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# Medicine Bow Fuel & Power Project

## Air Permit Application

August 4, 2008



**DKRW**

**Advanced Fuels™**

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MEDICINE BOW  
EXHIBIT MMM  
PRE-HRG MEMO

## DKRW Advanced Fuels LLC - Company Overview

- DKRW Advanced Fuels LLC (“AF”) is focused on using clean coal conversion technology to produce synthetic hydrocarbon products in a dynamic global marketplace
- Our flagship project at Medicine Bow, WY is currently planned to go into production in 2013 producing 18,000-20,000 bpd of regular gasoline
- Our long term plan is build additional facilities similar to Medicine Bow in the US and abroad
- We have key relationships with world class companies in coal, technology, and finance, : Arch Coal, General Electric, UOP, Davy, Exxon Mobil
- Owned by DKRW Energy LLC --- a leading developer of wind energy, LNG and IGL projects --- Arch Coal --- one of the largest US coal companies --- and other investors

## Medicine Bow - Project Overview

- First major commercial US IGL facility
- Producing 18,000 -20,000 bpd of regular gasoline
- Serving Rocky Mountain gasoline market
- Gasoline produced from Wyoming coal --- in Carbon County
- Using clean coal technology --- gasification to capture CO2, sulfur, and mercury
- All technologies used have been run at commercial scale
- Project financing 2009 and commercial operation in 2013

