INC.
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CLEAN ENERGY SOLUTIONS

Polygeneration of Fertilizer and Transportation Fuels

The 2007 Fertilizer Outlook and Technology Conference
Arlington, VA
November 6-8, 2006

Claude C. Corkadel III
Vice-President
Rentech, Inc.

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CLEAN ENERGY SOLUTIONS

- **Background on Rentech**
- **Fischer-Tropsch Technology**
- **Rentech Projects**
  - **Emphasis on East Dubuque Conversion**

RENTECH INC.
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Rentech offers energy independence solutions utilizing American resources to economically produce ultra clean synthetic fuels

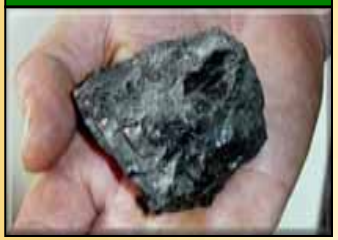
Rentech:
American Technology in Action

We take a solid like this

Rentech
FT
Technology

And turn it into this

Coal



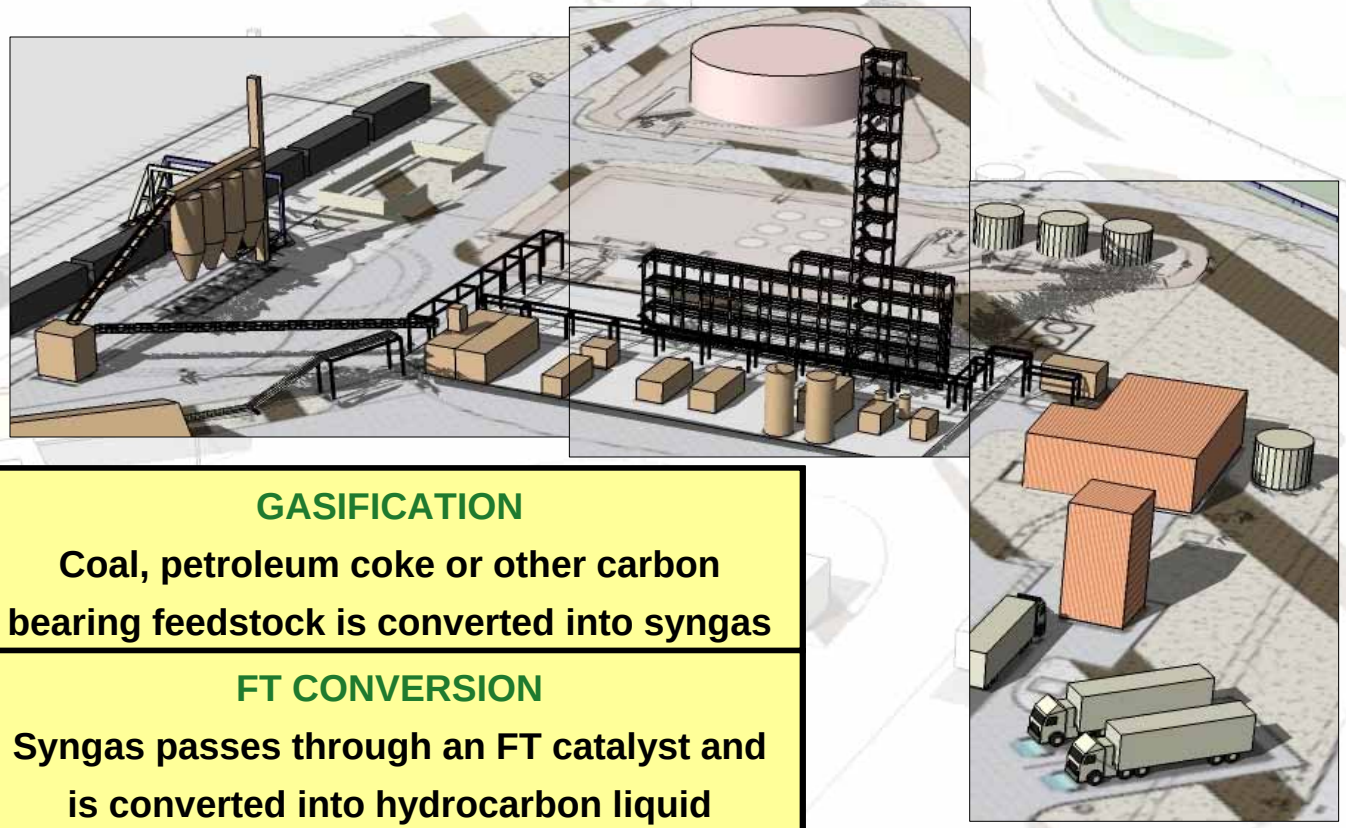
Rentech FT Technology

FT Diesel

Ultra-High Purity Fuel From Coal and Other Carbon-Bearing Feedstocks

- The U.S. needs clean economical fuel from secure sources
  - Persistent high oil prices
  - Unstable oil supply regions
- The U.S. has the largest proven coal reserves in the world
  - 500 billion tons of proven reserves
  - Over 300 years of production
  - Stable, low cost
- The U.S. and Canada have ever-growing supplies of petroleum coke from refining operations
- Bio-mass can be another source of feedstock
- FT technology from solids is economically feasible

What are Fischer-Tropsch (FT) Liquids?

