
Coal to Corn

Royster Clark NITROGEN

Rentech, Inc.

State of Illinois


East Dubuque
Plant

Royster-Clark Nitrogen East Dubuque

- Built in 1965
- Produces ammonia, urea, UAN solution
- 109 Employees
- 680,000 tons fertilizer sold to Midwest markets

Partnering With Rentech, Inc

- Rentech is a 24-year-old Denver Company
- Patented / proprietary Fischer-Tropsch technology
- Publicly traded on AMEX

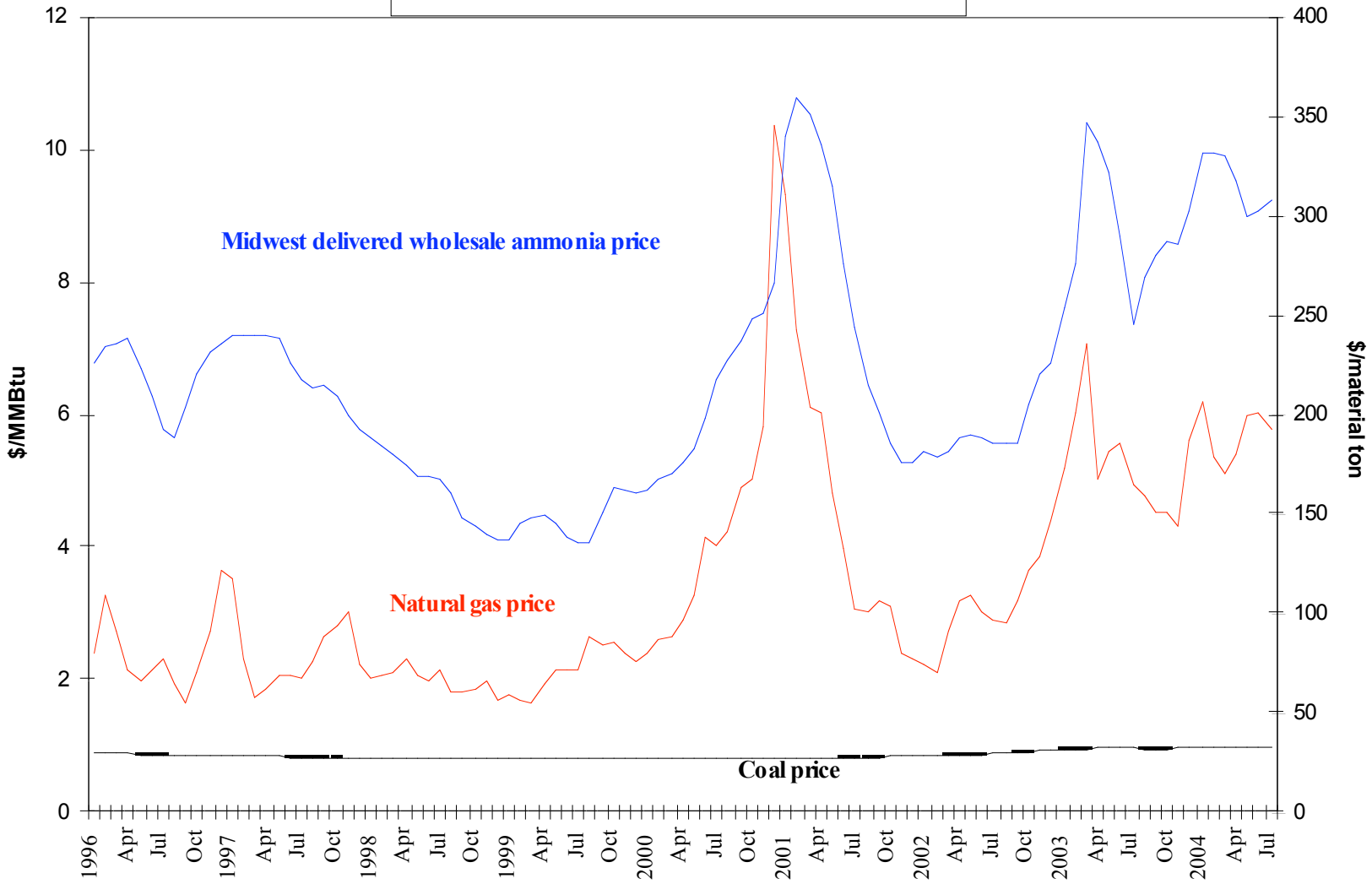
Partnering With State of Illinois

- Office of Coal Development, Department of Commerce & Economic Opportunity
- $500,000 *Opportunity Returns* Grant by Governor Blagojevich
- 50% Matching Grant for Coal Conversion Phase I Development Study
- $2.5 Million Phase II grant OK'd by IL Clean Coal Review Board.

