

**TESTIMONY OF
ANDRÉ DE RUYTER
SENIOR GROUP EXECUTIVE, GLOBAL CHEMICALS
AND NORTH AMERICAN OPERATIONS
SASOL LIMITED**

**BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER AND
SUBCOMMITTEE ON COMMERCE, MANUFACTURING, AND TRADE
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES**

**REGARDING
A COMPETITIVE EDGE FOR AMERICAN MANUFACTURING:
ABUNDANT AMERICAN ENERGY**

JUNE 20, 2013

Chairman Terry, Chairman Whitfield, Ranking Member Rush, Ranking Member Schakowsky, and Members of the Committee, thank you for the opportunity to testify. It is an honor to be here with you today.

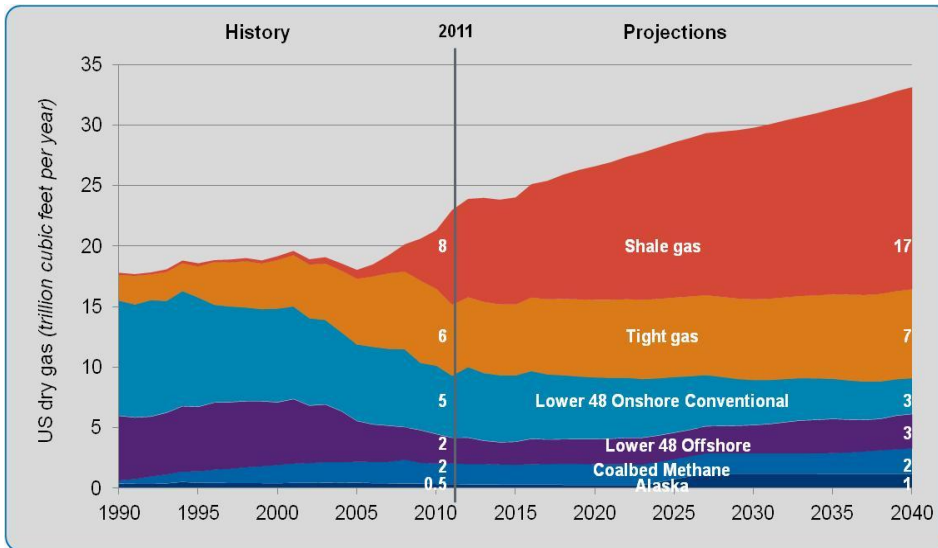
My name is André de Ruyter and I am Senior Group Executive for Global Chemicals and North American Operations for Sasol Limited.

Sasol is an international, integrated energy and chemicals manufacturing company that employs more than 34,000 people in 38 countries. We build and operate large-scale petrochemical facilities using proprietary and licensed technologies to produce a range of products, including liquid fuels, chemicals and electricity. Headquartered in Johannesburg, South Africa, Sasol is listed on the New York and Johannesburg stock exchanges (NYSE Euronext and JSE).

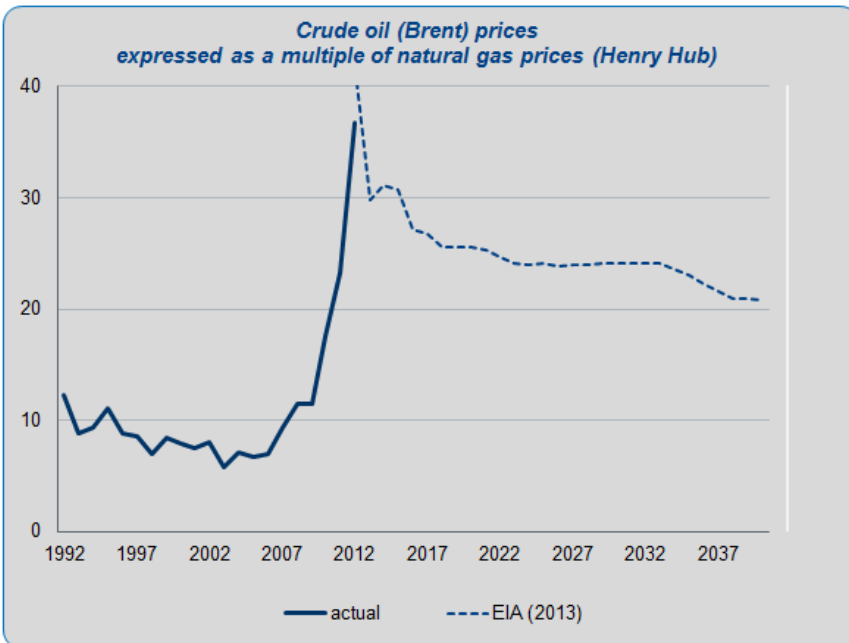
Sasol's U.S. headquarters are located in Houston, Texas, and our current U.S. operations are located in Westlake, Louisiana; Tucson, Arizona; Houston, Texas; and Richmond, California where we produce a range of chemical products for the domestic and export markets. Sasol is committed to U.S. operations that meet or exceed all applicable safety and environmental standards and provide a safe working environment for our employees, as well as being a good neighbor to the communities in which we operate.

