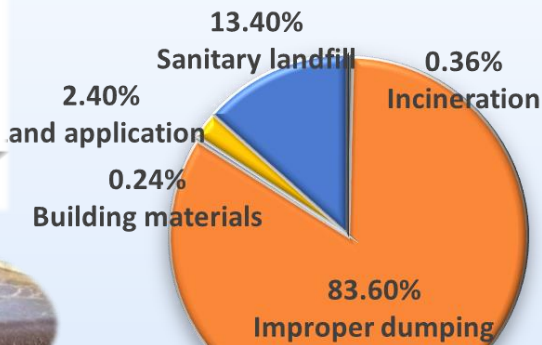
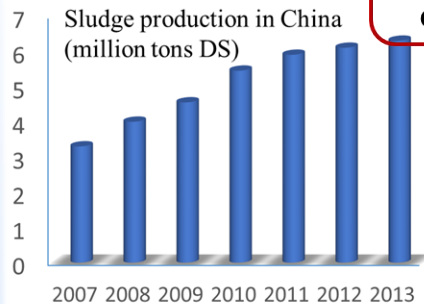
• Water & wastewater treatment

• Groundwater remediation etc.



• Sanitation  
• Disintegration  
• dewatering  
• Heavy metals removal etc.

• Flue gas desulfurization & denitrification  
• VOC management etc.



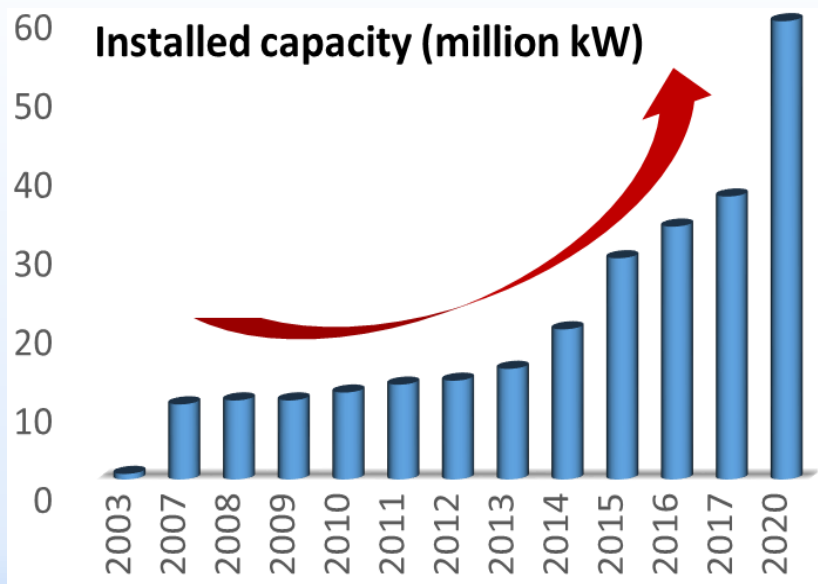
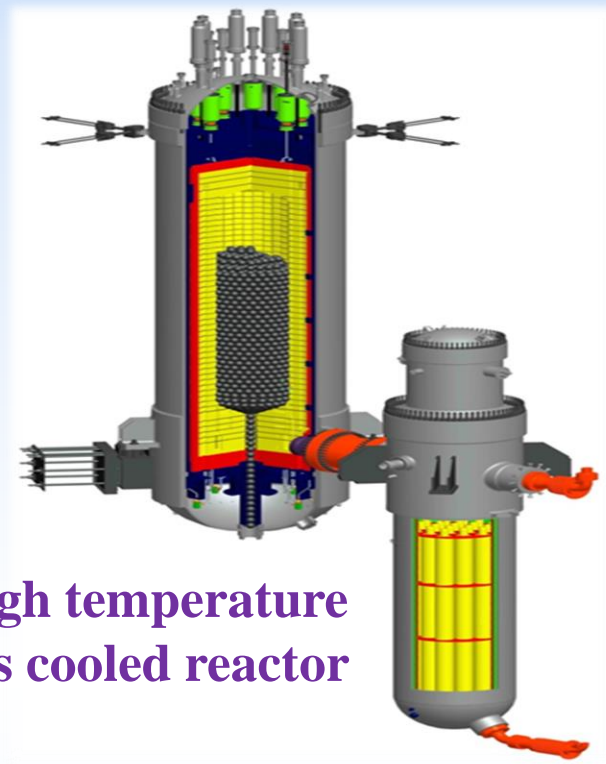
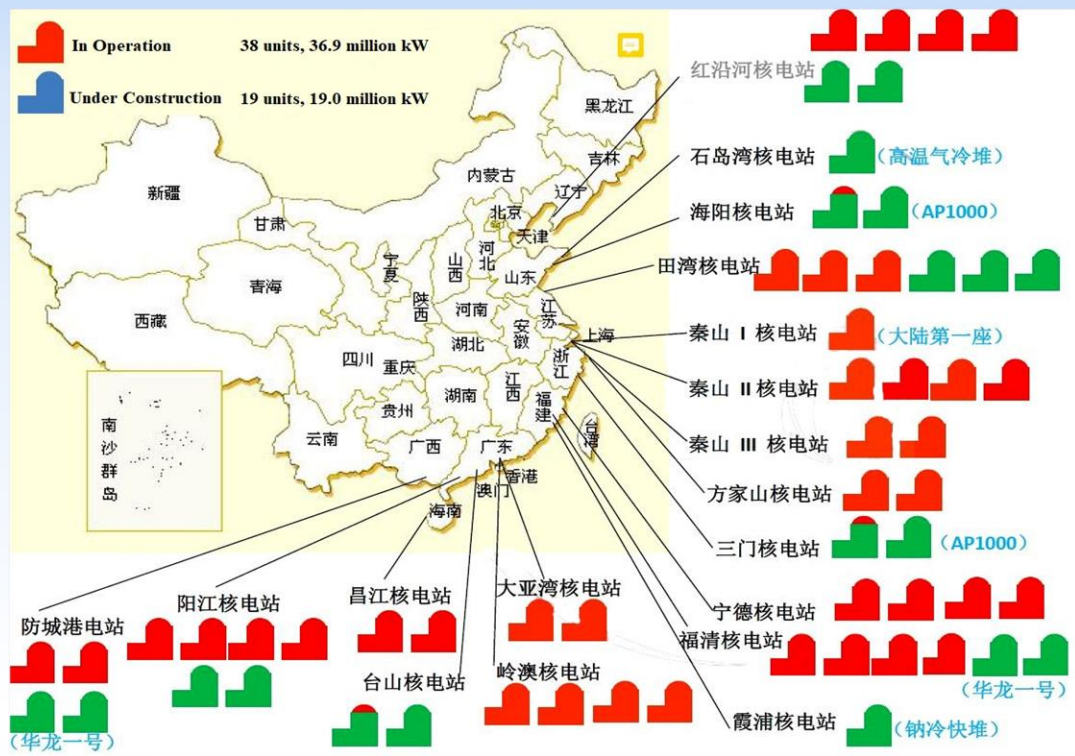
$SO_x$