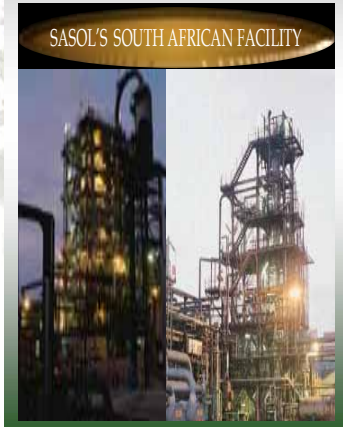


1	**GASIFICATION** Coal, petroleum coke or other carbon bearing feedstock is converted into syngas
2	**FT CONVERSION** Syngas passes through an FT catalyst and is converted into hydrocarbon liquid
3	**UPGRADE** The FT liquid produced is upgraded into ultra clean synthetic fuels

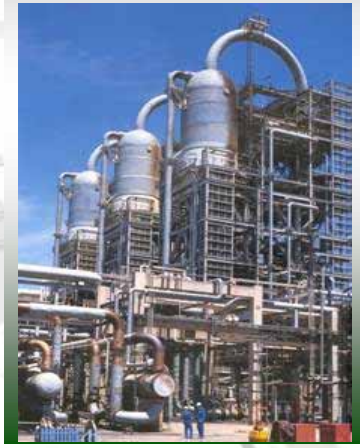
The Fischer-Tropsch Process

- Hans Fischer and Franz Tropsch discovered the Chemistry in 1923
- Germany commercialized the technology in WWII

SASOL
- 160,000 b/d+
- Feedstock - Coal



Petro SA
- 22,500 b/d+
- Feedstock - Natural Gas



Shell
- 15,000 b/d+
- Feedstock - Natural Gas

Sasol Oryx
- 34,000 b/d
- Feedstock - Natural Gas
- Online 2006

Rentech: FT Industry Leadership

- **Leading FT technology provider**
  - 25 years of FT technology development
  - 19 U.S. patents, with others currently under review
- **Proven operating experience**
  - Six pilot plants
  - Fully integrated solids-based FT demonstration operational in 2007
- **FT Leadership in North America**
  - Proven technology
  - Strong backlog of development projects
  - Experienced management
  - Favorable economic environment
  - Supportive political environment

Colorado FT Demonstration Plant (2007)

Architect's Rendering of the PDU

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"The Axis of Diesel"

Fortune Magazine-October 16, 2006

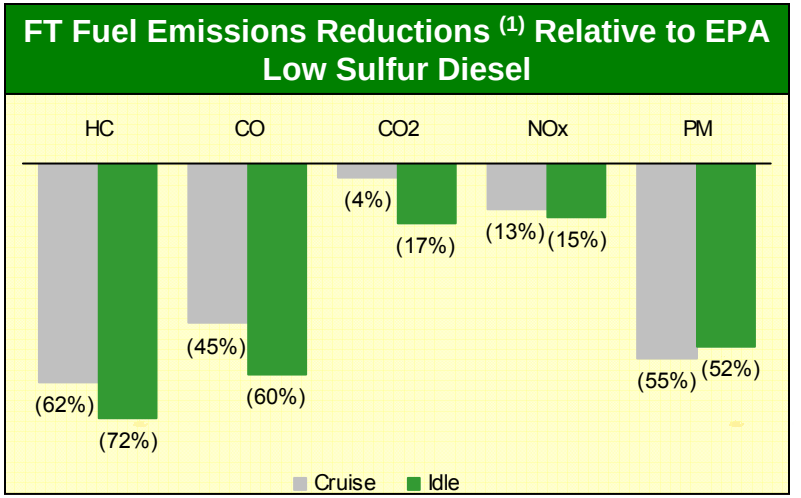
- **Audi R10-First diesel to win a major international road race-24 Hours at LeMans**
- **JD Power- "US diesel sales to triple by 2013"**
- **Diesel fuel produces fewer green house gases**
- **Half of all new cars in Europe are diesel**
- **Mercedes, GM, VW, Audi, Nissan, Honda, BMW, Chrysler**

Rentech's Primary Product:
Premium Synthetic Diesel Fuel

- **High performance**
  - Higher cetane index improves engine performance
- **Existing infrastructure**
  - Today's pipelines
  - Today's engines
- **Ultra high purity fuel**
  - Significant emissions reduction
  - Exceeds global sulfur and aromatics requirements
- **Storage stability**
  - Long shelf life (≥ 8 years)

Rentech's Primary Product:
Premium Synthetic Diesel Fuel

- **Environmental Advantages**
- **Reduction in Regulated Emissions**
- **Ultra-low in sulfur**



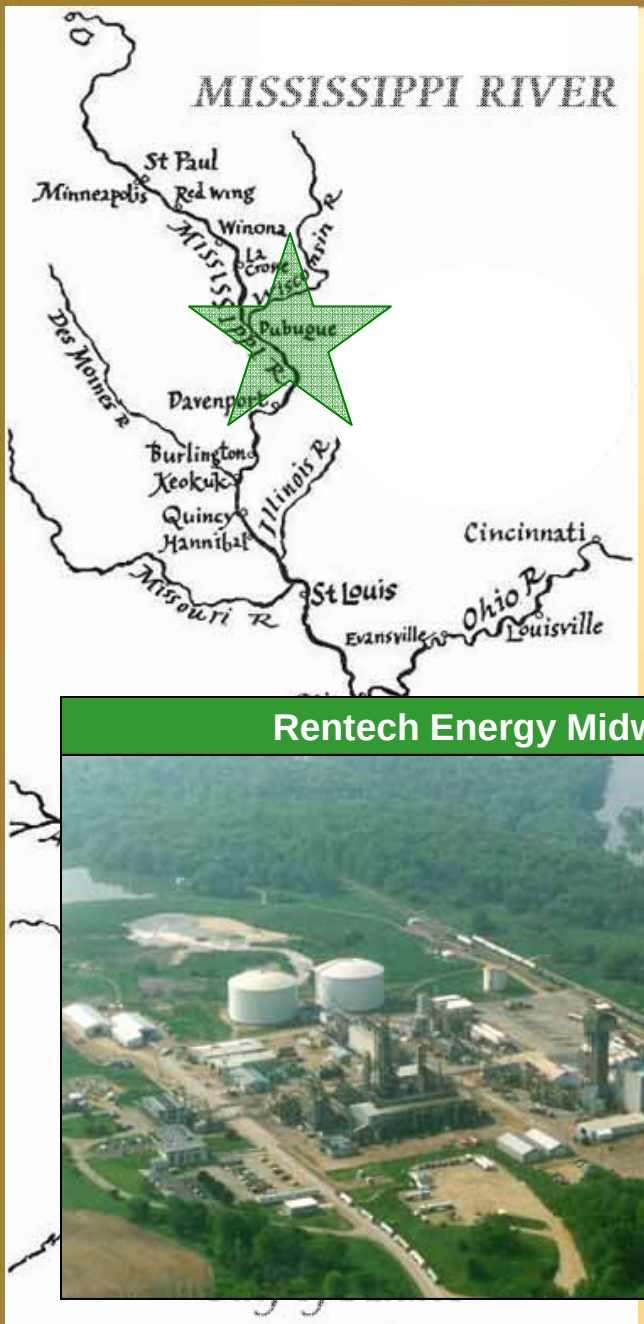
(1) HC = Hydrocarbon, CO = Carbon Monoxide, $C0_2$ = Carbon Dioxide, $N0_x$ = Nitrogen Oxide, PM = Particulate Matter. Data from U.S. Military testing.

