CARBON DIOXIDE BY RUSSEL BUSS 2/11/2019

Briefly My Thoughts – Carbon Dioxide Power Generation and Possible Paradigm Shift for Carbon Capture

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Partnership for carbon capture & offshore geologic storage GoMCarb

GCCC Gulf Coast Carbon Center

Bureau of Economic Geology

NETL National Energy Technology Laboratory

List of Basis

- Air – O2, N2, Argon, H2O
- Water – H2O dissolved O2, CO2
- Natural Gas – C1,C2,C3+
- Normal Product of Combustion – Heat Energy, O2,N2,Co2,H2O,Trace of Argon
- Heat Energy is converted to Shaft Work
- Shaft Work – Electricity, Internal Combustion Power, Steam, Gas turbine Power, Heat for Furnaces

Products of Combustion: Large % N2, Smaller %H2O,CO2.O2

{Capturing CO2 }

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Allam Cycle Carbon Capture

- Separate Air into O2 and N2
- Feed O2 and Natural Gas into High Concentration CO2 Combuster
- Combust Natural Gas and Spin Power Turbine
- Shaft work generates Electric Power
- H2O condensed, CO2 recycled, Product CO2 of Combustion Captured

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Paradigm Shift

- Allam Cycle is High Pressure Power Cycle
- Feed O2 and Natural Gas into High Concentration CO2 Combuster
- Even so Carbon Capture very desirable and Shaft work generates Electric Power

- Consider separating Air into O2 and N2. Use O2 and CO2 to create a combustion fluid fluid with no N2. Like the Allam Cycle Heat Energy is created for Furnaces and CO2 is in high concentration for capture and recycle. Pure Water is condensewd.

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