$CO_x$



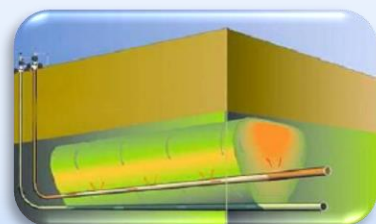
$NO_x$





**Hydrogen production**

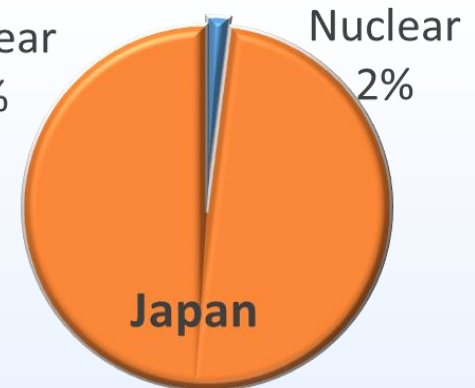
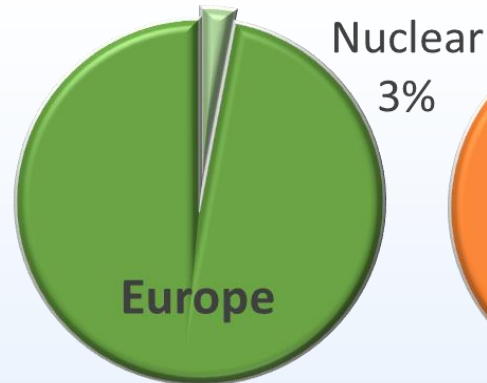
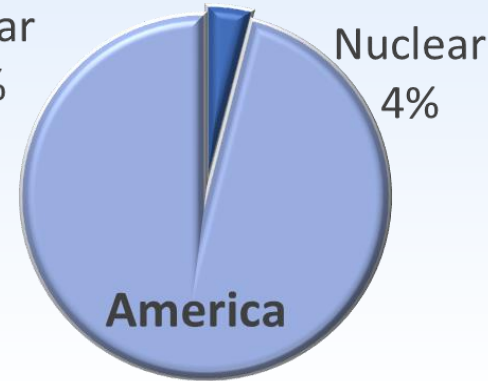
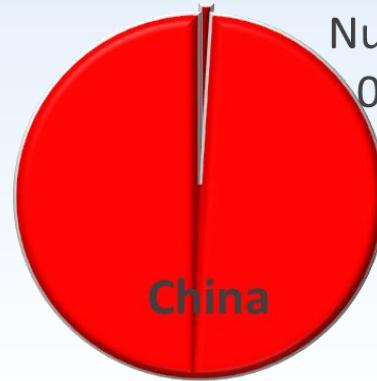
**Desalination of sea water**



**Hydrocarbon recovery**

# Opportunities & Challenges

## GDP Occupation of Nuclear Technology



Fundamental  
research



Talent pool

Interdisciplinary  
research



China's nuclear technology application industry has great potential and promising prospects.