



# ***Research, Development and Innovation for cleaner use of coal***

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Hearing

**Contribution of coal and lignite to the EU's energy security**

14 September 2015, Brussels

# Some latest news from the world,

IEA CLEAN COAL CENTRE 4th September



**USA: DOE Selects Eight Projects to Receive Funding for Reducing the Cost of CO<sub>2</sub> Capture and Compression**

**New coal research centre to boost Aus-India energy partnership**

**'Clean Coal' Development A Top Priority For China - China is not likely to give up using coal anytime in the near future**

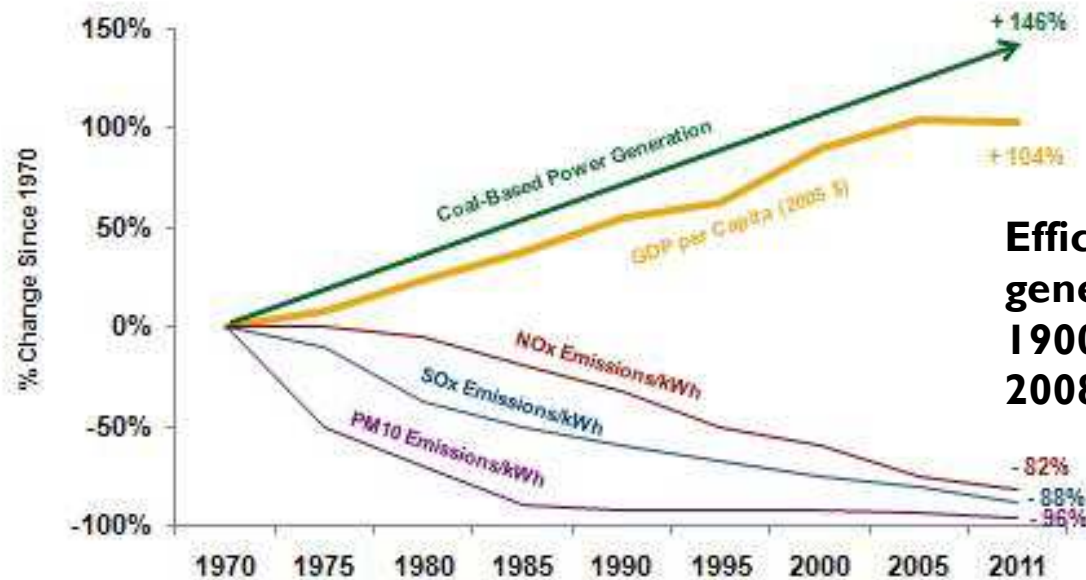
**Carbon capture and storage is game changer for coal, says Citi**

**South Africa opens first coal-fired power plant in two decades, 4,764 MW**

# Is clean coal technology- an oxymoron?



## Clean Coal Technologies Improve Air Quality



**Efficiency of power generation:**  
1900 – 1% 12kg/kWh  
2008 – 47% 235g/kWh

# CCTC main targets



1. The optimization and improvements in power and heating plants related to increasing efficiency in the combustion of coal
2. The problems of air pollutants elimination in coal combustion
3. Problems of capture, storage and utilization of carbon dioxide (CCU)
4. Energy Storage
5. Development of technology for underground coal gasification
6. Preparation of carbon materials for different applications
7. Development of technology of direct coal liquefaction focused on the production of motor fuels

