

The future of CCS in China under the Chinese strategy for addressing climate change

-What **have we** done? What we should do?

从中国应对气候变化战略的角度看CCS在中国的未来发展

- 已经做了什么，未来还应该做什么？

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The story of FGD in China (Flue gas desulfurization)

烟气脱硫设施在中国电厂的应用

- FGD **has** a long history in **Chinese power plants**.
很早，烟气脱硫设施就在中国电厂开始有应用。
- **The** installment and operation was a big problem until 2005.
但煤电厂的烟气脱硫设施的安装和运行一直难如人意，这种状况到最近才有了巨大的实质性转变。
 - Coal power units installed with FGD (煤电厂安装FGD的比例)

■ 2005	53GW	13.5%
■ 2007	266GW	51%
- Why? 为什么？
 - Most important reason was **that** SO₂ reduction **became** compulsory target in “**eleventh five year plan**”; the target was divided to the local governments and related coal power plants, and the contracts of responsibility were signed.
一个最为重要的原因是二氧化硫减排10%成为了“十一五”规划中的强制性目标，这个减排目标层层分解到各级地方政府以及相关的煤电企业，并签订了相应的责任书。



How about CCS, will it be another FGD story? CCS 会成为像FGD一样的成功范例吗？

- Just as with FGD development history, CCS future in China will be decided not only by technology issues.
正如FGD发展历程所表明的，CCS在中国未来的发展将不仅仅取决于CCS技术本身的发展。
- What's the most important thing to influence the CCS future in China?—the Chinese government's attitude to climate change and its strategy to address climate change.
那什么是影响未来CCS在中国发展的决定性因素呢？——中国对于气候变化的态度和应对气候变化的战略。



What has China done ?

中国已经做了什么？

“National Coordination Committee on Climate Change” was established in 1998, “National Leading Group to Address Climate Change” was established in 2007, headed by the Chinese premier, more than twenty ministry leaders were group members

1998年，成立“国家气候变化对策协调小组”，2007年，成立“国家应对气候变化领导小组”，国务院总理担任组长，二十多个部门的部长为成员

- The Politburo of the Communist Party of China **held a special** study session on global climate change and enhancement of the capability to cope with it. (June 27, 2008)
中共中央政治局集体学习“全球气候变化和我国加强应对气候变化能力建设”（2008年6月27日）
- **“China’s National Climate Change Programme”**
《中国应对气候变化国家方案》
- White paper: “China's policies and actions on climate change”
《中国应对气候变化的政策与行动》白皮书
- China's Special SciTech Campaign to Cope with Climate Change
《中国应对气候变化科技专项行动》
- Initial national communication on climate change
《气候变化初始国家信息通报》
- “China’s National Assessment Report on Climate change”, First round, 2004~2005, second round, 2009~2010
《气候变化国家评估报告》

What's the Chinese strategy to address climate change now?

当前中国应对气候变化的战略

- Put equal emphasis on the climate change mitigation and adaption
减缓和适应并重
- Adaptation **is considered** a more present and imminent task for developing countries like China.
对于发展中国家的中国来说，适应是更为迫切紧急的任务
- Link mitigation with energy-**efficiency** closely
将减缓与节能紧密相联
 - The most important target in **“China's National Climate Change Programme”** is energy intensity reduction of 20 percent, which is same in the **“eleventh** five year plan”
在减缓温室气体排放方面，“应对气候变化国家方案”中最为重要的指标是能耗强度下降20%，这与“十一五”规划中的目标是完全一致的。
 - **Most** mitigation policies in China are also the same **policies that focus on energy efficiency.**
中国减缓温室气体的主要政策体系也是围绕节能的核心目标来建立的
- The strategy was appropriate for the China's short-term development target, and **the** capacity of the government
中国当前所采取的应对气候变化战略是与目前的发展阶段、发展目标和政府能力相适应的

What's the problem in the current strategy of China on climate change?

中国目前应对气候变化战略存在的问题

- This strategy was short-term, temporary, **and transitional**. No long-term vision and target yet
目前的战略是一个短期的、临时性的、过渡战略，缺乏一个长期的战略和目标
 - **China's National Climate Change Programme**”, to 2010
“应对气候变化国家方案”考虑到2010年
 - Most of climate change or energy saving policies only focused on 2010
目前大多数的气候变化或节能减排政策也考虑到2010年
 - But most of energy infrastructure (such as power plant) would operate at least 30 years
但是大多数的能源设施（例如电厂）将至少运行30年
- **No clear, long-term negotiation plan**
总体上缺乏一个清晰的、面向长期的谈判方案，
- **How to coordinate energy **efficiency** policy with climate change policy in future?**
气候变化政策与节能减排政策未来如何协调、衔接？未来气候变化政策如何演变？
 - How about the future of command & control energy intensity reduction policy system in next five year plan? High cost, uncertainty of effectiveness, **unsustainable?**
“层层分解目标，签定责任书”的行政命令式的节能政策如何持续？成本高，效果的不确定性，难以持续，“十二五”如何考虑？
 - How to solve the separation between the climate change negotiation area and real economic run area?
如何解决气候变化谈判与实际经济运行“两张皮”的现象？

How about CCS's future in long-term strategy?

未来CCS在国家应对气候变化长期战略中的地位和作用？

- The uncertainty of CCS in the future **derives** mainly from the **uncertainty about China's long-term strategy for climate change**
CCS发展的不确定性很大程度来源于国家应对气候变化长期战略的不确定性
- No certain target in long-run - 》 No certain policy, no carbon price - 》 No certain context for CCS development - 》 No rapid development of CCS
没有国家的长期战略和目标 - 》 没有相关的政策和相应的碳价格 - 》 没有CCS发展的稳定政策环境 - 》 没有CCS的快速发展
- **To promote** CCS development in China , need to do work not only in the CCS area
推动CCS在中国的发展，一部分功夫在诗外
 - **To promote** CCS development in China, need to get the consensus of long-term strategy of climate change **first**
在中国推动CCS的发展，需要推动中国在应对气候变化长期战略方面形成共识
 - Need related research of different parties **in** comparable way, focus on the Chinese long term strategy, such as the impact of carbon tax or carbon trade (The **case** of EPA work)
针对“中国气候变化的长期战略”需要多方展开对比研究，例如碳税、碳交易对中国的长期影响（美国环保署的例子）
 - Need to do research about the CCS role in the long-term strategy on climate change in China
需要针对CCS在中国应对气候变化长期战略中的地位和作用开展研究



Thanks!

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