Air Force to Try Out a New Kind of Jet Fuel
Los Angeles Times
September 15, 2006

"On Tuesday, (September 19, 2006) the Air Force will begin test flights here (Edwards Air Force Base) that could represent a major step in the Pentagon's plan to find less costly sources of fuel. A B-52 will take off with two of its engines burning a new…50-50 blend of traditional crude-oil based jet fuel and a synthetic liquid, which…eventually will be refined from coal mined in the U.S." using the "…Fischer-Tropsch process."

Rentech Strategic Plan

1. Accelerate deployment of the Rentech Process
☑ Conversion of Rentech Energy Midwest to jump-start FT production
2. Develop strategic projects in the U.S.
☑ Expand use of the Rentech Process at multiple sites
3. Develop a repeatable and scalable process
☑ Up to 50,000 Bbls/d per plant
4. Maintain FT technology leadership
☑ Continued innovation through research and development
5. Expand the reach of the Rentech Process
☐ Licensing on selected basis



First US Commercial Solids-Based FT Plant

Rentech Energy Midwest

East Dubuque, Illinois

Rentech Energy Midwest

- **Substantial existing operations and infrastructure**
  - 680,000 TPY fertilizer plant ready for immediate conversion
  - Permits, safety systems and experienced management team and staff in place
- **On the Mississippi River**
  - Multiple transportation options - barge, truck and rail
  - Northern-most ammonia facility on the Mississippi River
- **"Coal to Corn"**
  - Vast farming communities in Illinois and Iowa - all products consumed within 200 miles
  - Abundant local coal supply

The East Dubuque plant enables Rentech to accelerate FT technology deployment.

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Why Convert to Coal & Polygeneration

- **Replace high-cost natural gas feedstock**
- **Develop multiple revenue streams from fertilizers, fuels, sulfur & power**
  - Potential seasonality adjustment in production
- **Significantly improve plant efficiencies**
  - Conventional coal power = 32-35%
  - Combined cycle natural gas power = 42-45%
  - Polygeneration plant > 50%

