ALASKA STATE LEGISLATURE

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Senate Special Committee on Energy
Senate Special Committee on
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Co-Chair
Senate Resources Committee

Member
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Joint Armed Services Committee

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Sponsor Statement for Senate Bill 228: Tax Incentives for Gas-to-Liquids

Fischer-Tropsch is a chemical process through which synthesized gas is converted into a liquid hydrocarbon. The liquid hydrocarbons created through a Fischer-Tropsch process are a synthetic crude oil or synthetic diesel fuel that are both significantly cleaner burning than traditional oil or even ultra-low sulfur diesel, and command a premium in the market. The synthesized gas required by the process can be created from a wide variety of resources, ranging from wood and biomass to coal or natural gas. The technology is therefore often described as either a: BTL (biomass-to-liquids), CTL (coal-to-liquids), GTL (gas-to-liquids) or XTL ("X" resource-to-liquids) process.

Alaska has prolific coal, biomass and natural gas reserves that could provide the resources necessary for a robust XTL industry. When coupled with the growth in worldwide demand for the cleaner synthetic crude oils and clean diesels created through the Fischer-Tropsch processes, XTL technology presents an important opportunity for Alaska. XTL is a value-added, labor intensive process that can provide thousands of high-paying jobs in the State.

However, XTL facilities are capital intensive investments that often require billions of dollars and hundreds of thousands of man hours to construct. This is why Senate Bill 228 provides a corporate income tax credit for the construction of an XTL facility in Alaska. SB 228 allows a company to claim a credit against their future corporate income taxes based on a declining percentage of the first billion dollars of investment they make in Alaska. The amount of tax credits they may claim in any given year is limited to 60% of their tax liability, which ensures Alaska will have the revenue to provide this incentive.

SB 228 also clarifies that gas used in Alaska for value added industries like GTLs or petrochemicals receives the same tax treatment as gas used to generate electricity or heat Alaskans homes.

South Africa has been producing diesel from coal and natural gas for generations. Through XTL technology they have created an extensive value-added industry that is a foundation for their economy. The purpose of SB 228 is to open Alaska to these promising technologies and attract the investment necessary to establish a vibrant, value-added economy in Alaska.

SENATE BILL NO. 228

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY SENATORS MCGUIRE, Wielechowski, Ellis

Introduced: 1/19/10
Referred: Resources, Finance

A BILL

FOR AN ACT ENTITLED

"An Act providing for an industrial incentive investment tax credit and including a gas-to-liquids facility as an eligible investment; and providing for a production tax limit on gas used as a raw material for producing liquids or petrochemicals from gas in the state."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20.042(a) is amended to read:

(a) Subject to (c) of this section, for purposes of calculating eligible taxes the taxpayer may apply as a credit against eligible taxes the following percentage of the investment credit allowed as to federal taxes under 26 U.S.C. 38 (Internal Revenue Code) on only the first **$1,000,000,000** [$250,000,000] of qualified investment in the state for each taxable year after **December 31, 2010** [DECEMBER 31, 1984], for a [GAS PROCESSING PROJECT] **gas-to-liquids facility**: (1) 100 percent on the first $50,000,000 of qualified investment; (2) 80 percent on qualified investment over $50,000,000 but not exceeding $100,000,000; (3) 70 percent on qualified investment

over $100,000,000 but not exceeding $150,000,000; (4) 60 percent on qualified investment over $150,000,000 but not exceeding $200,000,000; and (5) 40 percent on qualified investment over $200,000,000 but not exceeding **$1,000,000,000** [$250,000,000]. A credit may not be allowed under this subsection for [AN INVESTMENT CREDIT THAT IS ALLOWED AS TO FEDERAL TAXES FOR] leased property [BY REASON OF 26 U.S.C. 168(f)(8) (INTERNAL REVENUE CODE). IN THIS SUBSECTION, "GAS PROCESSING PROJECT" MEANS THE INTEGRATED PLANT, FACILITIES, AND EQUIPMENT, INCLUDING POLLUTION CONTROL EQUIPMENT, USED FOR PREPARATION OF CONSUMER OR TRANSPORTATION GAS, OR FOR CONDITIONING, FRACTIONATION, STORAGE, HANDLING OR PROCESSING OF A PRODUCT, OTHER THAN CRUDE OIL, OF AN OIL OR GAS WELL, INTO LIQUEFIED NATURAL GAS, METHANOL, AMMONIA, UREA, OLEFINS, PROPANES, BUTANES, POLYMERS AND INTERMEDIATE HYDROCARBON PRODUCTS; IT DOES NOT INCLUDE A PIPELINE FROM OIL AND GAS WELLS TO OR FROM A PLANT AND FACILITIES].