Natural Gas Prices: The Reality Since 2000

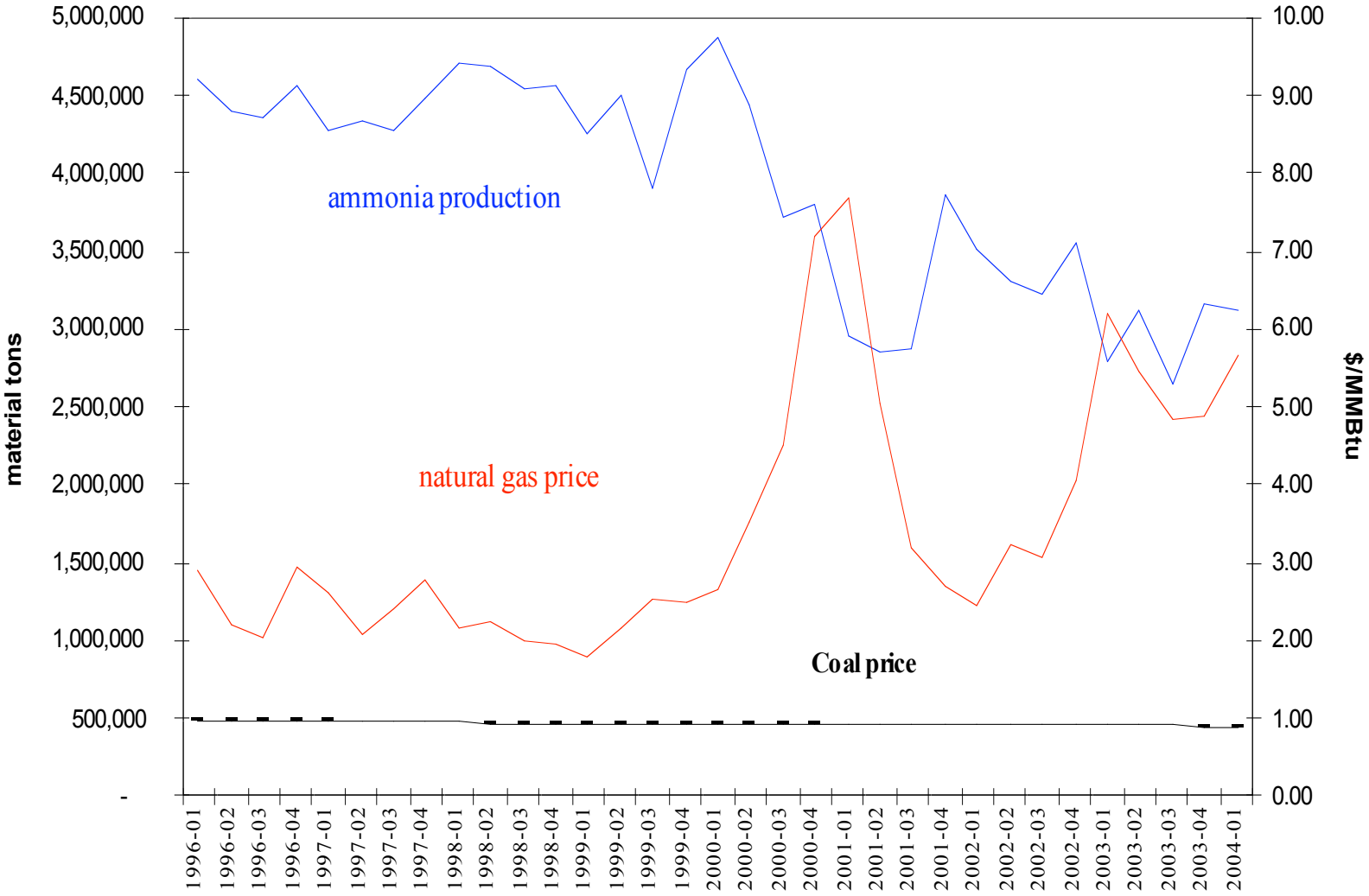
- Since 2000, prices have hit historic highs
- Winter 2004 / 2005 gas = $9.38/MMBtu
- 90% of ammonia cost is natural gas
- 22% of US nitrogen fertilizer production has shut down
- 50% of US nitrogen fertilizer is now imported