Make a small FT facility economic and attractive to the financial community

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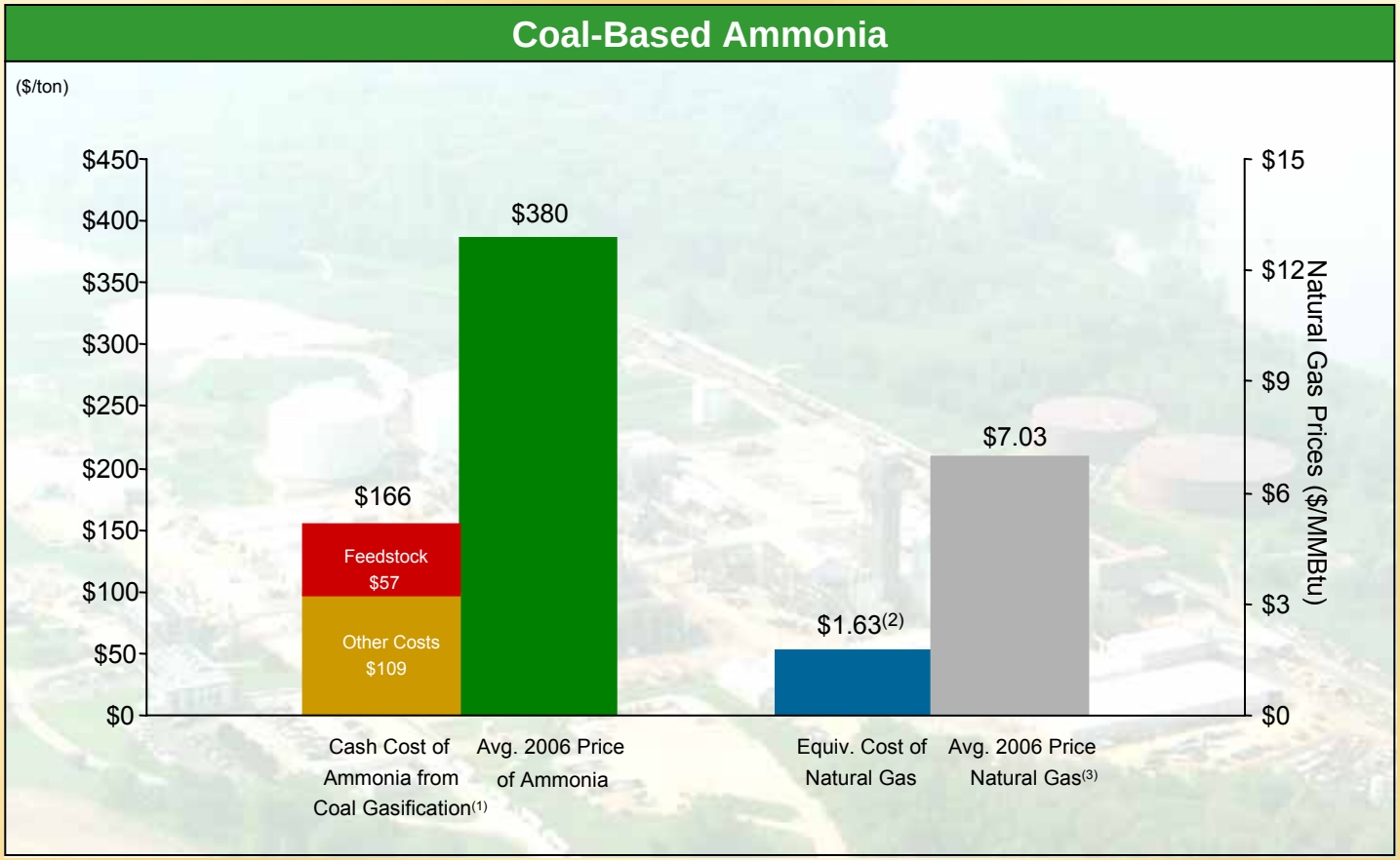
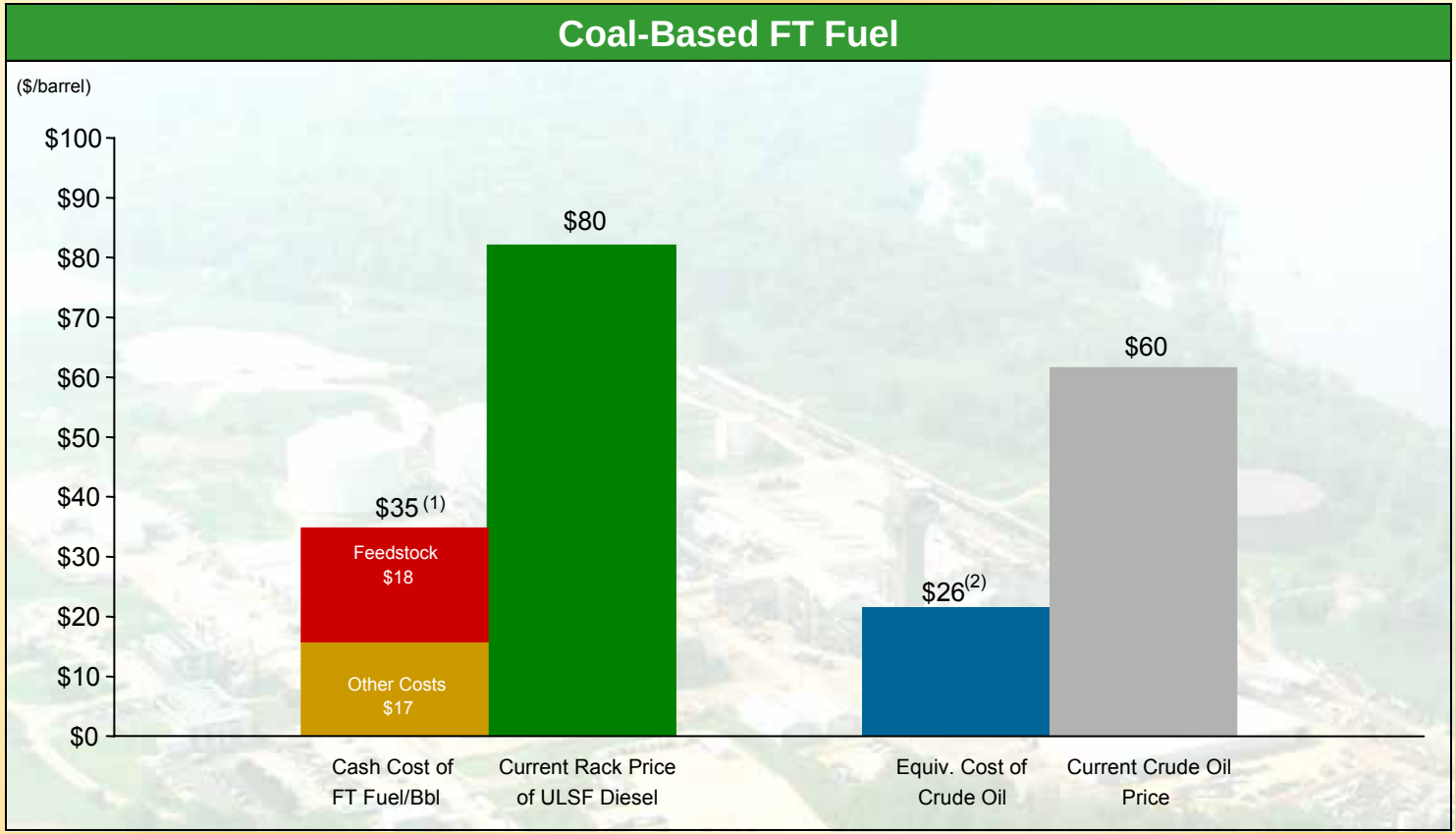
Competitiveness of Coal-Based Nitrogen Fertilizer



Source: Company data, Bloomberg, Blue Johnson and Department of Energy website.
(1) Price per ton in 2006 dollars
(2) Estimated equivalent based on 35 MMBtu per ton equivalent.
(3) Averate Year-to-Date price based on NYMEX.

