SENATE COMMITTEE ON FINANCE

SUBCOMMITTEE ON ENERGY, NATURAL RESOURCES AND INFRASTRUCTURE

HEARING ON COAL: A CLEAN FUTURE

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Written Statement of
John Diesch
President of Rentech Energy Midwest Corporation

Thank you Chairman Bingaman, Senator Thomas and distinguished Committee members, I'm John Diesch, President of Rentech Energy Midwest Corporation (REMC), a subsidiary of Rentech. Rentech is the leading US firm developing facilities capable of commercial scale production of Fischer Tropsch fuels. These are ultra-clean diesel and jet fuels that can be made from any number of hydrocarbon rich resources, including coal, petroleum coke, natural gas, biomass and other abundant domestic sources.

This is a sample of our diesel – you will notice that it is virtually clear. It is extremely low in particulates and sulfur emissions. You can use Rentech diesel in any current engine that runs on conventional diesel – in trucks, buses, barges, locomotives or diesel cars. Last year, the Air Force flew a B52 bomber on the jet fuel version of FT. Our fuel produces all of the transportation energy of conventional fuels, with several major advantages:

- It can be made from abundant domestic natural resources, lessening our dependence on imported oil.
- It runs cleaner than conventional fuels from petroleum, producing slightly less greenhouse emissions than conventional diesel when used in the same engines. When compared to similar vehicles with gasoline internal combustion engines, there is about a 25 percent reduction in greenhouse gas emissions.
- For other regulated criteria emissions – SOx, NOx, and particulates – using our fuels cuts emissions by up to half over conventional diesel.
- Rentech diesel can also be stored 5 to 10 times longer than oil-derived diesel, and it is biodegradable, making it ideal for strategic reserves.

And let me state right up front that, with the proper manufacturing configurations and appropriate sequestering, we can manufacture our fuel so that the total production of greenhouse gases – from manufacturing AND vehicle use – is less than the wells to wheels emissions of conventional diesel. And that would be a major improvement over gasoline.

While the potential of this fuel is still in the early stages in the US, the technology for making this fuel is over 70 years old. Large scale manufacturing plants are operating in South Africa, Qatar, Malaysia, and under construction in a number of other countries including China, which is aggressively developing a CTL industry to meet its growing transportation fuel needs. In the US, Rentech holds over 20 patents from its more than 25 years of experience refining the process, and we expect to have the first commercial scale production facility operating in the US by 2010.

That first plant will be the conversion of the fertilizer plant in East Dubuque, Illinois that I have managed for nine years. Currently, we make nitrogen fertilizer and urea products for the local market, primarily serving farmers in Illinois, Iowa and Wisconsin within a 200 mile radius of the plant. Most fertilizer plants in the US are now struggling because of the sustained high cost of natural gas, the primary feedstock for making fertilizer products. In fact, over half of the US production of fertilizer has shut down in the last seven years, moving overseas where natural gas prices are significantly cheaper and more stable.

Let me demonstrate the clear and convincing economics. The East Dubuque plant uses 31,800 MMBtu per day, enough gas to heat a city of 100,000 homes. A ten cent increase in the price of natural gas is $1,000,000 per year in additional operating cost. This plant would have shut down three years ago if it was not for the conversion to clean coal technology.

So why add a fuel plant to a fertilizer plant? Because many of the processes are shared: the gasification of coal, the production of synthesis gas, the conversion of that synthesis gas into other useful products. Depending on the configuration and the additional equipment added, these plants can produce various combinations of fuels, fertilizers, electricity, and other useful manufacturing and consumer products.

Right now, we are in the final stages of design work at East Dubuque. We hope to break ground in just a matter of months, and it will take about 3 years to convert the existing fertilizer manufacturing process to a coal-fed gasification system and add an FT plant to also produce fuels. After conversion, we will increase ammonia production capability from 830 tons per day to 1,000 tons per day while producing 1,200 to 2,000 barrels per day of ultra clean FT fuels, with the possibility of ramping up to over 5,000 barrels per day. Our construction schedule anticipates the plant operating in the new configuration by 2010, making it the first commercial scale plant in the US producing these fuels

The conversion will take an investment approaching 1 billion dollars. It will nearly double the number of full-time high-paying union jobs currently at the plant, and employ nearly 1,000 construction workers at its peak. REMC is the highest paying employer in the Greater Dubuque area.

Rentech is doing more than just building a first-of-its-kind plant, saving jobs, saving an industry and creating a new domestic fuel source. We are a company that is also committed to doing what is right. That is why we have been examining the ways that we

can reduce the greenhouse gas footprint of these plants. Using coal as a primary feedstock has many positive attributes – it allows us to sustain the domestic manufacture of fertilizer, it creates additional jobs in the American coal industry, and it is an abundant local resource being utilized effectively and cleanly. At the same time, using coal does create more greenhouse gases – but the great advantage of the technology is that those greenhouse gases can be contained during manufacture.