Midwest Delivered Ammonia Price
Spot Delivered Natural Gas
Coal Price *



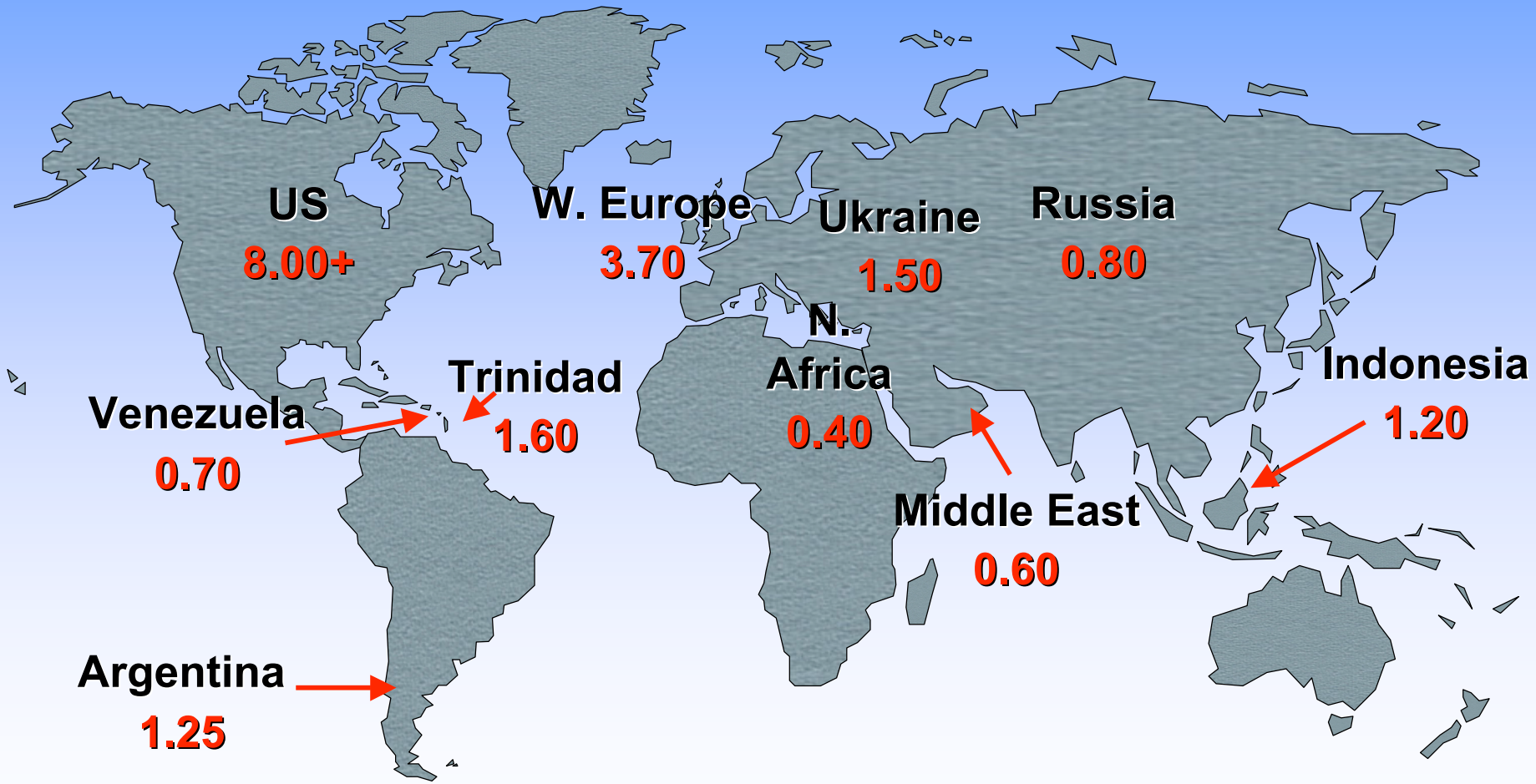
* Source: Ammonia price - computed from Green Markets; natural gas price - computed from Natural Gas Week.

U.S. Ammonia Production vs. Natural Gas & Coal Price



Source: Ammonia production, U.S. Department of Commerce; natural gas price - average spot-deliverd-to-pipeline price, Natural Gas Week.

Gas Price - $US/MMBtu



Source: Fertecon, PotashCorp

What's the effect of increasing natural gas prices?