The U.S. shale gas revolution, coupled with the current wide differential between gas and oil prices (which we anticipate to persist over the long term), have created attractive opportunities for Sasol's further growth and investment in the U.S. market. Specifically, the rapid

development of American natural gas resources drives the need to monetize and diversify the use of these resources, and Sasol is uniquely positioned to do so through our transformational gas-to-liquids (GTL) technologies.



Natural gas production by source, 1990-2040 (Source: Energy Information Administration 2013 Annual Energy Outlook)



Crude oil (Brent) prices expressed as a multiple of natural gas (Henry Hub) prices

The U.S., and Louisiana in particular, offer a business-friendly climate with predictable regulatory structures, which is a critical factor when evaluating capital-intensive business expansion opportunities. The U.S. Gulf Coast has a robust energy and chemicals industry with access to the best natural gas infrastructure in North America, a highly skilled workforce and tremendous depth of engineering resources.

Seizing on these opportunities, Sasol announced in December 2012 that we would begin front-end engineering and design (FEED) work for a world-scale ethane cracker and an integrated GTL facility, to be co-located on property adjacent to Sasol's existing chemical complex near the town of Westlake, Louisiana. We estimate the combined cost of these projects at between \$16 and \$21 billion, making it the single largest manufacturing investment in Louisiana's history and possibly one of the largest foreign direct investment manufacturing projects ever in U.S. history.

The world-scale ethane cracker will enable Sasol to expand its differentiated ethylene derivative business in the U.S. The facility will produce an estimated 1.5 million tons per annum (mtpa) of ethylene, helping to strengthen U.S. manufacturing, boost exports and spur economic growth.

The ethylene produced in our chemical facility will be used to produce a range of high-value derivatives including ethylene oxide, mono-ethylene glycol, ethoxylates, polyethylene, alcohols and co-monomers that will further strengthen Sasol's position in the global chemicals market.

The final investment decision (FID) for the ethane cracker and ethylene derivatives facility is expected to be taken in 2014.

The GTL facility, the first of its kind in the U.S., will be a game-changer for America's energy future. While natural gas has emerged as a major energy source in the global power generation market, it has, until recently, lacked the versatility to address other pressing energy needs, specifically transportation fuels. Now, with our proven GTL technology, for which Sasol is globally recognized as a commercial and technical pioneer, natural gas can be transformed into a range of high-quality fuels and chemical products.

Contrasted from liquefied natural gas (LNG), in which natural gas is essentially chilled to very low temperatures to facilitate transportation, GTL technology fundamentally alters the chemistry of natural gas so it can be converted into liquid fuels and chemicals, including GTL diesel fuel for transportation. Diesel will continue to be the workhorse of the global economy for the foreseeable future with demand expanded to grow 65% by 2040.¹

Unlike other proposed alternatives to conventional petroleum-based fuels, GTL diesel is fully fungible with conventional diesel and can therefore be used neat or as a blend stock in existing diesel vehicles and in existing fuel delivery infrastructure without modifications. GTL diesel's high quality makes it an ideal blend stock for refiners to upgrade heavier products into higher quality diesel fuels.

Used on its own, however, GTL diesel is a cleaner-burning, next-generation fuel with significant environmental benefits. It's virtually free of sulfur and aromatic compounds, and its use in transportation - especially in older vehicles without advanced exhaust after treatment systems -

¹ Exxon Mobil. *The Outlook for Energy: A View to 2040*. Irving, Texas: March 2013.

reduces emissions of particulates and other pollutants, helping to improve ambient air quality and meet emission mandates.

Additionally:

- On a lifecycle basis, the greenhouse gas (GHG) emissions of GTL diesel are equivalent or lower than conventional diesel produced from refining of crude oil.²
- GTL diesel has a cetane number well in excess of 70, compared to the ultra-low sulfur diesel fuel specification in the U.S. of 40. High cetane number, low aromatic and highly paraffinic diesel fuels, such as GTL diesel, reduce the emission of oxides of nitrogen (NO_x) and form the basis of low emissions diesel regulations as practiced in the states of California and Texas.
- A recent California Air Resource Board (CARB) study showed that GTL diesel has comparable or better emission characteristics as compared to conventional petroleum-based CARB diesel.³
- Sasol is currently working with the Argonne National Laboratory to estimate the GHG savings associated with blending GTL diesel in U.S. refineries.

GTL diesel has a number of performance benefits, including cleaner and more efficient combustion, improved cold start properties and reduced noise. GTL diesel's high cetane number also lessens buildup of deposits in the engine, which reduces wear and extends engine and lubricants life.

² Grant S. Forman, Tristan E. Hahn and Scott D. Jensen. *Greenhouse Gas Emission Evaluation of the GTL Pathway*. Environmental Science and Technology. American Chemical Society, September 22, 2011.

³ California Environmental Protection Agency. *Discussion of Conceptual Approach to Regulation of Alternative Diesel Fuels*. February 15, 2013.



