Abstract

CCS is a R&D priority for China, covering all capture options, transport and storage, together with a strong level of international co-operation. With regard to progression beyond research, there are some very significant large industrial scale trials that are being funded and implemented by various Chinese power generation, coal and oil companies. As well as part CO2 capture from coal fired power plants, these include a full chain CCS trial on a coal to synthetic oil unit, which comprises part capture
of the CO2 vented from the coal gasifiers together with subsequent transport and storage in an aquifer. There are also various CO2 enhanced oil recovery activities underway, reflecting China’s interest in CO2 utilisation. From a technical perspective, China is well positioned to move forward from these trials towards demonstrations of various CO2 capture and utilisation/storage options. However, this will require the global CCS community to fully engage with China as to how these projects can be best financed and how (and to what level) the information arising can be disseminated to aid complementary projects elsewhere. While the primary focus will be on the power sector, the prospect of establishing CCS on clusters of coal to chemicals gasification units in certain regions of China offers some early, lower cost opportunities for demonstration. Details, including likely CO2 emission levels, on the modern, oxygen blown gasification units that are either operational or at the contracted design/construction stage in China are included within an extensive annex to this report. At the same time, China might benefit from further assistance with regard to characterisation of nationwide CO2 storage opportunities and in establishing regulations to ensure that large-scale commercial initiatives do not compromise health, safety, and the environment.

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