- US farmers are becoming more dependent on nitrogen fertilizer imports
- Since 2002, largest two US fertilizer companies have filed for bankruptcy
- Fertilizer imports from Middle East and Caribbean are at record levels
- Corn-derived ethanol requires large amounts of nitrogen fertilizer

Royster-Clark Nitrogen
How do we survive?

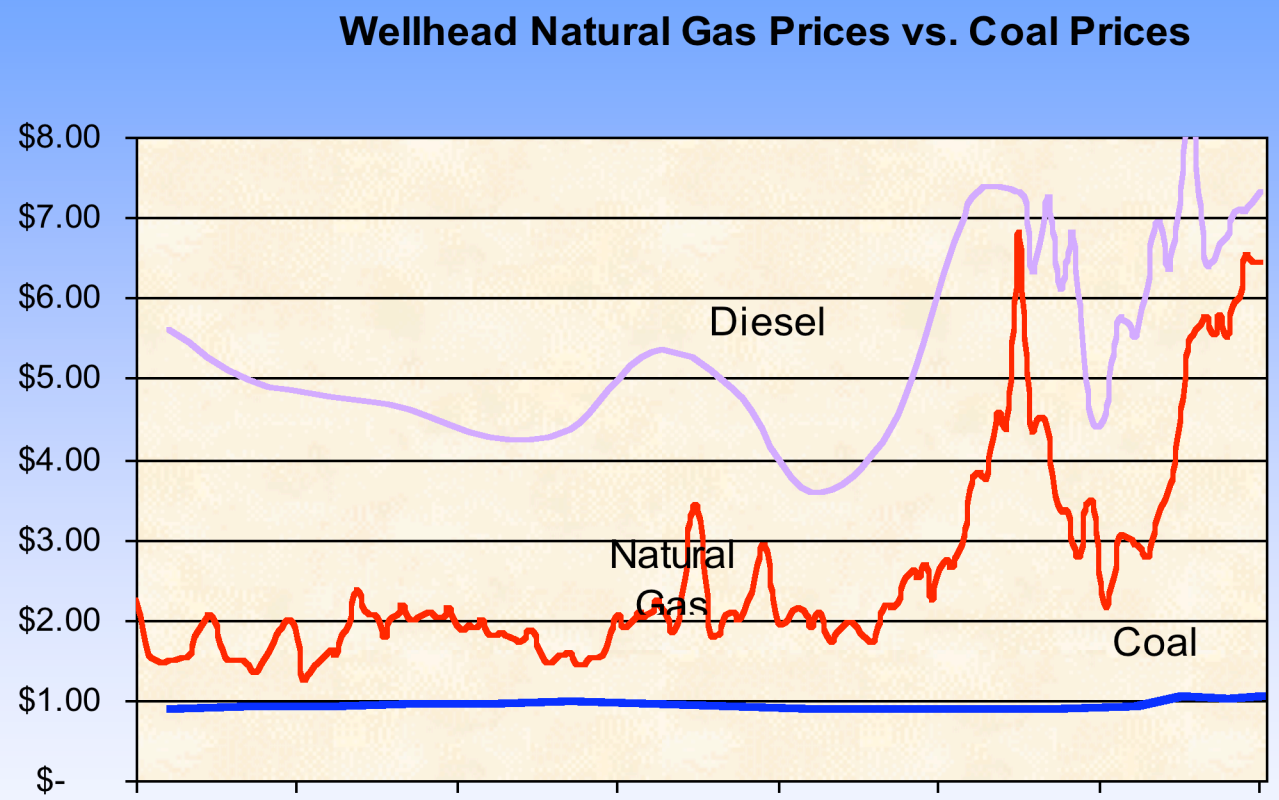
- Current feedstock is natural gas
- Economic viability of plant directly tied to stable feedstock price
- Feedstock change is the answer