*** Sec. 2.** AS 43.20.042(b) is amended to read:

(b) Subject to (c) of this section, for purposes of calculating eligible taxes the taxpayer may apply as a credit against eligible taxes the following percentage of the investment credit allowed as to federal taxes under 26 U.S.C. 38 (Internal Revenue Code) on only the first **$1,000,000,000** [$250,000,000] of qualified investment in the state for each taxable year after **December 31, 2010** [DECEMBER 31, 1984], for exploration, drilling of wells, development, or mining of the minerals and other natural deposits listed in 26 U.S.C. 613(b) (Internal Revenue Code) other than sand or gravel unless the mining of sand or gravel is ancillary to a mining development involving a qualified natural deposit other than sand or gravel: (1) 100 percent on the first $50,000,000 of qualified investment; (2) 80 percent on qualified investment over $50,000,000 but not exceeding $100,000,000; (3) 70 percent on qualified investment over $100,000,000 but not exceeding $150,000,000; (4) 60 percent on qualified investment over $150,000,000 but not exceeding $200,000,000; and (5) 40 percent on qualified investment over $200,000,000 but not exceeding **$1,000,000,000**

[$250,000,000]. A credit may not be allowed under this subsection for [ANY INVESTMENT CREDIT THAT IS ALLOWED AS TO FEDERAL TAXES FOR] leased property [BY REASON OF 26 U.S.C. 168(f)(8) (INTERNAL REVENUE CODE)]. [IN THIS SUBSECTION, "MINING" HAS THE MEANING GIVEN IN 26 U.S.C. 613(C)(2) (INTERNAL REVENUE CODE).]

*** Sec. 3.** AS 43.20.042(c) is amended to read:

(c) A taxpayer may not claim an investment tax credit under (a) or (b) of this section unless the [GAS PROCESSING PROJECT] **gas-to-liquids facility** or mining project began operation and production after **December 31, 2010** [DECEMBER 31, 1984]. A [GAS PROCESSING] **gas-to-liquids** or mining project is considered to have begun operation and production when the first [PRODUCT] **liquids from gas** or **the first minerals are** [MINERAL IS] produced that **are** [IS] ultimately either sold or transferred for further processing or ultimate use.

*** Sec. 4.** AS 43.20.042(f) is amended to read:

(f) The investment tax credit per taxable year allowed by (a) and (b) of this section may not exceed 60 percent of the eligible tax liability. Any unused portion of the investment tax credit shall be subject to the carry forward provisions **applicable to a business credit** in **26 U.S.C. 39,** [26 U.S.C. 46(b)(3)] (Internal Revenue Code) except that the unused credit may not be carried forward to tax years beginning after **December 31, 2025** [DECEMBER 31, 1999].

*** Sec. 5.** AS 43.20.042(g) is amended to read:

(g) Except as provided in (f) of this section, a tax credit under this section may not be claimed on investments made after **December 31, 2020** [DECEMBER 31, 1994].

*** Sec. 6.** AS 43.20.042(h) is repealed and reenacted to read:

(h) In this section,

(1) "eligible taxes" means the total tax liability of a taxpayer for the annual taxes due under the provisions of this chapter and AS 43.65;

(2) "gas-to-liquids facility" means the integrated plant, facilities, and equipment used for producing liquids from natural gas;

(3) "mining" has the meaning given in 26 U.S.C. 613(c)(2) (Internal

Revenue Code).

* **Sec. 7.** AS 43.55.900(24) is amended to read:

(24) "used in the state" means delivered for consumption as fuel in the state, including as fuel consumed to generate electricity **or used by a person as raw material for producing liquids or petrochemicals from gas in the state**.

