Consortium for Clean Coal Utilization

Mission
To be a resource to industry for the advancement of technologies that foster clean coal utilization as coal becomes increasingly important both as a source of energy and a feedstock, by creating an international partnership between Universities, Industries, Foundations and Government Organizations

Strategy
- Establish Washington University as a Center for Clean Coal Research
  - Establish State-of-the Art Research Facility
  - Research Scale and Pilot Scale Coal Facilities on the WUSL Campus
  - Expand to Include Greater Range of Facilities
- Fund Research Consistent with the Mission of the Consortium
  - Collaborate with Industry and Universities internationally
- Hold Annual Meetings with Consortium Members (in conjunction with MAGEEP)
- Hold Workshops and Short Courses on Topical Areas of Interest
- Publicize to Promote Public Awareness

Approach to Research Facilities

Example: Oxy-coal facilities

Four levels:
1) Bench-top lab facility: Drop tube furnace
2) 25 kWth oxy-coal combustor
3) 1 MWth oxy-combustion research facility (under development)
4) 7.5 MWth (2.5 MW power) research power plant (proposed)
Anticipated Research Funding (draft)

Research funding available in YR 1: $1 MM
(similar amounts anticipated in Yrs 2 and 3)

Research Projects (up to 10):

- Collaborative projects at up to $100 K per year.

- If collaborator is from an International Partner University, then partner institution can receive up to $25 K per year to support a co-advised doctoral student.

- Partner must demonstrate some form of match from Industry or other sources.

- WUSTL PI can receive $10 K additional for travel to Partner University.

3 McDonnell Academy Scholars supported in the area of Clean Coal Research

Web Page

www.cleancoal.wustl.edu
Goals of Breakout Groups

1. **Problem statement**
   When considering Clean Coal technologies, CO2 sequestration, Global Climate Change what are the most pressing research areas that need to be addressed at the university level?

2. **Identify strengths at Partner Universities**

3. **Based on the research needs stated in (1) and the combined expertise stated in (2), are there areas of research that have a critical mass among the partner universities? If so, what are they?**

4. **Define specific collaborative projects that are promising and should be explored. Include potential funding opportunities.**

5. **Layout time line including action items**

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**Breakout Groups**

**Clean Coal**
- IGCC (Integrated Gasification Combined Cycle)
- Oxy-combustion
- Gasification
- Coal to Liquids, Fischer-Tropsch
- Co-firing with Biomass
- Post-Combustion Carbon Capture
- Products of Value (e.g., fly ash)
- Particulates, NOx and SOx, Mercury

**CO₂ Sequestration and Utilization**
- Geological
- Algal production
- Catalysis

**Global Climate Change**
- Modeling
- Policy
- Informatics
- Water Quality
- Health Effects
Breakout Groups

Clean Coal Utilization
Ballroom B, Level 5

CO2 Sequestration
Ballroom C, Level 5

Global Climate Change
Ballroom A, Level 5