Produce Fertilizer From Coal

Co-Produce Ultra-Clean Motor Fuels & Electricity

Deploy Advanced Clean Coal Technology
to save and create jobs and increase energy security

Why Coal?

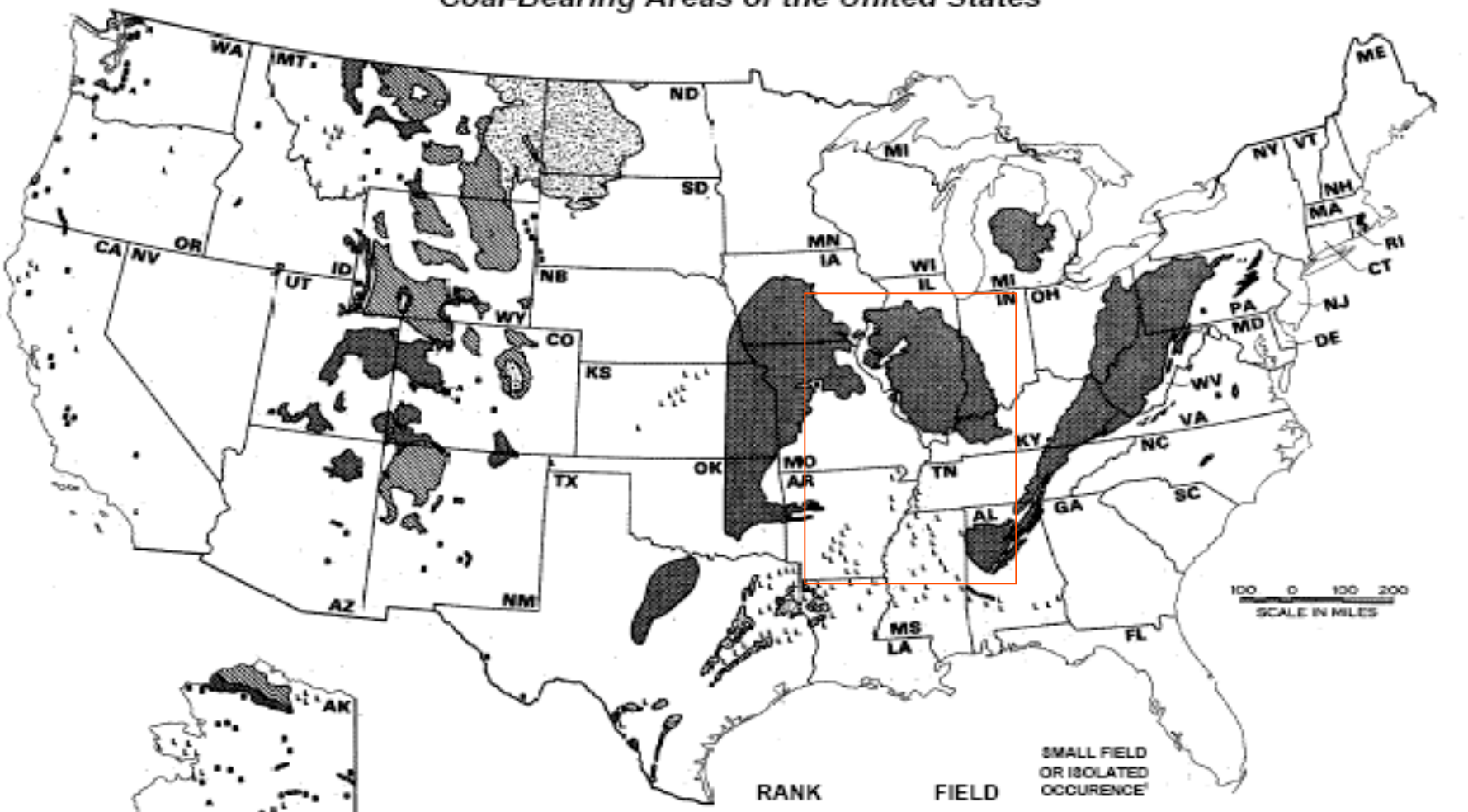


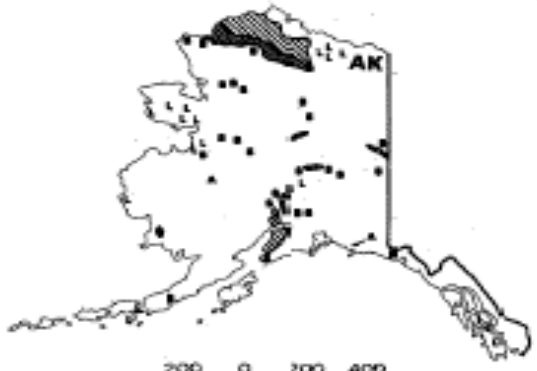
- **Low cost Coal vs. gas**
- **Price stability through long-term coal contracts**
- **Plant emissions lower than natural gas**

Why Illinois Coal?

- High energy content (30% higher than western coal)
- Sulfur / mercury not a problem with Advanced Clean Coal Technology
- Low mercury content
- Lower moisture content
- Lots of it!

Coal-Bearing Areas of the United States





SCALE OF ALASKA ONE HALF THAT OF CONTIGUOUS UNITED STATES

RANK	FIELD	SMALL FIELD OR ISOLATED OCCURENCE[1]
Anthracite[2]		
Bituminous Coal		
Subbituminous Coal		
Lignite		

Sources:
- U.S.G.S., Coalfields of the United States, 1960-61
- Texas Bureau of Economic Geology, Lignite Resources in Texas, 1980
- Louisiana Geological Survey, Near Surface Lignite in Louisiana, 1981
- Colorado Geological Survey, Coal, Resources and Development Map, 1981

1 Sybolic representation; these small areas or data points cannot be shown to scale.

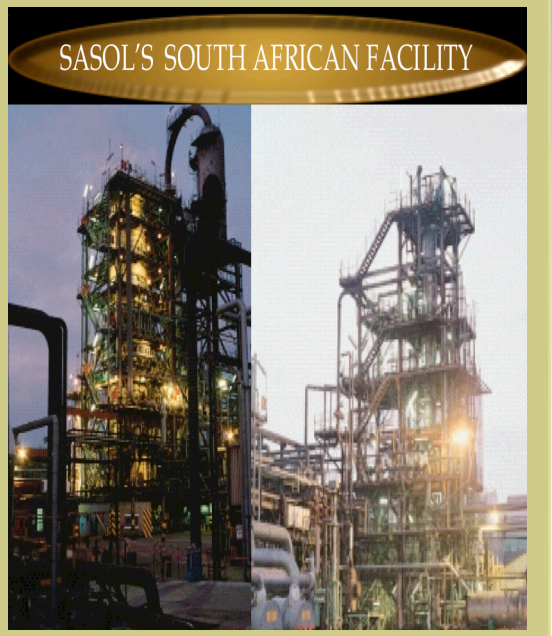
2 Principal anthracite deposits are in Pennsylvania. Small depoeits occur in Alaska, Arkansas, Colorado, Massachusetts-Rhode Island, New Mexico, Utah, Virginia, Washington and West Virginia.

Why Advanced Clean Coal Technology?

- Use gasification to produce ammonia for fertilizer, Fischer-Tropsch Diesel (FTD) and electric power
- FTD is an ultra-clean fuel and can be used with no engine modifications
- Plant efficiency increases when combined processes are used

FTD is Commercially Proven

SASOL (S. Africa)
- 45 years commercial
  - 160,000 b/d+
  - Feedstock Coal



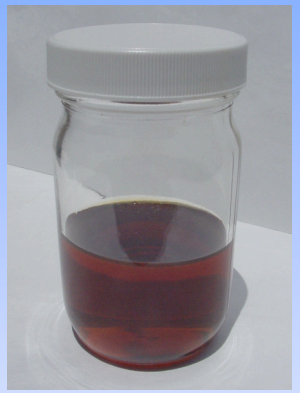
PetroSA (S. Africa)
- 11 years commercial
  - 22,500 b/d+
  - Feedstock Natural Gas

