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## Challenges in global CCS projects and coping strategy

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The paper investigates main sources of CO<sub>2</sub> emission and distribution of CO<sub>2</sub> emission in the world, and point out a relationship of temperature change trend between CO<sub>2</sub> concentration and CO<sub>2</sub> emission amount on the earth. The paper reviews the global typical CCS projects in the decade, including scales of CO<sub>2</sub> capture and storage, projects efforts and lessons learned, our research shows that CCUS project is system engineering. By systematic study of CCS chain, challenges of CCS are divided into two categories. The first is technology and operation of CCS, including CO<sub>2</sub> capture, pipeline and transportation, storage and monitoring of the above each link and CO<sub>2</sub> comprehensive management system. The second is various environments of implementing CCS, including public awareness, standards/criteria, policy ready and regulations/laws of the government, and risk evaluation, finance mechanism. Final, the authors focus on CCS' technology innovation, standards, regulations and policies to put forward strategies coping with the above challenges. It is emphasized that government needs to launch incentive tax policies and relative regulations between government and enterprise, enterprise and enterprise; the government must be a leading role in CCS/CCUS projects because global climate change is an event of the public concern in the present and the future. Further, eliminating green house gas effect is the biggest event for human beings; it has become the urgent matter that building alliance, sharing practical CCS technology realizes win-win between nations in the world for dealing with climate change.

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