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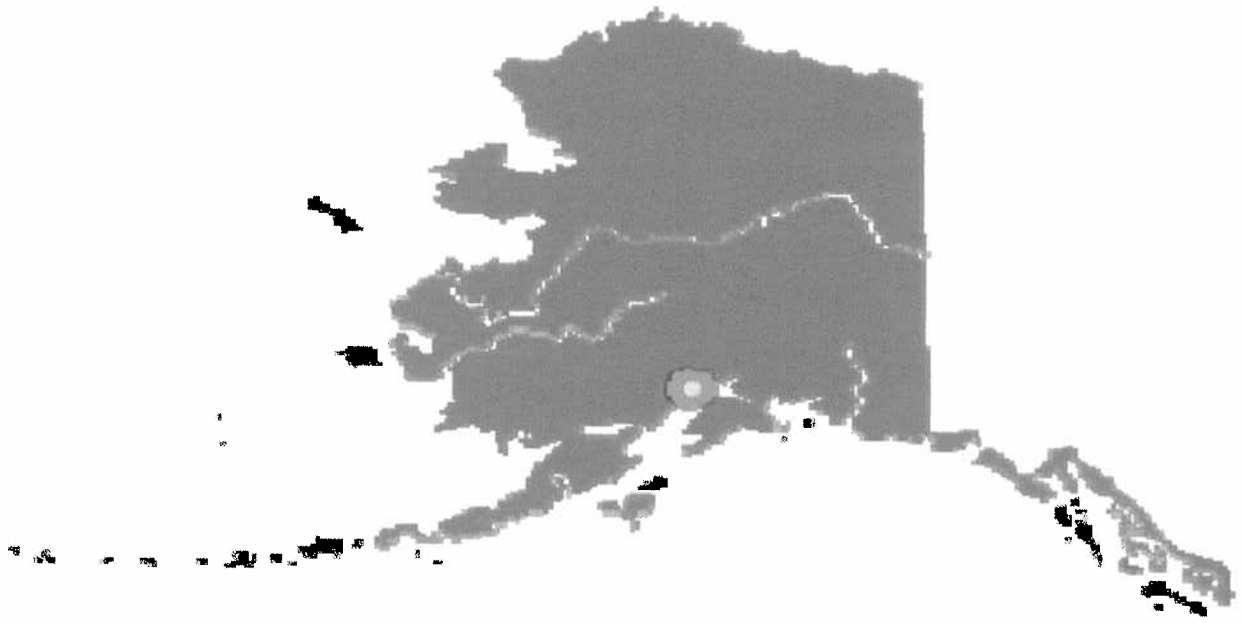
Senator.Lesil.McGuire@legis.state.ak.us

SB 228 Backup Materials Table of Contents

1. *Reaching New Energy Frontiers Through Competitive GTL Technology*. Sasol Corporation
2. *Issues in Focus; Bringing Alaska North Slope Natural Gas to Market*. U.S. Energy Information Administration, 2009 Annual Energy Outlook
    a. *Bringing Alaska North Slope Natural Gas to Market*. Unedited White Paper for 2009 Annual Energy Outlook
3. *Beluga Coal-Gasification Feasibility Study*. U.S. Department of Energy/National Energy Technology Laboratory
4. *Alaska West Cook Inlet Coal to Liquids Project*. State of Alaska, AIDEA power point.
5. *Advanced Coal Technology*: *Wyoming Coal to Liquids Technology and State Incentives*. Legislative Research Services