Shell (Malaysia)
- 9 years commercial
  - 15,000 b/d+
  - Feedstock Natural Gas

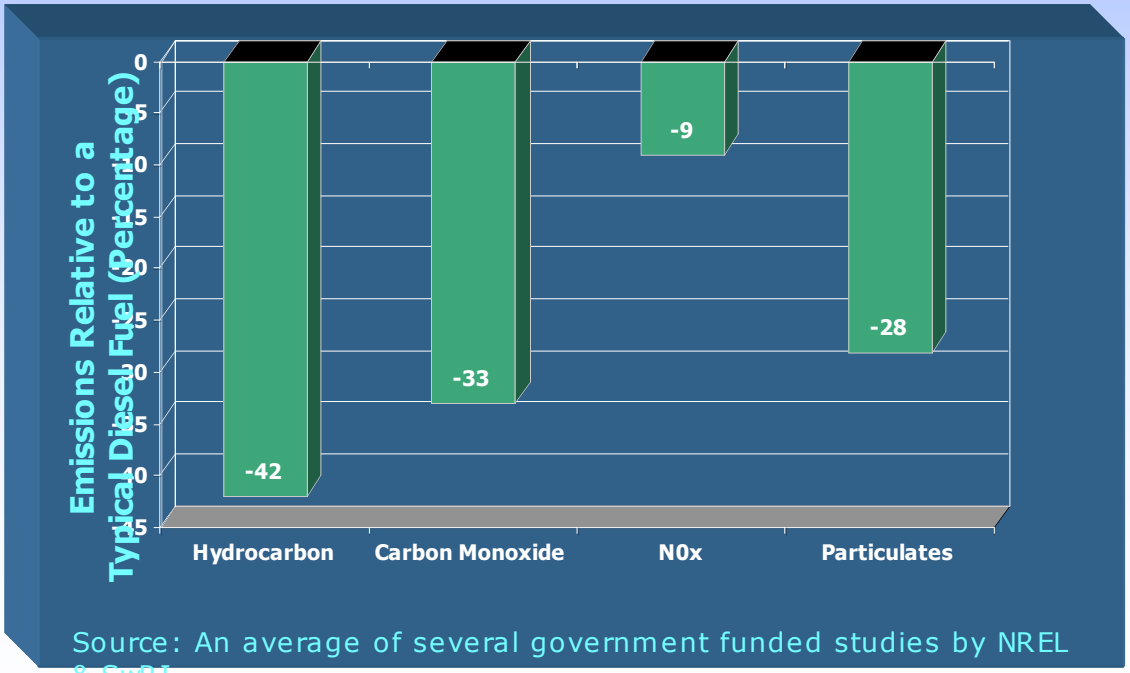
Ultra-Clean FT Diesel Fuel from Coal

- Biodegradable
- < 1ppm Sulfur
- High Cetane

FT Diesel



Conventional Diesel

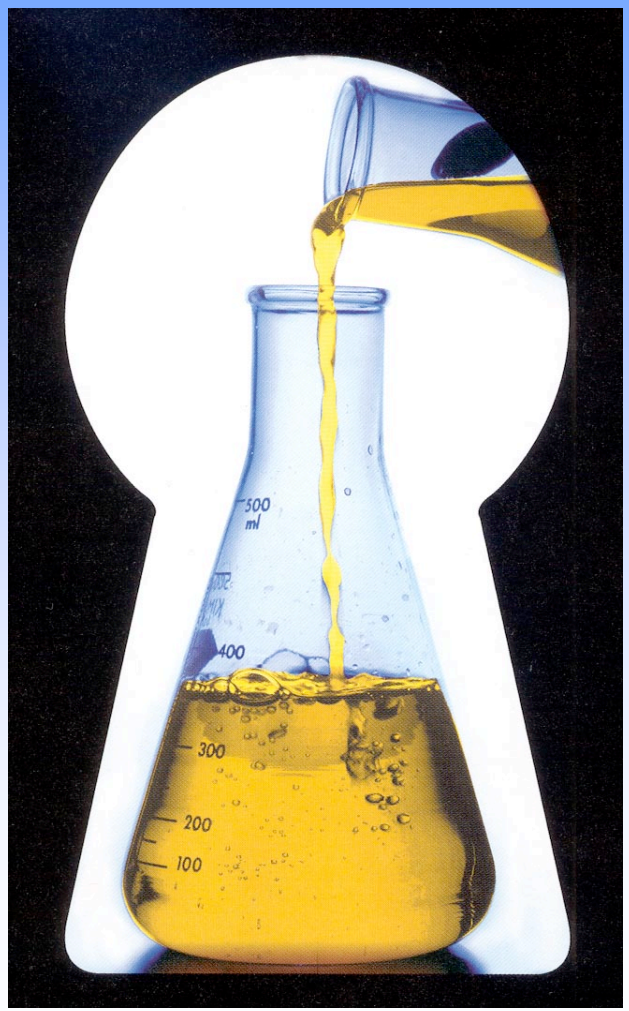


Source: An average of several government funded studies by NREL & SwRI

FTD from coal is an "alternative fuel" under 1992 Energy Policy Act (EPACT)

Can FTD Complement Bio-diesel?