The oil from a vehicle fueled by GTL diesel, compared to the oil from an identical vehicle running on convention diesel, following an overland expedition from South Africa to Qatar.

Our GTL facility in Louisiana will convert natural gas into more than 96,000 barrels per day of product. The plant will consume approximately 1 billion cubic feet per day (Bcf/d) of natural gas, compared to average U.S. natural gas consumption of approximately 70 Bcf/d in 2012.⁴ The current project costs for the GTL facility are estimated to be between \$11 and \$14 billion.

Approximately 70% of the production will be ultra low-sulfur GTL diesel, with naphtha and liquid petroleum gas (LPG) as co-products. The remaining 30% of production will be chemical products, including paraffin feedstock for linear alkyl benzene (LAB), wax products and synthetic base oils.

- Liquefied Petroleum Gas is a mix of hydrocarbon gases used as a fuel in heating appliances and vehicles, commonly sold as propane, butane or a mixture of both.

⁴ Energy Information Administration. *Short-Term Energy Outlook 2013*. Washington: June 2013.

- GTL naphtha is a high quality liquid feedstock for cracking which could find application in this area, but is also an ideal diluent for heavy hydrocarbons such as are extracted from oil sands. Both of these are considered attractive market opportunities for GTL naphtha.
- GTL base oils are premium feedstock for the production of high quality synthetic lubricants that help engine manufacturers meet increasingly stringent fuel economy and emission standards.
- GTL paraffins are used in the production of LAB, a biodegradable chemical used in the detergents industry.
- GTL waxes have high purity and molecular linearity, making them ideal for use in the adhesives and polymers industries, and for production of industrial waxes and construction boards, as well as candles and personal care products.

Importantly, our proprietary GTL technology is not an experimental technology. It is fully proven and operating commercially today. In fact, Sasol has been producing liquid fuels and chemical products from natural gas and coal for more than 60 years. In partnership with Qatar Petroleum, we have successfully developed our first commercial scale synthetic fuel facility outside of South Africa – the ORYX GTL plant in Qatar - using natural gas as a feedstock. ORYX GTL, which is one third the size of what we intend to build in Louisiana, utilizes the same technology and is running reliably at about 106% of design capacity. The ORYX GTL facility has produced more than 45 million barrels of synthetic fuel since start-up in 2007, and with a world-class safety record (zero recordable incidents last year) it is the benchmark for Sasol GTL facilities worldwide.



Sasol's ORYX GTL facility in Ras Laffan, Qatar

We are currently advancing two other projects using Sasol's proprietary GTL technology in countries with abundant natural gas resources. The first is a partnership between Chevron and the Nigerian National Petroleum Company with the same capacity as ORYX GTL, and it is currently in the process of commissioning in Nigeria. The second is a partnership with Uzbekneftgaz and PETRONAS in Uzbekistan. We will be completing the FEED phase for this project during the second half of this year, which will enable us to make a final investment decision.

Beyond the benefits our products will bring to the U.S. energy and chemicals industries, these projects in Louisiana will have a significant impact on the U.S. economy.

With its combined cost estimated at between \$16 and \$21 billion, the GTL and ethane cracker projects together will create more than 1,200 permanent jobs with an average salary of \$88,000, 7,000 construction jobs at peak construction, and thousands of indirect jobs in Louisiana and across the U.S. The total economic impact of the projects over the next 20 years has been

independently estimated at \$46.2 billion, according to an economic impact study commissioned by Louisiana Economic Development and completed by the Louisiana State University Division of Economic Development.⁵

Further, our commitment goes beyond these projects and extends directly into the local communities. We intend to continue to be a good and caring neighbor and operate in a safe, socially and environmentally responsible manner.

The U.S. will also see economic benefits in the form of increased tax revenue, increased GDP, and improved balance of trade through substantial in-country value addition to natural gas.

In addition to the positive impact on the U.S. economy, the benefits of Sasol's U.S. projects will extend back home, where we will continue to grow and create value for our shareholders, 70% of whom are located in South Africa. Sasol's U.S. projects are a compelling example of how bilateral trade can yield substantial foreign direct investment in the U.S., which represent a win-win for both the U.S. and South African economies.

⁵ Governor Bobby Jindal. *Governor Jindal and Sasol Announce Largest Manufacturing Investment in Louisiana History, Creating Over 7,000 Direct and Indirect Jobs*. Westlake, Louisiana: December 3, 2012.



Sasol's Secunda Facility in South Africa

Sasol is proud to be driving forward with the next phase of our strategic growth in the U.S.

Through our innovative energy and chemicals technologies, we will provide the U.S. with world-class, cleaner-burning fuel, contribute to the country's energy security, boost downstream manufacturing capacity, and diversify the utilization of U.S. domestic gas resources.

We encourage Congress to continue to promote policies that enable industry to unlock the potential of America's clean, abundant natural gas resources, enhance domestic manufacturing and foster economic growth.

Again, thank you for the opportunity to appear before you today. I would be happy to respond to any questions.