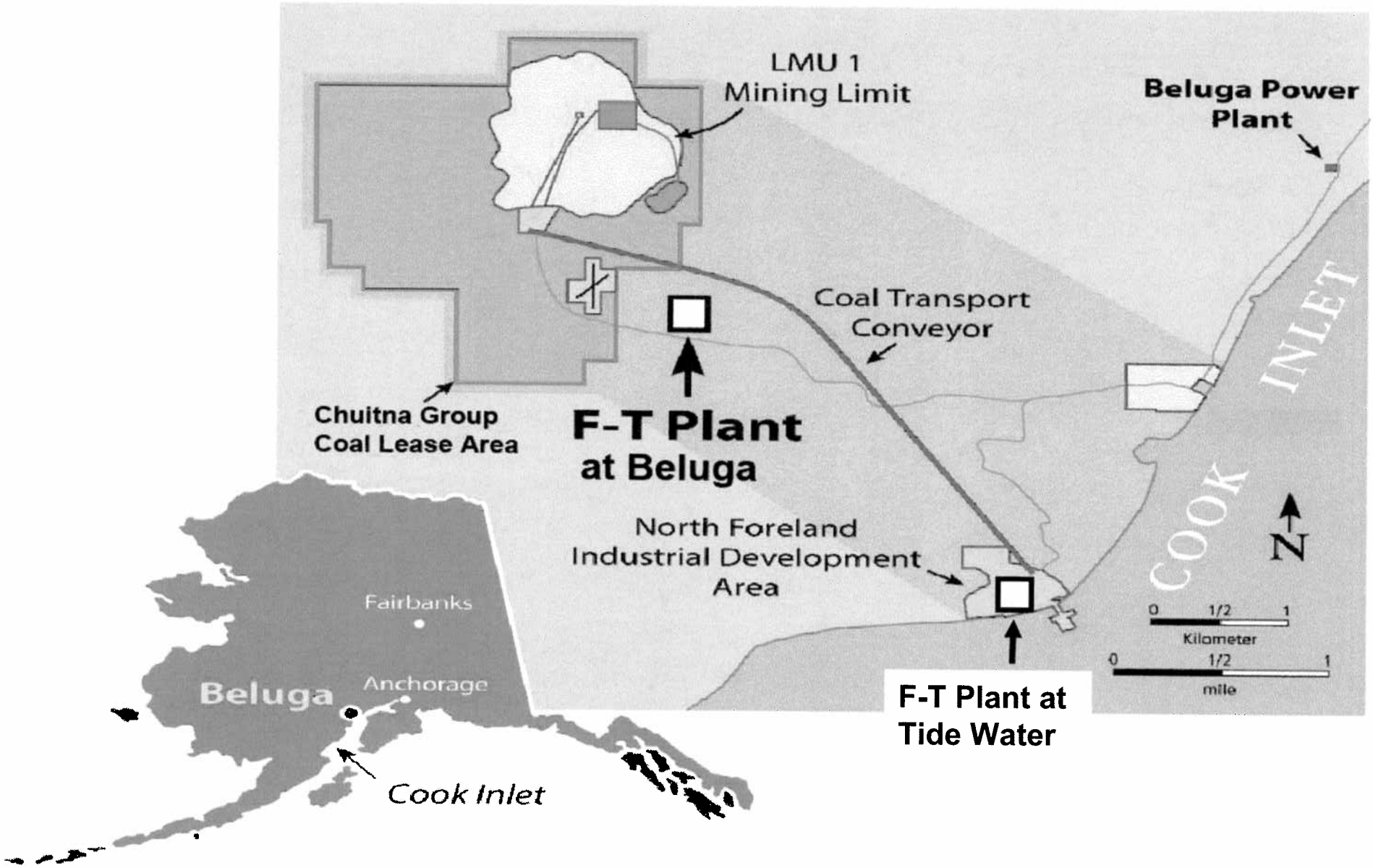
Additional information will be available electronically.

ALASKA WEST COOK INLET
Coal To Liquids Project



80,000 bbl/d Coal To Liquids "Beluga CTL Plant"

(Mine Mouth or Tide Water)



ALASKA BELUGA CTL PROJECT – THE RIGHT CHOICE...✓

- ☑ REASONABLE RATE OF RETURN FOR EQUITY OWNERS;
- ☑ Beluga CTL plant and coal reserves next to the tide water;
- ☑ The Beluga coal field has 50+ years of supply;
- ☑ CO_2 sequestering available through local depleted gas fields;
- ☑ CO_2 enhanced oil recovery in local reservoirs – 150 to 300 million barrels;
- ☑ Local electric market needs 350 to 450 MW of new power;
- ☑ 12 miles from electric grid serving 85% of Alaska's electric load;
- ☑ 10 miles from natural gas transmission system delivering 500 mmcf/d;
- ☑ Almost half of Alaska's population lives within 65 miles of CTL site;
- ☑ 80% of the engineering, design, fabrication, construction and operating companies serving Alaska's North Slope and Cook Inlet oil and gas industry are located within 45 miles of the proposed CTL site;