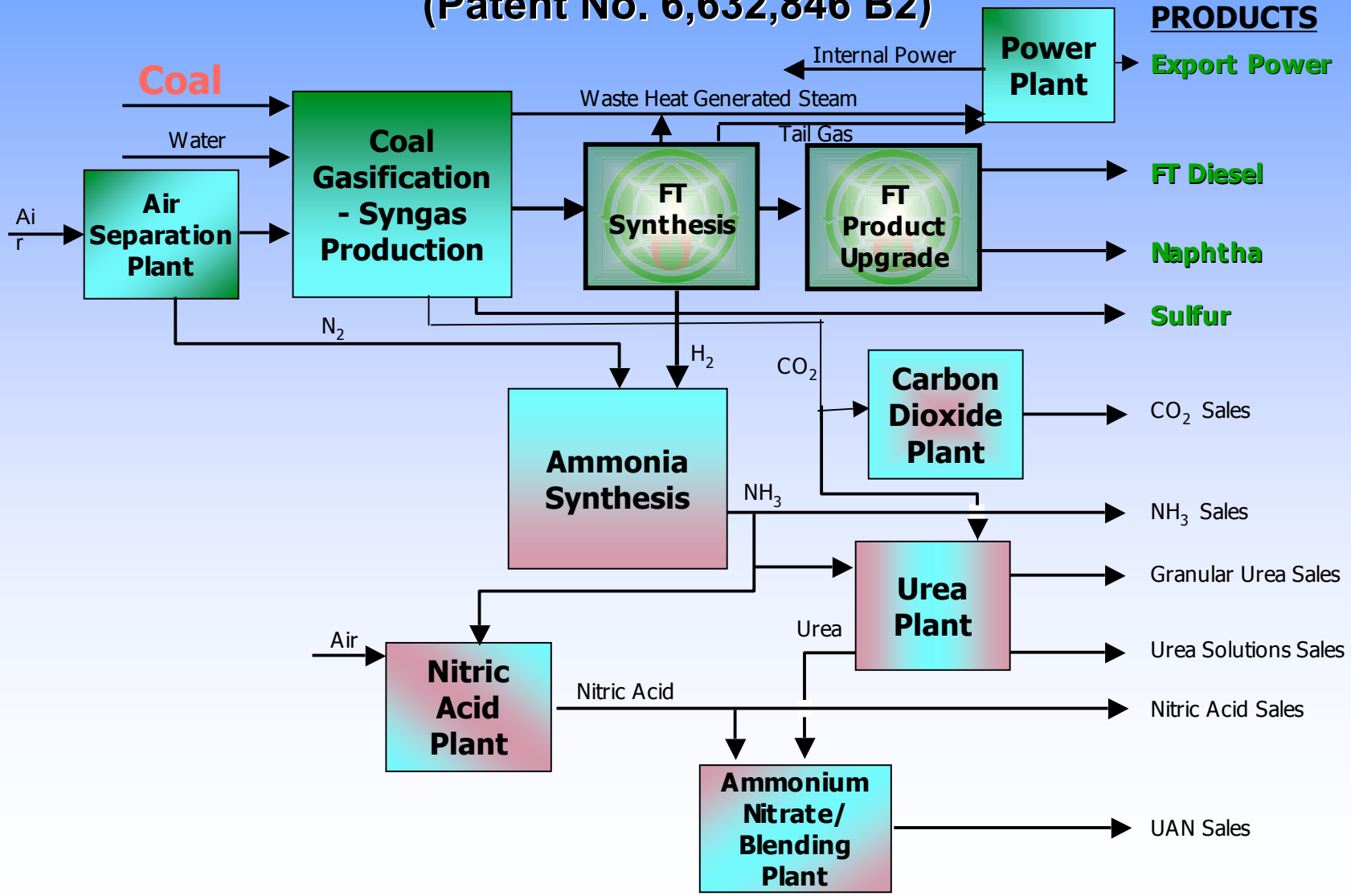
- Can enhance FTD
- 2 - 10% blends improve lubricity
- Bio-diesel / FTD blend reduces the cost of Bio-diesel and expands its market