Fertilizer plants capture and sequester carbon dioxide in their products. At East Dubuque we use some of the carbon to manufacture our UREA and fertilizer products, where it helps fuel the growth of the food crops that dominate our region of the Midwest, most notably corn. Next, we capture additional CO_2 produced during manufacturing, clean it and compress it, and sell it to the food and beverage industry. We will continue with our capture program after the conversion, but the extent of those carbon solutions are unique to East Dubuque and the co-production of fertilizer and FT fuels.

For our future proposed projects, Rentech's engineers are working on recycling configurations that maximize the capture of CO_2 during manufacturing. Our second proposed plant, in Natchez, Mississippi, is near oil fields where Enhanced Oil Recovery would allow productive use and sequestration of all of the CO_2 captured. The potential for carbon capture and sequestration is also a critical factor in our consideration of the potential of other future sites. Rentech is focusing our development efforts on projects with realistic CO_2 capture and sequestration opportunities.

As capture rates approach 80-85 percent, the total wells-to-wheels emissions of our diesel is comparable to conventional diesel – and a marked improvement over gasoline. Remember – in usage, our diesel actually emits less carbon dioxide per mile than conventional diesel. And there are early projections that mixing in 10 percent biomass with the feedstock could result in even more noticeable reductions in greenhouse gases.

A couple of quick statistics – if every vehicle on the road today were using a diesel engine, run on FT fuel manufactured with 80 percent carbon capture and 10 percent biomass, we would reduce the transportation emissions from those vehicles by 5-6 percent over conventional diesel – and 30 percent or more over gasoline. If we switched to diesel hybrid engines – using technologies available today, not waiting to be invented – we could reduce greenhouse gas emissions by well over half in those same vehicles compared to using gasoline engines. And let me be clear – I am talking total emissions – wells to wheels. That is the potential of these fuels and this process.

The investment that is required to make good on this promise though, is tremendous. I mentioned already that it will cost nearly a billion dollars to convert the East Dubuque fertilizer plant. Plants with a bigger production capacity built from scratch would cost even more. And the additional costs to ensure that we are optimizing carbon capture and sequestration can be significant as well.

While Rentech is developing our plants – at East Dubuque and beyond – primarily with private capital investments, active support from both the state and federal governments is

critical to developing this industry. We were able to move East Dubuque forward because of initial feasibility study help from the State of Illinois. As we developed potential financing packages for the conversion to industrial gasification, we hoped to use the provisions of EPAct 2005, including the 48B investment tax credit.

As you know, however, the 48B program was capped at $350 million last year. And it was oversubscribed – dramatically. Applications totaled $2.7 billion. Unfortunately, that meant that a lot of great applications, like ours, didn't get any funding at all. Although it is not completely clear because some of the awards were kept secret, it seems that most of the funding went to traditional applications – not the sort of technological advances that could represent breakthrough new gasification industries for the US.

From that experience, we draw two complementary recommendations – first, raise the cap on the credit so that more projects, especially those that could revolutionize the industry, can be funded. We strongly recommend a significant increase of at least double or more. Second, specifically clarify that gasification tied to FT is a permissible use. In fact, we would suggest that the Congress consider designating a specific portion of the industrial gasification tax credit to FT development.

One of the most important potential users of our diesel and jet fuels is the U.S. military. The strategic advantages to a stably-priced domestic source of fuel that has all of the built in advantages of FT – storage life, biodegradability, and reduced emissions – are obvious. In fact, some of the biggest reductions in potential emissions – both greenhouse gases as well as regulated criteria emissions – have been noted in tests in military vehicles. We appreciate Congressional support for longer-term military contracting authority that would allow for the kind of stable investment climate to start up these plants.

Next, we must recognize that finding appropriate means to capture and sequester greenhouse gases is a critical challenge for every major heavy industry in our country and indeed around the world. We have two additional recommendations that could help ensure that the United States remains competitive in a carbon-constrained world – and indeed, that our nation leads the way environmentally. First, recognize that advances in carbon sequestration options have applications across a wide range of industries and fund basic research into promising applications. Second, offer incentives for companies – like Rentech – that are taking the lead and including carbon capture and sequestration technologies in their plant designs.

Two tax incentives – an FT-specific variant on 48B and a deduction for the cost of carbon capture and sequestration equipment – paired with longer military contracting authority could set the stage for rapid development of this industry and have far-reaching consequences for our national security. We could more effectively utilize domestic resources. We could reduce our dependence on foreign oil, with all the associated consequences -- diplomatic, economic and military. And we could maintain key industrial sectors in a way that is far more beneficial to the long-term stability of our environment.

And finally, I'd like to throw in one more potential advantage that is unique to what we are doing in East Dubuque. At that plant we are really producing two fuels – one for transportation, the other for our food crops in the form of the fertilizers that are necessary for their growth. As our nation meets the economic and environmental challenges of this new century, we can't afford to lose our independence in either area. So I issue an invitation to each of you and your staffs – anytime you would like to see what we are doing, please come. We are proud of our products, proud of workforce, and proud that we are a good neighbor to the Mississippi River and to our local communities.

Thank you very much for your time this afternoon.