



CHINA AUSTRALIA  
GEOLOGICAL STORAGE OF CO<sub>2</sub>  
中澳二氧化碳地质封存

# China Australia Geological Storage of CO<sub>2</sub> Project: 10 years of achievement

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**Australian Government**  
**Geoscience Australia**



# About CAGS

CAGS is a bilateral project between China-MOST and Australia-DIIS

Jointly managed by:

- **Geoscience Australia,**  
Department of Industry, Innovation and Science
- **The Administrative Centre for China's Agenda 21,**  
Ministry of Science and Technology
- Letter of Intent (2008)
- CAGSI (2010-2012), CAGSII (2012-15), CAGSIII (2016-18)



**Australian Government**  
**Geoscience Australia**



**中国 21 世纪议程管理中心**  
The Administrative Center for China's Agenda 21

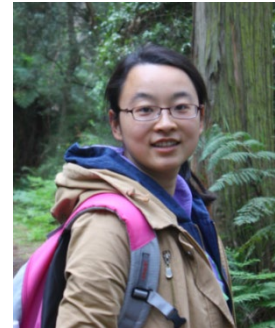
**The focus for CAGS is capacity building in China and  
Australia for geological storage of CO<sub>2</sub>**

**cags**

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# Focus of CAGSI and CAGSII

- Capacity building of Chinese researchers and central government officials at a national level
- Scientific exchanges, mostly junior Chinese academics in Australia
- Fully Australia Government funded research projects in China; smaller, desktop or laboratory studies
- Built a large CCUS network within China



# Focus of CAGSIII

- Bilateral relationship maturing
- Scientific exchanges, especially supporting Australian researchers to gain practical geological storage experience in China (5 Australian, 5 Chinese)
- Provincial level capacity building at Xinjiang (high priority region)
- Supporting larger priority research projects, with Chinese co-funding
- Support more senior Chinese researchers to share experience in Australia



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# Example: CAGS Workshop and School in Xinjiang 2017

- Limited CCUS knowledge base in region
- Highly prospective for CCUS, especially for CCUS applied to industrial emissions with saline aquifer storage or EOR
- Brought Australian and international expertise to region (first bilingual conference on CCUS)
- Launch of Xinjiang CCUS Research Centre at workshop



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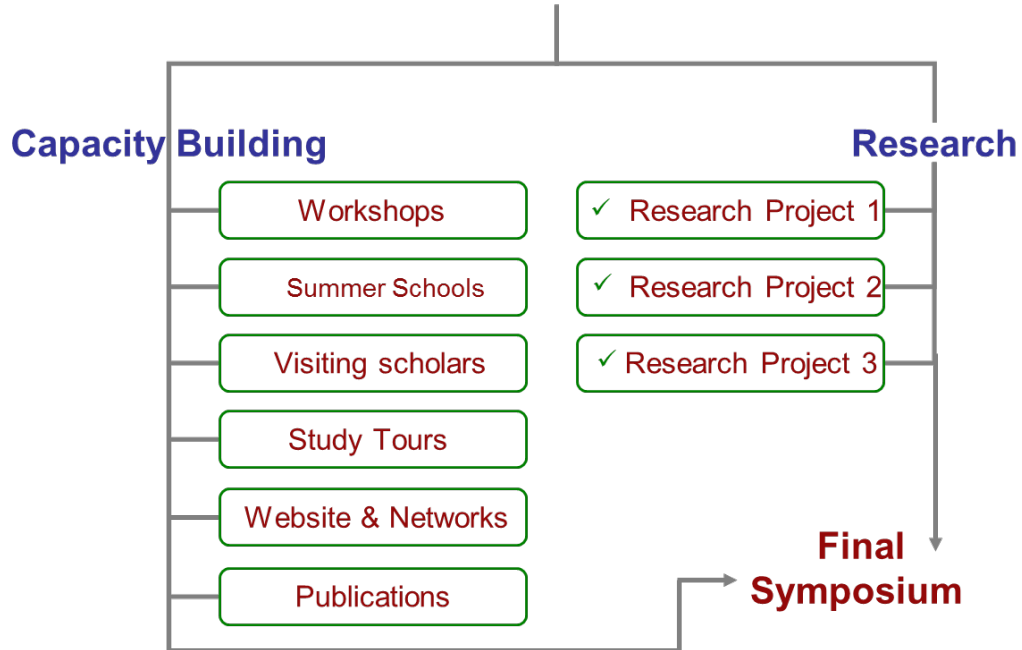
# CAGSIII Research Projects

- Integrated monitoring research of CO<sub>2</sub>-EOR demonstration project at Yanchang oilfield
- Assessment of potential CO<sub>2</sub> geological and storage in the Junggar Basin and early demonstration opportunities in East Junggar
- Feasibility study of the Xinjiang Guanghui CCUS Pilot Project



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# CAGS Activities





# CAGS Outputs: Knowledge Sharing

- 8 Workshops  
**500 participants attended**
- 6 CCS summer schools  
**350 students from China and Australia**
- Scholar exchange  
**30 Chinese and Australian researchers**
- Networking and linking: Government, institutes, enterprises, NGOs  
**80 Chinese organisations and 35 Australian / Int'l organisations**
- 10 Research projects in China





# CAGS Outputs: Supporting Policy

## Research results were used to inform policy in China:

- Storage capacity assessment methods and tools (EOR and aquifers)
- Storage site selection and assessment criteria
- Environmental Impact Assessment guidelines
- Risk assessment and management guidelines



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# CAGS Outputs: Public Awareness Raising

Brochures

cagsinfo.net (bilingual)

Newsletters



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# CAGS supported symposiums (2018)



- Forums for sharing Chinese CCUS research in Australia

# CAGS Impacts: Leveraging further investment

## CAGS used as seed funding to attractive additional investment into CCUS :

- Funding provides ability to build up research teams and capacity to undertake more research
- Inspiring students to undertake CCUS research
- Leverage for additional Chinese Central Government funding and upgrading of scientific equipment within Chinese institutes
- Reclassification of Chinese laboratory or institute to a National Level Facility – access to a wider pool of Chinese funding mechanisms



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# CAGS Impacts: Increasing collaboration

## Very successful exchange program:

- Increased cultural understanding
- Adopting and implementing new techniques/technologies (e.g. monitoring, modelling, etc)
- Joint papers in higher impact English language journals
- Can help with career advancement and promotion
- Joint funding applications, joint supervision of students
- Facilitating lasting personal linkages



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# CAGS Impacts: Spreading CCUS knowledge

## Training schools have lasting impact:

- Training schools target postgraduate students, junior scientists and engineers
- Highly interdisciplinary (e.g. ecology, geology, engineering)
- Has resulted in students undertaking CCS-related studies
- Students gain access to international experts
- International experts can establish wider Chinese networks and better appreciate Chinese domestic concerns (e.g. air quality)



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# Near future CCUS developments

- Several large pilot projects (>100,000t/yr) underway in China
- At least seven +1Mt/yr CCUS projects planned (two in Xinjiang)
- CCUS part of China's National Key R&D Program on clean and high efficiency coal technology
- CCUS gaining new momentum in Australia (Gorgon + pilot/demonstration projects)





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**Thanks!**



**Australian Government**  
**Department of Industry,  
Innovation and Science**



**中华人民共和国科学技术部**

Ministry of Science and Technology of the People's Republic of China