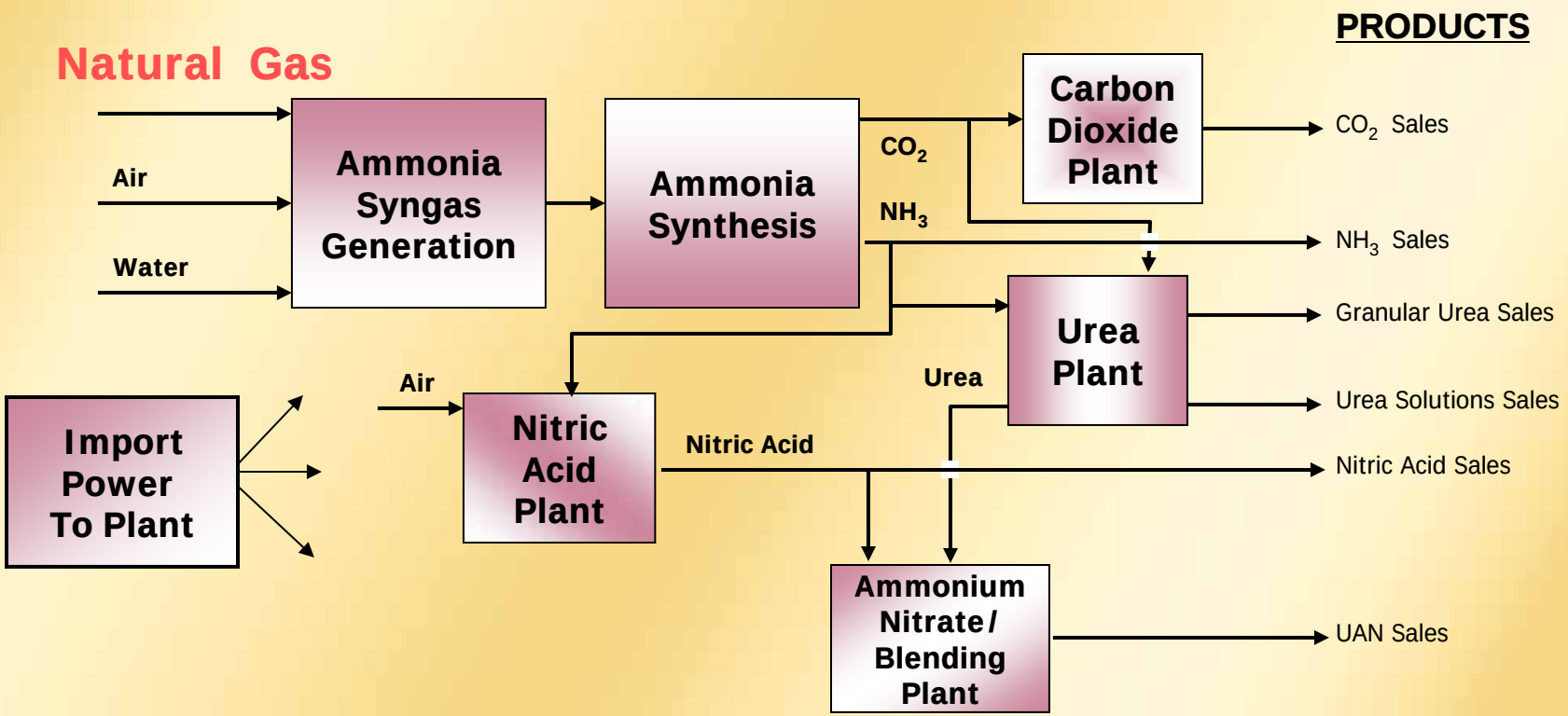
Competitiveness of Coal-Based FT Fuel



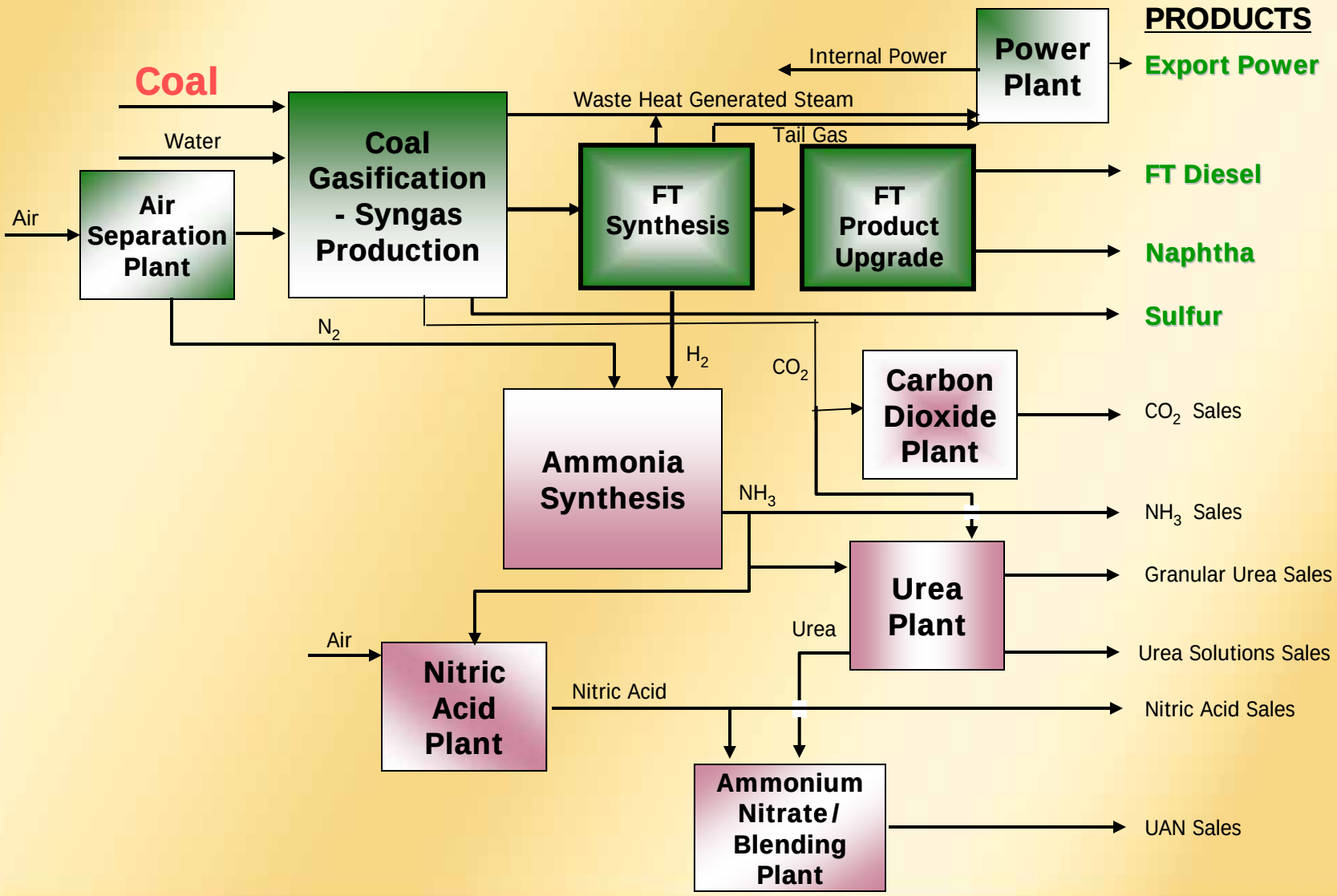
Source: Company data, Bloomberg, Blue Johnson and Department of Energy website.
(1) Estimate based on a 10,000 bbls/d facility. 2006 dollars
(2) Estimate based on 1.35 diesel to crude oil historical price relationship.

