

**U.S. Energy Association
U.S. Trade & Development Agency
Mongolian Delegation
Business Roundtable**

June 15, 2011
Washington, D.C.



FLUOR[®]

Fluor Overview



- ◆ One of the world's leading publicly traded engineering, procurement, construction, maintenance, and project management companies
- ◆ #124 in the FORTUNE 500 in 2011
- ◆ More than 1,000 projects annually, serving more than 600 clients in 66 different countries
- ◆ More than 42,000 employees worldwide
- ◆ Offices in more than 28 countries on 6 continents
- ◆ Nearly 100 years of experience



Fluor Corporate Headquarters
Dallas, Texas

2010 Financial Performance



Fluor Corporation
53 Years on NYSE

- ◆ Revenue: \$20.8 billion
- ◆ New awards: \$27.3 billion
- ◆ Backlog: \$34.9 billion
- ◆ Fluor's debt is rated at one of the higher investment grade levels:
 - Long-term Secured:
 - - Standard and Poors "A-"
 - - Moody's "A3"
 - - Fitch "A-"
 - Short-term (including CP):
 - - Standard and Poors "A-2"
 - - Moody's "P-2"
 - - Fitch "F2"



Fluor's Diversified Industries

Energy & Chemicals

- ◆ Chemicals
- ◆ Downstream
- ◆ Offshore Solutions
- ◆ Upstream
- ◆ ICA Fluor

Industrial & Infrastructure

- ◆ Alternative Power
- ◆ Commercial & Institutional
- ◆ Healthcare
- ◆ Life Sciences
- ◆ Manufacturing
- ◆ Mining & Metals
- ◆ Telecommunications
- ◆ Transportation
- ◆ Water

Government

- ◆ Department of Defense
- ◆ Department of Energy
- ◆ Department of Homeland Security
- ◆ Department of Labor
- ◆ NASA
- ◆ UK Nuclear Decommissioning Authority

Power

- ◆ Solid-Fueled
- ◆ Gas-Fueled/IGCC
- ◆ Renewable Energy
- ◆ Nuclear
- ◆ Environmental Compliance
- ◆ Power Services

Global Services

- ◆ Operations & Maintenance
- ◆ Construction Equipment & Tools
- ◆ Staffing



Industry Recognition

FORTUNE

Ranked #1 in **FORTUNE** magazine's Engineering, Construction category



One of the World's Most Ethical Companies by **Ethisphere** magazine for five years in a row

ENR

Ranked #1 by **ENR** magazine on its list of Top 100 Design-Build Firms in 2010



One of **Ethisphere** magazine's Top 50 Most Ethical Government Contractors



Honored for 4th consecutive year as a Global Most Admired Knowledge Enterprise by Teleos



One of **G.I. Jobs'** Top 50 Most Military Friendly Employers for five years in a row



Current Work in Mongolia

Fluor Mining & Metals Business Line



Ivanhoe Mines

Oyu Tolgoi Project

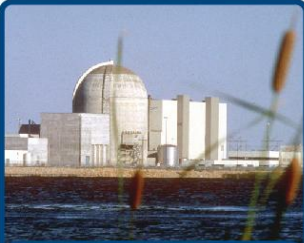
- ◆ Scope: EPCM and PMC
- ◆ TIC: \$5.4 billion

Copper and gold project located in the south Gobi region of Mongolia. Production scheduled for 2013 is expected to produce 450,000 tons of copper and 330,000 ounces of gold annually. Project includes process plant, access road, water supply, airport, administration buildings, permanent accommodations, and underground and open pit mines.





Power Group Overview



Nuclear

- New Build EPC
- Extended Power Upgrades
- Engineering and Construction Capital Projects
- Owner's Engineer Services



Solid Fueled

- PC Coal
- CFB Coal
- Supercritical PC



Environmental Compliance

- Air Quality Control and Capital Project Retrofits
- Fluor's Econamine FG+CO2 Capture
- Waste-To-Energy



Power Services

- Operations and Maintenance
- Outage Services
- Technical Services
- Transmission and Distribution



Gas Fueled

- Combined-Cycle
- Simple-Cycle
- IGCC



Renewables

- Solar CSP and PV
- Wind
- Biomass
- Geothermal
- Transmission and Distribution
- Energy Storage

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Power Experience

Environmental Compliance Overview



- ◆ Provide EPC solutions for compliance with environmental regulations
- ◆ Experience with all major technologies
- ◆ Flue gas desulphurization – 77 units; 19,396 MW
Removal of SO₂
- ◆ Selective catalytic reduction – 65 units; 39,090 MW
Removal of NO_x
- ◆ Electrostatic precipitator/fabric filters – 53 units; 16,235 MW
Removal of flyash
- ◆ Mercury control systems – 12 units; 8,548 MW
Removal of Hg
- ◆ Carbon capture systems – 25 operating units/10 units in design
Removal of CO₂