# An installation for ucg gas processing



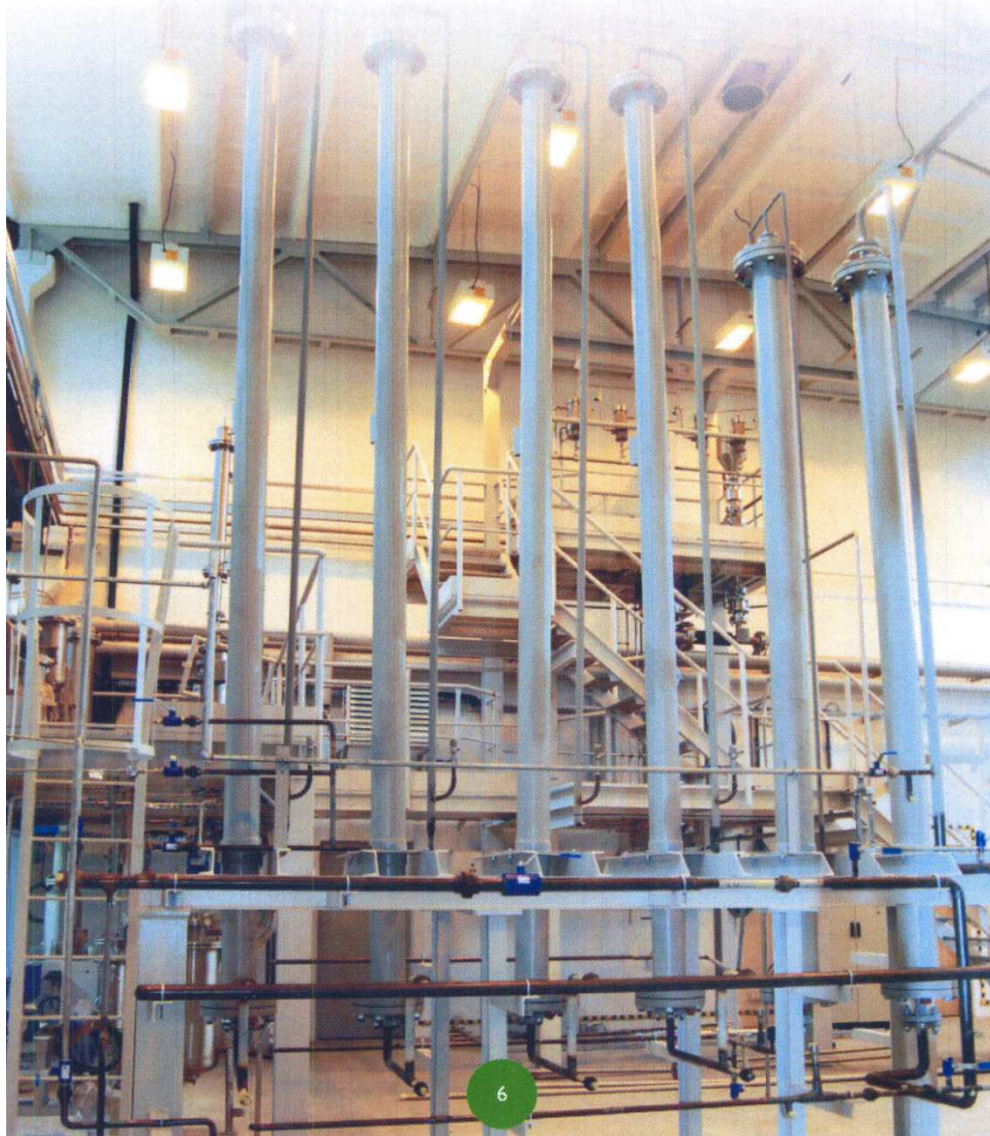


An installation for  
ucg gas cleaning

# Installation for pressured simulation of ucg



# Installation for pressure swing adsorption gas separation

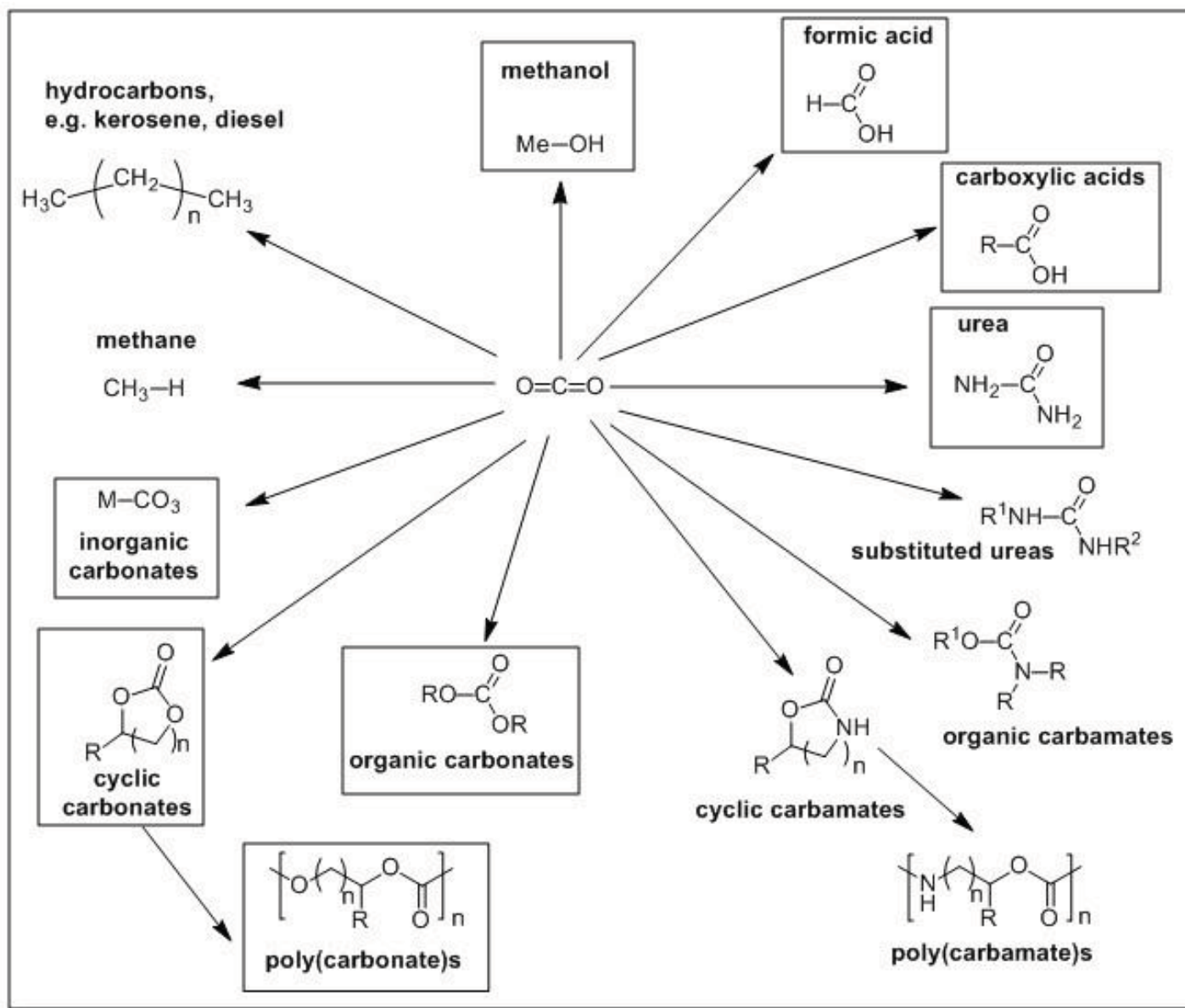




# CCU



G I G





**Thank you for your attention**