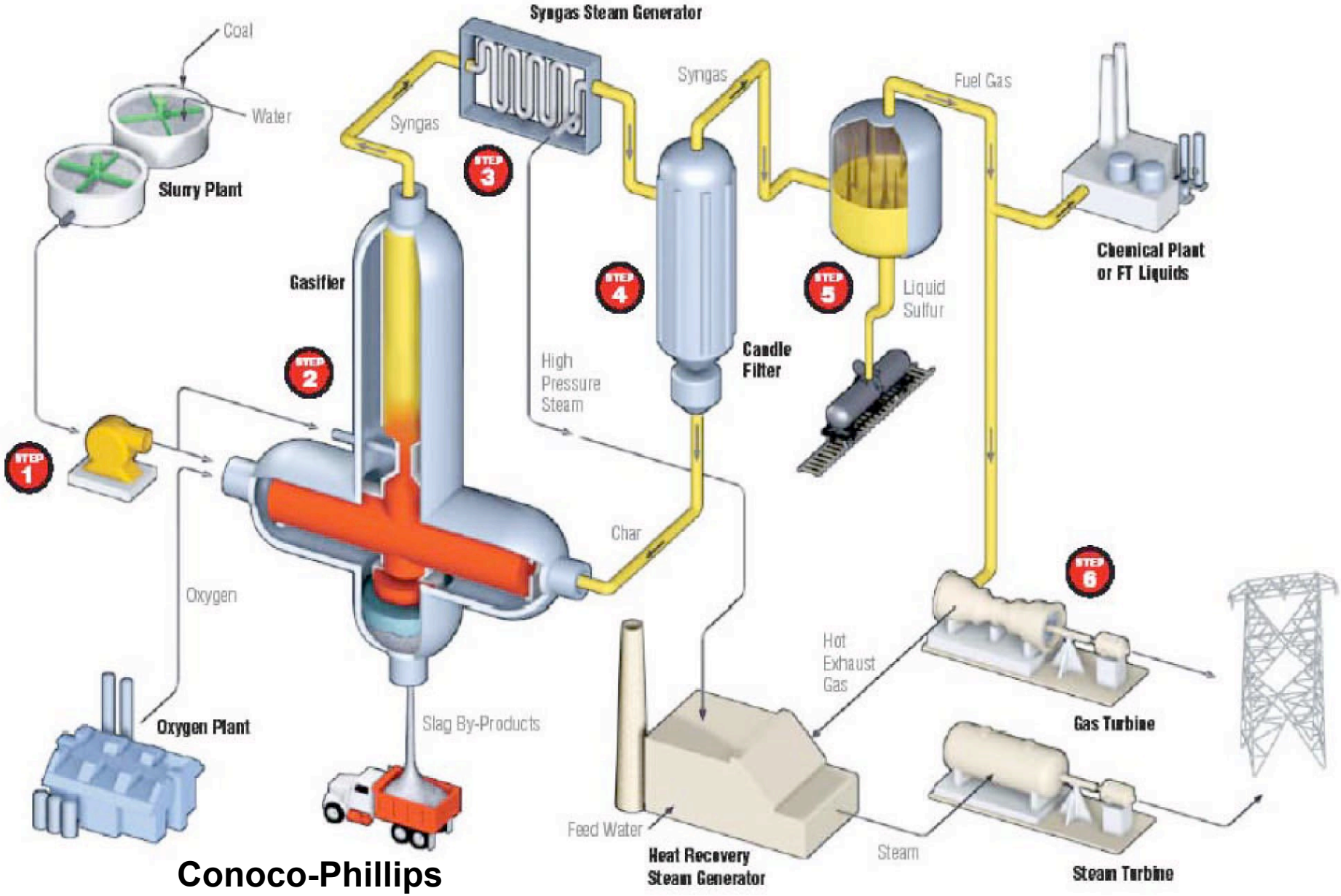
Royster-Clark Nitrogen

Integrated Manufacturing Process

(Patent No. 6,632,846 B2)



A Look Inside the Process



Conoco-Phillips

Co-Production Model
Estimated Inputs and Production

- Coal feedstock 2,700 TPD
- Ammonia production 1,000 TPD
- FT Diesel fuel 2,000 BPD
  - **84,000 gallons per day**
- Export Power 15-25 MW(e)

What are the benefits?

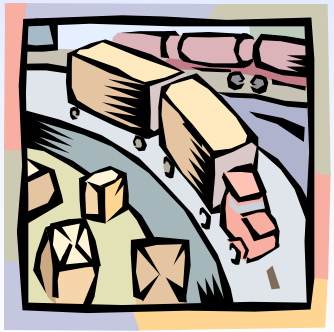
- Maintain 109 current employees
- Create 100^{+} new union / salaried plant jobs
- Over 1000^{+} union construction jobs
- Create 100^{+} new union coal mining jobs
- Provide competitively priced fertilizer to Midwest farmers
- Supply ultra-clean domestic FTD to:
  - Ozone Non-Attainment areas
  - Metropolitan transit, school bus, & barge fleets

Indirect Job Creation

New Transportation Jobs
15

New Coal Mining
Jobs
100

Plant Jobs 200
New Plant jobs
(100)



2500
JOBS

New Expanded product shipping
Jobs
56

More benefits…

- Maintain an existing major agri-business facility on Iowa / Illinois / Wisconsin border
- Advanced Clean Coal Technology will reduce total criteria pollutants from the plant, NOx, VOM's
- Using FTD will reduce air emissions for school bus and public transit fleets
- Converting an existing facility reduces the time to commercial operations from 6/7 years to 3 years
- Major investment in Tri-State area adding construction jobs and full-time employment

Post Conversion Output

- Total annual nitrogen fertilizer production from 1.2 million tons to 1.3 million tons
- Shift from consuming 14 MW of power to exporting 15-25 MW of excess power
- Total annual production of FT fuels of 28 million gallons

Phase 1 Results

- Total criteria pollutants to decrease 10 – 15%
- Cost estimates somewhat higher than expected, not unreasonable – about $450 million
- Financial community has great interest
- Favorable community response
- No fatal flaws – moving to Phase 2

What's Phase 2?

- Complete front-end engineering and design (FEED)
- Obtain environmental permit modifications
- Negotiate engineering, procurement and construction contract (EPC)
- Negotiate equity and debt structure financing
- Enter into coal supply agreements
- Enter into product sales agreements
- Estimated Phase 2 cost = $12 million

Project Time Line

- Phase 1 Development Study completed
- Phase 2 Detailed engineering and permitting to begin this winter
- Closing on construction financing, first quarter 2006
- Field construction to begin Spring 2006
- Commercial operations Spring 2008

Saving The US Nitrogen Fertilizer Industry

- High energy Illinois coal is strategic to future projects
- This is more than a Tri-State project; this project has national significance!
- Advanced Clean Coal Technology tax credits in Energy Bill are extremely important to saving the US nitrogen fertilizer industry

Direct Benefits To Iowa

- 2/3 of plant work force live in Iowa, so conversion will add 66 new jobs for Iowans
- Construction work potential for Iowans (1,000^{+} jobs)
- Maintain supply of locally produced nitrogen fertilizer to Iowa farmers
- Supply Ultra-clean FT diesel fuel to Dubuque area buses & barge fleets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