GHG Control Technology Development & Deployment

Practical Issues

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Co-authors:

- Guys who develop and deploy GHG Control Technologies

Issues :

1. CC&S, not CCS
2. Commercial Availability
3. Efficiency Improvement
4. $$
5. What is “Carbon Capture Reality”
6. Where have you gone non – CO_2 GHG?

Commerical Availability

- Commercial Demonstration
  - 200-300 MW fluegas
  - Capturing majority of CO2
- Commerical Availability
  - 6-8 successful domestic commercial demostrations

NETL Analysis Results

- Average efficiency of coal units can be improved from 33.1% to 35.6%

- At constant capacity, CO_2 reduced by 125,000,000 TPY – 2% of total U.S. emissions

Carbon Capture Ready

- IEA definition:
  - "… include capture when the necessary regulatory and economic drivers are in place…"

- EU definition:
  - "…rated electrical output of over 300 MW …have assessed… suitable storage is available, transport facilities are technically and economically available, technically and economically feasible to retrofit capture…"

We would add:

1. Providing maximum control of SOx and NOx upstream of CC.
2. Optimizing heat transfer surfaces, both fireside and waterside.
3. Providing adequate transformer area and switchyard capacity.
4. Upgrading steam path and turbine.
5. Optimizing cooling system cleanliness/condenser vacuum/ access to all heat recovery units.
6. Evaluation of water and wastewater interconnections and capacity.
7. Adequate DCS capacity.