ADDITIONAL POINTS THAT WILL FAVOR AN ALASKA CTL PLANT

- ☑ 30 miles from Drift River oil export terminal - 500,000 bbl tankers;
- ☑ 20 miles from an existing
  - ☑ 70,000 bbl/d crude oil refinery - Tesoro
  - ☑ A 1.5 million ton/yr fertilizer plant – Agrium
  - ☑ A 1 million barrel tank farm with import/export dock and a products pipeline to the Anchorage fuels market;
- ☑ The Port of Anchorage 45 miles from CTL plant site;
- ☑ The State of Alaska has received a Federal Grant to build a bridge across the inlet from Anchorage to the west side of the Cook Inlet;
- ☑ The State of Alaska has obtained right of way & is looking at building a road and extending the Alaska Rail Road down the west side of the Cook Inlet to aid in commercial development;
- ☑ Alaska Rail Road could potentially provide tax free revenue bonds to aid in financing;
- ☑ Weather conditions similar to Chicago – not the arctic;
- ☑ The Alaska CTL site is a short tanker trip to one of the highest price fuel markets

WHAT DOES A BELUGA CTL PROJECT REPRESENT FOR ALASKANS?

- A $5 Billion World Class CTL Plant
- 1,300 Permanent Jobs
  - Over 5,000 during construction
- 2 Billion Barrels of Transport Fuels
  - Equivalent to a 6 billion bbl oil field
- 6 TCF of Natural Gas
  - Energy Equivalent in waste heat recovery
- 350 + Million Barrels of EOR Crude Oil
  - $1.75 billion in State Royalty money
- 380 MW of Low Cost Waste Heat Electricity
  - $900 million in rate payer savings over 15 years
  - Near Zero CO_2 Emission Electricity
- State and Local Tax Revenue
  - $1 billion in local tax revenue over 20 years
- Western Cook Inlet Land Development
- Over 16 Million ton/yr of Coal Production
- Manufacture of Value Added Products in Alaska