Coal-based F-T production is cost competitive today.

REMC's CURRENT Manufacturing Process



REMC's Conversion Process



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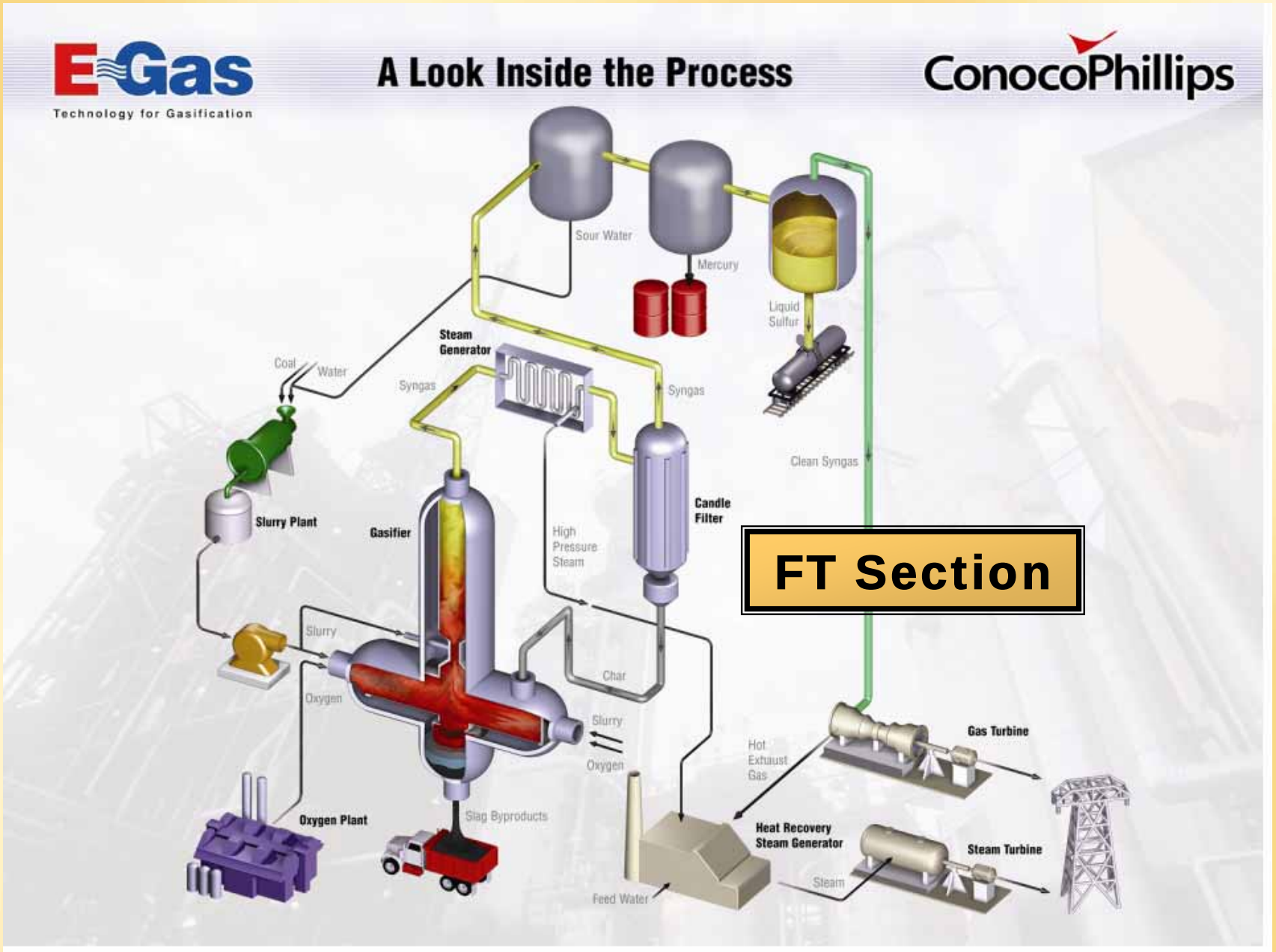
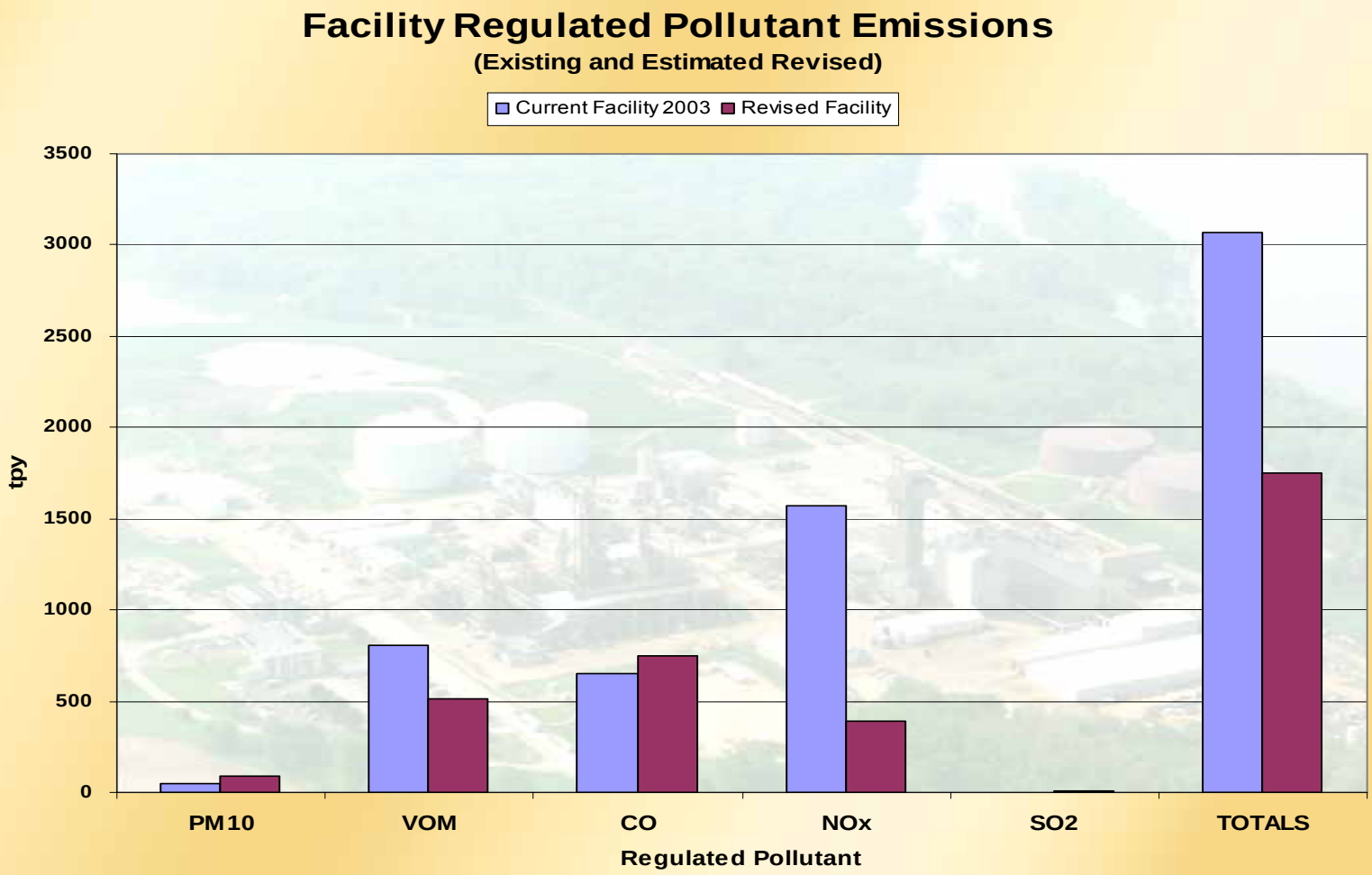