Power Experience

Solid Fueled Overview



- ◆ Over the last 20 years, Fluor has built 26 units totalling more than 6,800 MW around the world
- ◆ Plant capacities from 65 MW to 1,634 MW
- ◆ Technologies:
Subcritical, supercritical, circulating fluidized bed
- ◆ All major fuel types:
Coal, lignite, biomass, refuse, other
- ◆ Experience with all major boiler and STG suppliers
- ◆ Efficiently reducing the schedule and capital costs using available reference plant designs:
2x65 MW, 181 MW, 250 MW, 400 MW, 2x615 MW,
2x750 MW, 2x800 MW, 1x1,000 MW

Post Combustion CO₂ Capture Technology Status/Experience Econamine FGSM Plus



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Fluor's Background in Post Combustion CO₂ Capture



- ◆ Fluor has been involved in CO₂ capture since the early 1990s.
- ◆ Worldwide EFG+ licenses to date: 27 plants
- ◆ Eight additional small projects under execution
- ◆ Built the reference plant at Bellingham, Massachusetts in 1990 – still the largest diameter column in Post-Combustion CO₂ capture service
- ◆ First commercial-scale (4,500 TPD) EPC project now in engineering: additional units of 3,900 TPD and 4,500 TPD in FEED phase
- ◆ Process innovations
 - Fluor has worked on numerous projects and has an excellent knowledge of the variables that affect process performance
 - Extensive pilot testing on structured packing resulted in accurate mass transfer and packing volume prediction
 - A significant reduction in gas path pressure drop has been achieved
 - Use of structured packing instead of random dumped packing
 - Optimizing packing bed heights and diameters
 - The gas path pressure drop reduction initiative resulted in a significant blower power saving of 42%

Florida Power & Light Bellingham CO₂ Capture Project



- ◆ Location: Bellingham, Massachusetts
- ◆ Description: CHP plant with CO₂ capture capacity of 365 ton/day. Captured CO₂ is compressed, purified and liquefied for sale to the food industry.
- ◆ Fluor Scope: Engineering, Procurement, Construction
- ◆ Status: Completed 1991



Coal-Based Flue Gas EFG+ Demonstration



- ◆ In July 2008, E.ON and Fluor formed a partnership to jointly build a CO₂ capture project to demonstrate the performance of the EFG+ technology on coal flue gas
- ◆ The plant is being built at E.ON's coal-fired power station at Wilhelmshaven near Bremen, Germany. Completion is scheduled for September 2011
- ◆ The Wilhelmshaven power plant burns hard coal and has a net output of 757 MW. The demonstration plant will produce 70 MTD of CO₂
- ◆ The primary goals of the CO₂ capture project are to demonstrate
 - EFG+ technology on coal-fired flue gas at a semi-commercial scale for an extended period of time
 - Recently developed energy and cost saving features of the EFG+ technology
 - The performance of new EFG+ solvent formulations. Fluor has developed variations of the existing EFG+ solvent and a new solvent which has been successfully tested on a pilot plant scale
 - New features that improve the environmental signature of the process including emissions to air
- ◆ The test plan for the CO₂ Capture Demonstration Plant consists of the following types of tests
 - Performance tests at normal and off-design conditions
 - Performance testing of individual equipment items or systems
 - Testing of emissions
 - Testing of various emissions reduction configurations
 - Testing of different solvent formulations

Supercritical PC Technology



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Supercritical vs. Subcritical



Higher Plant Efficiency

- ◆ Lower fuel consumption
- ◆ Less ash to handle
- ◆ Lower infrastructure investment for fuel transport/storage and ash disposal
- ◆ Lower emissions (SO_x, NO_x, CO₂)
- ◆ Lower water consumption
- ◆ Lower auxiliary power consumption
- ◆ No continuous blowdown for a once-through boiler



Efficiency – Total Energy Converted

- ◆ Gas turbine combined cycle – 60%
- ◆ Supercritical coal – 45%
- ◆ Subcritical coal – 35-40%
- ◆ Nuclear – 32-35%
- ◆ Gas turbine simple cycle – 30%

Luminant Oak Grove Project



- ◆ Location: Robertson County, Texas
- ◆ Description: Supercritical Pulverized Coal-Fired Power Plant – 1,634 MW
- ◆ AQCS: Baghouse, Wet FGD, SCR, Mercury Control using Activated Carbon Injection B&W and Alstom Boilers with Babcock Backend
- ◆ Fluor Scope: Engineering, Procurement, Construction, Commissioning
- ◆ Status: Completed July 2010



Start Date: June 2007 (FNTP)

**Awarded Power Magazine's "Top Plant" in 2010
Finalist for Power Engineering's "2010 Project of the Year"
Finalist for Platts Global Energy award for Construction**