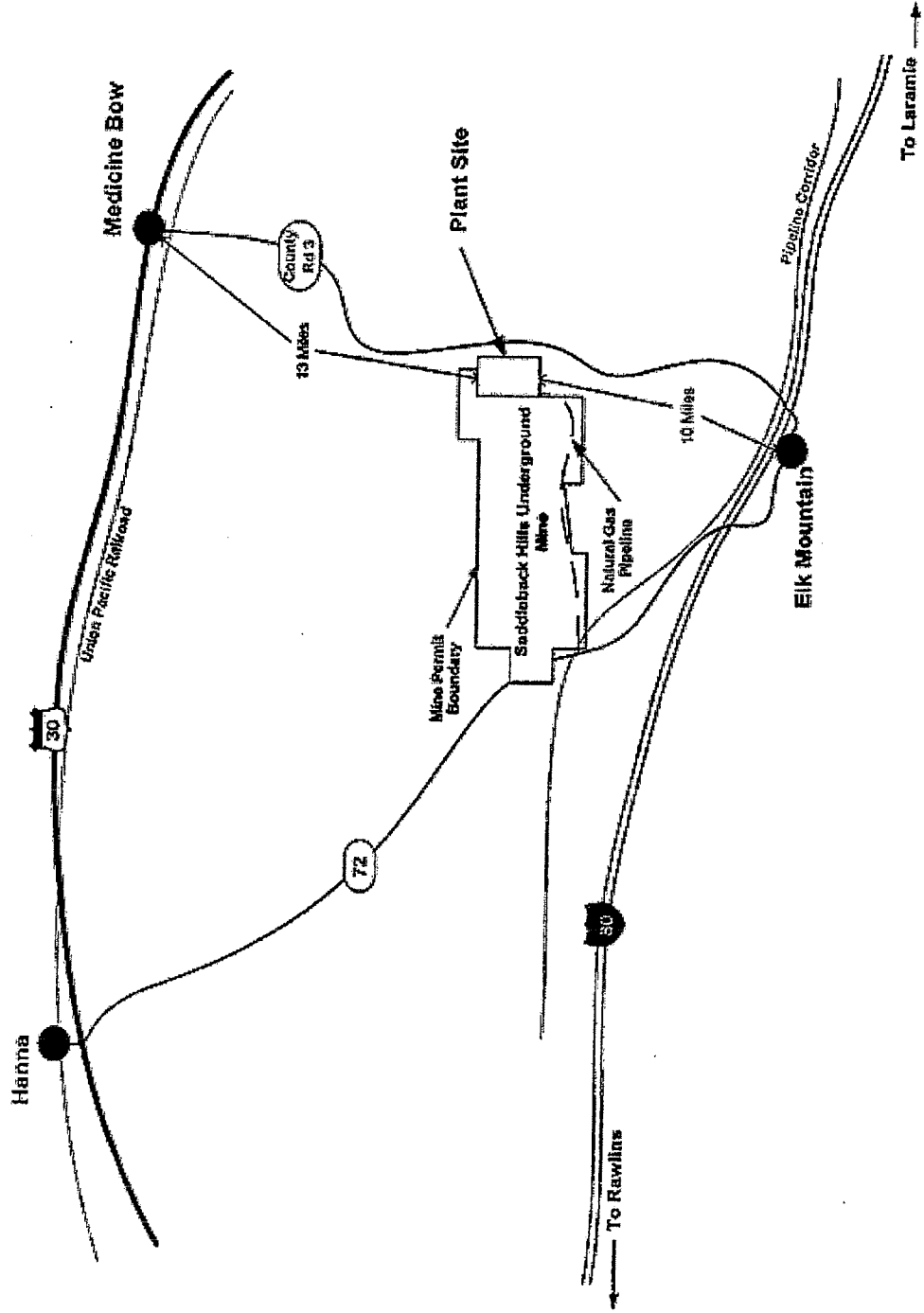
# Why Medicine Bow Makes Sense

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- **Holding Down Oil Prices**
  - Helping to meet the demand for American energy in America
  - Providing alternative gasoline supplies to supplement declining conventional sources
- **Clean Energy Technology**
  - Captures sulfur, mercury, and CO<sub>2</sub>
  - The gasoline produced meets or exceeds new regulations for sulfur and benzene.
- **Reducing American Oil Imports.**
  - 13.4mm barrels/day of crude plus refined products in 2007 (~ 65% \* of daily U.S. use).
  - \$600 billion per year @ \$130/BBL - huge cash outflow.
- **Enhancing National security**
  - Producing our gasoline in America
  - Much oil comes from Middle East, Africa, Russia, and Venezuela.
  - Dollars supporting in many cases anti-American interests.
- **Security of Energy Supply.**
  - High value product (gasoline) from US coal supplies.
  - U.S. has 250 year supply at current use rate --- we are the Saudi Arabia of coal
  - Relatively stable coal pricing compared to oil.

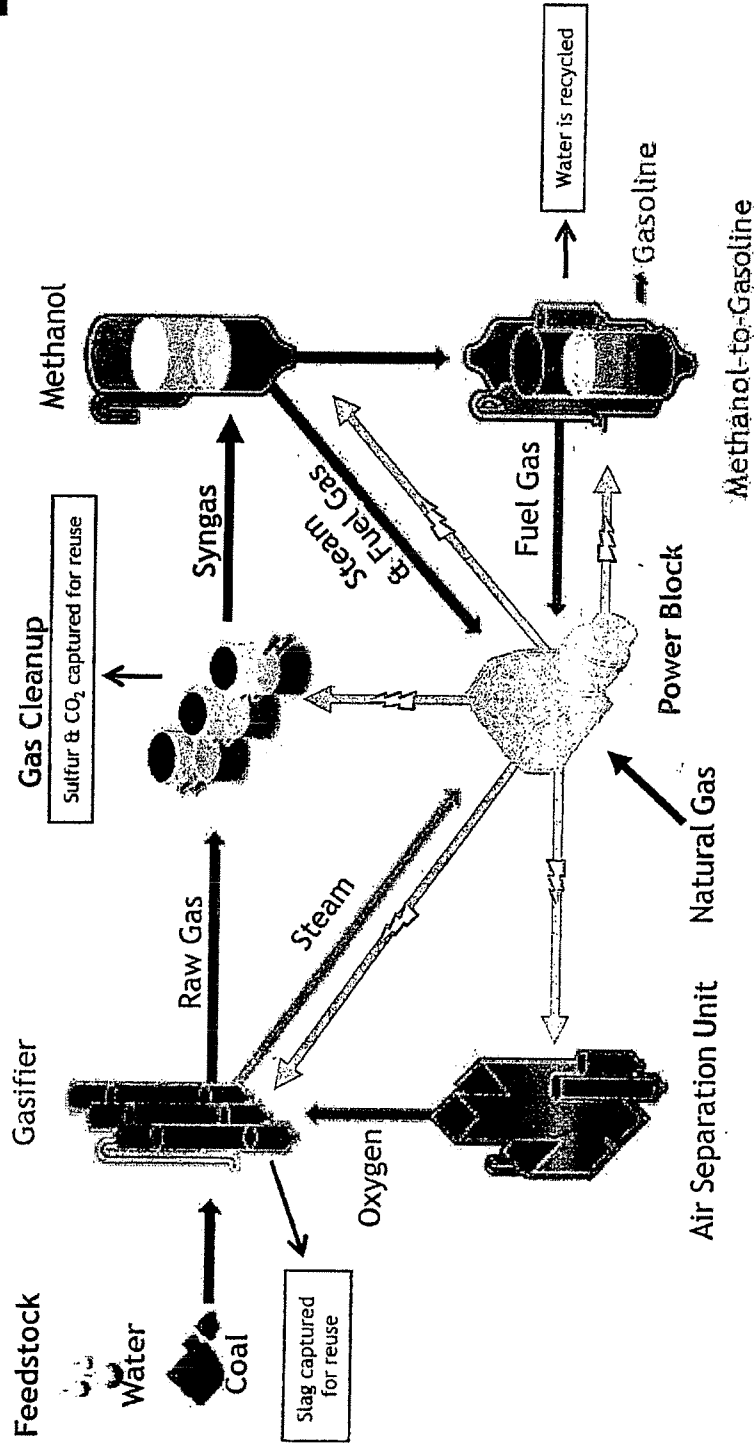
# Medicine Bow Fuel & Power Plant Site (location)