E-Gas
Technology for Gasification
A Look Inside the Process
ConocoPhillips
Sour Water
Mercury
Liquid Sulfur
Steam Generator
Coal
Water
Syngas
Syngas
Clean Syngas
Slurry Plant
Gasifier
Candle Filter
High Pressure Steam
FT Section
Slurry
Char
Oxygen
Slurry
Oxygen
Gas Turbine
Hot Exhaust Gas
Oxygen Plant
Slag Byproducts
Heat Recovery Steam Generator
Steam Turbine
Steam
Feed Water

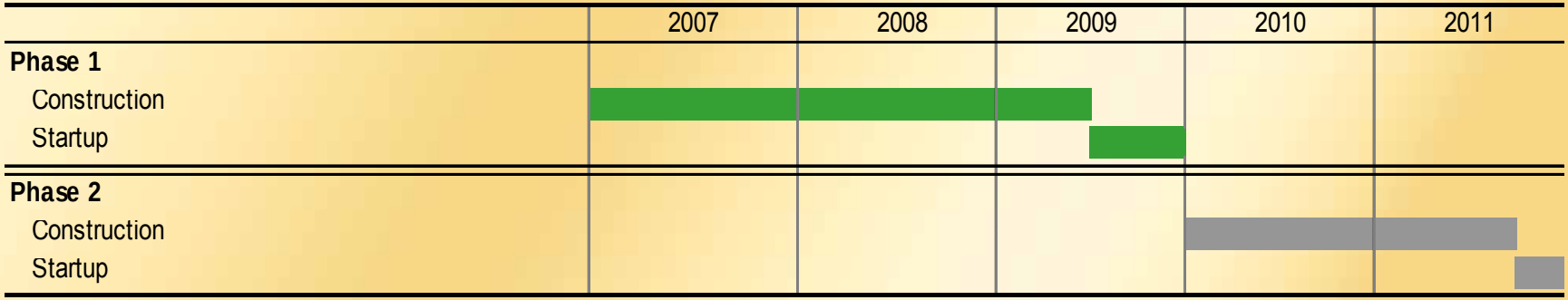
Overall Emissions are Reduced



Rentech Energy Midwest Timeline

Rentech Energy Midwest

- **Phase 1 – Install Coal Gasification Unit with Spare and FT Production Unit**
  - Produce syngas for manufacturing
    - 920 tpd fertilizer: 1800 Bbl/d FT liquids
  - ConocoPhillips: gasification system supplier
  - Continue operation of fertilizer plant using natural gas during construction of gasification unit
  - Turnkey EPC contract with guarantees
  - Long-term coal contract
  - Expected cost $800 million
- **Phase 2 – Add Second Gasification Train and Additional FT Production Capacity**
  - Increase FT production to 6,800 Bbls/d
  - Expected cost of $200 - $250 million

