

Zewei-CCUS's Role for Clean Energy

It is challenging to integrate the renewable energies such as solar and wind with fossil fuel dependent industry infrastructures in China and other Asian countries, in particular, for their characteristics of variability to achieve GHG emission reduction goals. Other energy intensive industry sectors such as cement and metallurgy, even replacing fossil thermal fuel with electricity are limited for the process technology restrictions.

While hydrogen is touted as clean energy (may be produced using renewable power that left off line), majority hydrogen are made from GHG intensive fossil fuels processes. Even hydrogen may be used for energy in large scaled in the future, the GHG emissions may remain to be reduced during its GHG intensive making process at source. For power generation sector alone among other intensive GHG emission industry sectors in China, for example, coal fired power generation has been greatly reduced in terms of use factor (below 50%), it still provides close to 70% of power supply with 50% total installed capacity as valuable infrastructure. Non-emission power sources, provide only 30% of power supply, sharing carbon foot prints with the emissive peaking power sources. To allow more renewable power to come on grid in the low-carbon emission scenario, it requires well coordination with base load generation capacity and peaking capacity at lower emission.

Opportunity emerge for CCUS, which has been proven viable through commercial scaled demonstration in Canada, to be applied to reduce emission at source with coal fired power plants and other GHG intensive industry sectors to make these process sustainable; allow low-carbon peaking capacity to coordinate well with variable energy sources; to allow green hydrogen making possible.