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# Industrial Gasification & Liquefaction Key Process Relationships

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Designed for maximum recovery, recycle and reuse by  
utilizing Best Available Control Technology.

# Medicine Bow Fuel & Power Environmental Benefits

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- Clean process converts coal into gasoline
  - Gasoline produced by gasification technology in compliance with Wyoming DEQ regulations.
  - Best available control technology.
  - Zero process-water discharge.
  
- Recovery, recycle, and reuse:
  - Facility is self sufficient for its electric power.
  - Steam & process gases produced are recovered and recycled to make more electricity.
  - Heat & water recovered from processes are reused.
  - Solid waste is a non-hazardous slag recycled/reused.
  - CO<sub>2</sub> captured is targeted for sale for EOR.

# Medicine Bow Fuel & Power Environmental Project Benefits (cont.)

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- Water
  - Wyoming State Engineer’s Office concluded that sufficient water can be supplied by the deep Mesaverde aquifer which is not used by local communities and is non-potable but acceptable for MBFP process water use .
  - Use of air cooling, at extra cost, significantly reduces water use (less than one gallon of water per gallon of fuel produced). The MBFP water use rate is about equal to the irrigation water rights on 70 acres of ranch land.
  - Water produced by the process is recycled reducing water use.
- Noise
  - Abatement included in design.



# Medicine Bow Fuel & Power Health and Safety

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- Health & Safety (H & S) of employees and neighbors will always be our number one priority.
- OSHA and MSHA compliant H & S plans will be developed and implemented for safe construction and operation of the MBFP plant and mine.
- Regular H & S training will be conducted.
- MBFP will have its own H & S response teams, ambulance and firefighting equipment but will also work closely with local emergency response groups to ensure their understanding of the facility and provide opportunity for their on-site training with staff.

## Wyoming MBFP Project Benefits

- New Investment
  - \$2.0+ billion investment adding value to coal.
  - Millions of dollars to be spent on purchases.
  - Increase in oil production from use of CO<sub>2</sub> for EOR.
  
- Expanded tax base
  - Property, ad valorem, severance and other taxes paid by project.
  - Taxes paid by new employees moving into area.

## Wyoming Project Benefits (cont.)

- New Employment opportunities
  - Temporary : approximately 2,300 construction jobs at peak.
  - Up to 450 full-time long-term jobs in Carbon County, Wyoming.
  - Local service industry employment expansion opportunities.
  
- Educational and Training Opportunities
  - Training programs and internship positions.
  - Possible research/development initiatives with University of Wyoming.
  - Additional training for local emergency response and medical personnel.

## Summary

- Good for Wyoming--Good for America
- Excellent location with high quality coal
- Clean coal gasification process
- Best Available Control Technology
- Recovery, reuse and recycle
- New employment/training opportunities
- New tax revenues
- Reduced dependence on oil imports
- Helping to hold own oil prices