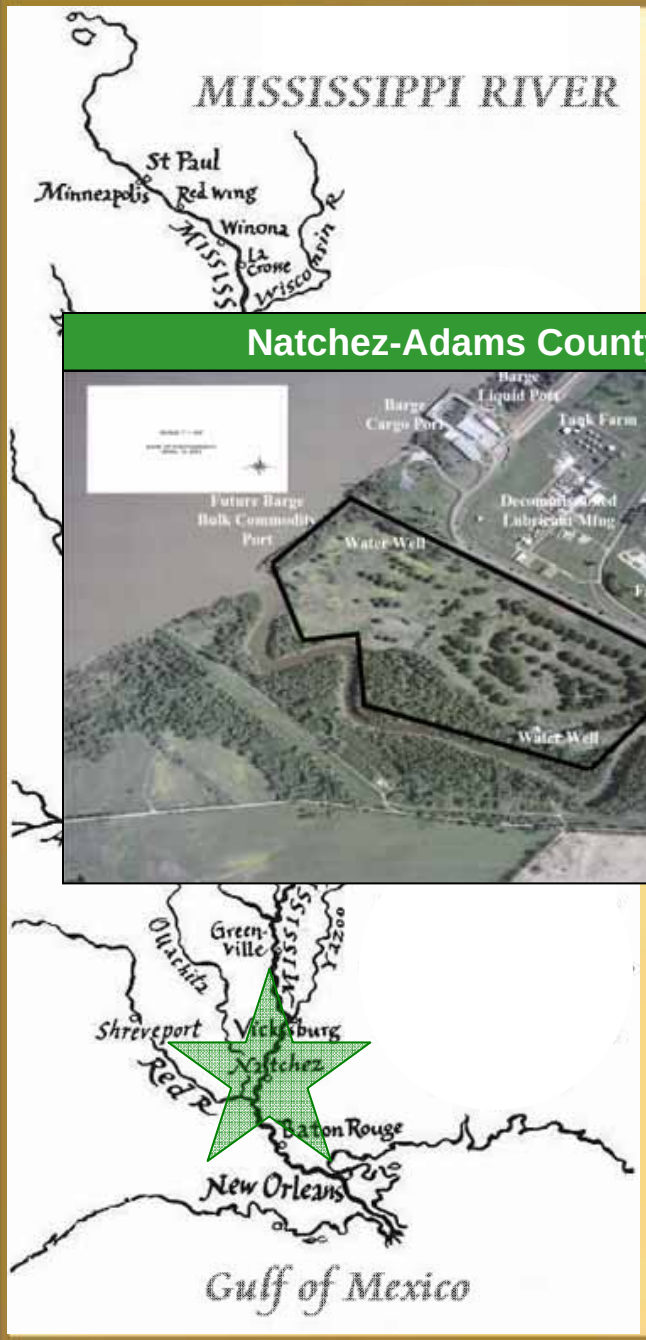


What are the "Other" Benefits of Conversion?

- Maintain 110 current employees
- Create 120 new plant jobs
- Up to 1000 construction jobs
- Create 150+ new coal mining jobs
- Provide competitively priced fertilizer to Midwest farmers
- Supply ultra-clean domestic FTD to:
  - Ozone Non-Attainment areas
  - Metropolitan transit & school bus fleets
  - Reduce air emissions from diesel engines in underground mines, increasing miner safety

Proposed Strategic Fuels Plant

Natchez, Mississippi



- **Strategic Location**
  - On the Mississippi River
  - Not subject to Gulf Coast weather patterns
- **Easy Access**
  - Multiple feedstock possibilities
    - Coals down Mississippi River
    - Pet Coke up from Gulf Coast
  - Central location to several product distribution channels
- **Self Sufficient for Power Needs**
  - Not on the power grid
- **Ideal location for total CO_2 sequestration**
  - CO_2 used for Enhanced Oil Recovery
- **Federal, State, Local support for project**
- **Currently in feasibility study**

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Rentech / Peabody
Joint Development Agreement

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Peabody

U.S. Coal Supply Regions

- Develop ultra-clean fuels projects at or near Peabody Mine Mouths
- Initial project size 10,000 and 30,000 Bbl/d – scalable and repeatable
- Projects engineered to be carbon capture ready
- Phase I – scoping and feasibility in Montana and Illinois Basin – one-year process

DKRW-Arch Coal Strategic Partnership *(Rentech FT License)*

- **Proposed approx. 62m barrels per day total FT production**

DKRW/Arch Coal-Wyoming/Montana

- Medicine Bow-Wyoming
  - Initial production 10m Bbl/d
  - Scalable to 40m Bbl/d
  - Engineering initiated
  - Start up 2011/2012
- Bull Mountain-Montana
  - Proposed 22m Bbl/d
  - Scoping phase initiated

Arch Coal purchased 25% of DKRW Advanced Fuels LLC which obtained a limited production master licensing agreement from Rentech for use of its FT technology

Summary

- Ammonia conversion provides an economic pathway for first-mover domestic commercial solids-based FT production.
- There are potentially excellent production synergies for ammonia fertilizer and FT fuels
- Coal to ammonia fertilizer provides a high margin high value alternative to natural gas
- Doesn't an ethanol program help our energy independence even more when we don't have to import 100% of the fertilizer used to grow the corn?

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