CONVERTING PROVEN WEST COOK INLET BELUGA COAL RESERVES INTO

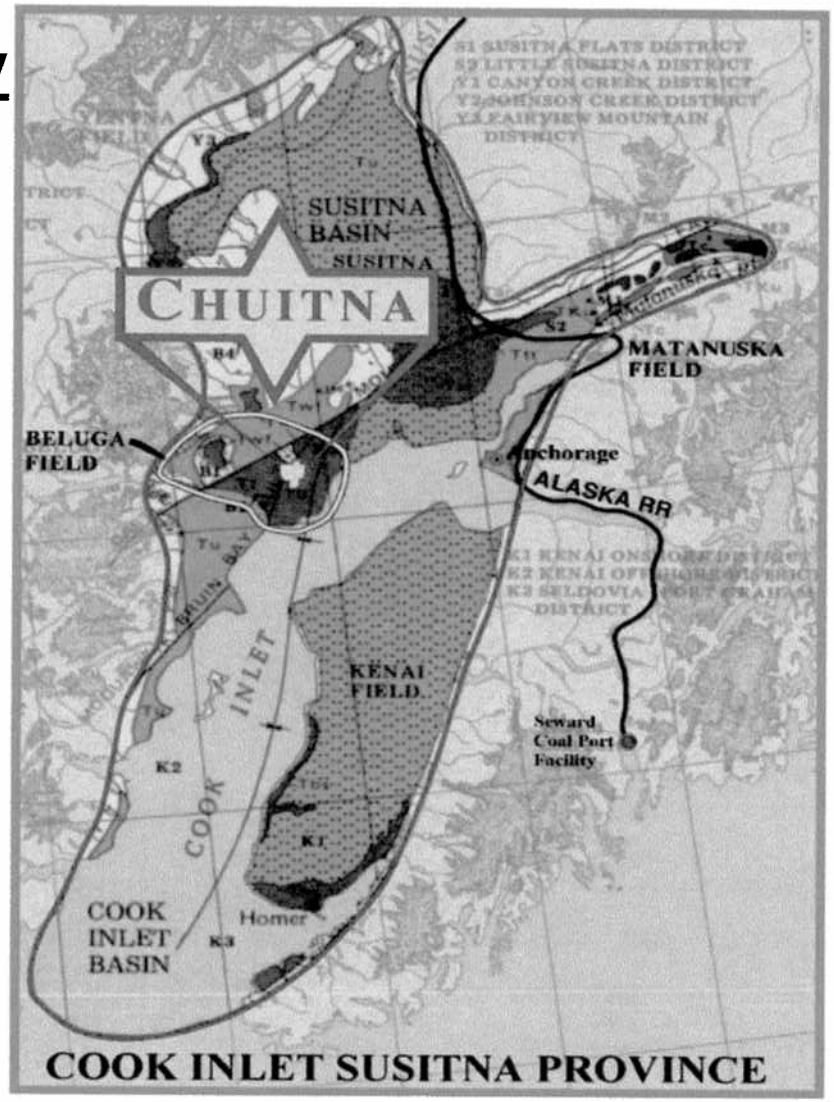
"PROVEN" TRANSPORTATION FUELS & PETROCHEMICAL FEED STOCKS

COOK INLET/SUSITNA COAL PROVINCE

Resource & Reserve Summary

million tons of coal – billion of barrels of equivalent liquids

Coal Resource	M-tons	B-bbls
• Hypothetical Resource	64,230	96
• Identified Resource	10,550	15.6
• Measured Resource	1,300	2.0
• Chuitna Measured Reserve	1,000	1.5
• Chuitna Proven Reserves	700	1.05
• Barrick Reserves	600	1.0



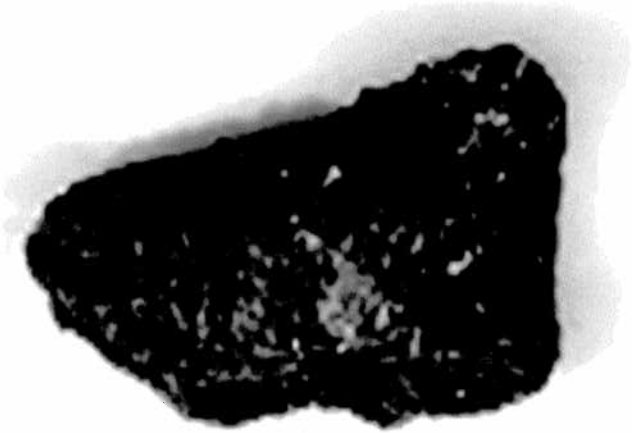
COAL TO LIQUIDS

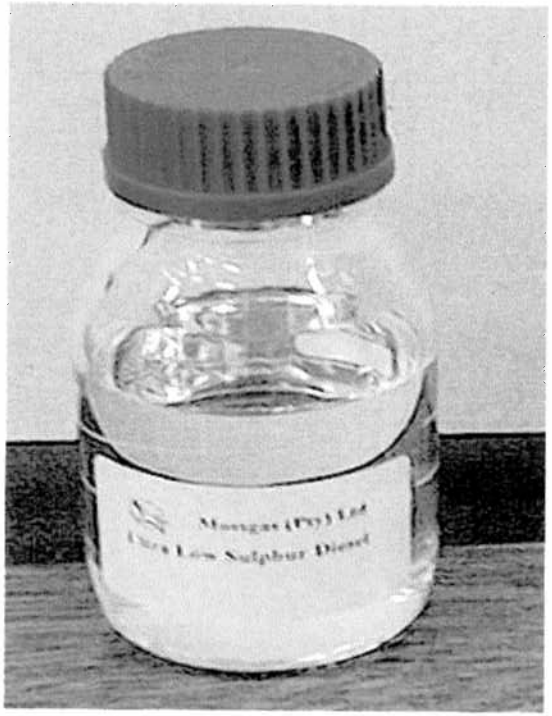
F-T DIESEL

BILLIONS OF TONS OF COAL

EQUALS

BILLIONS OF BARRELS



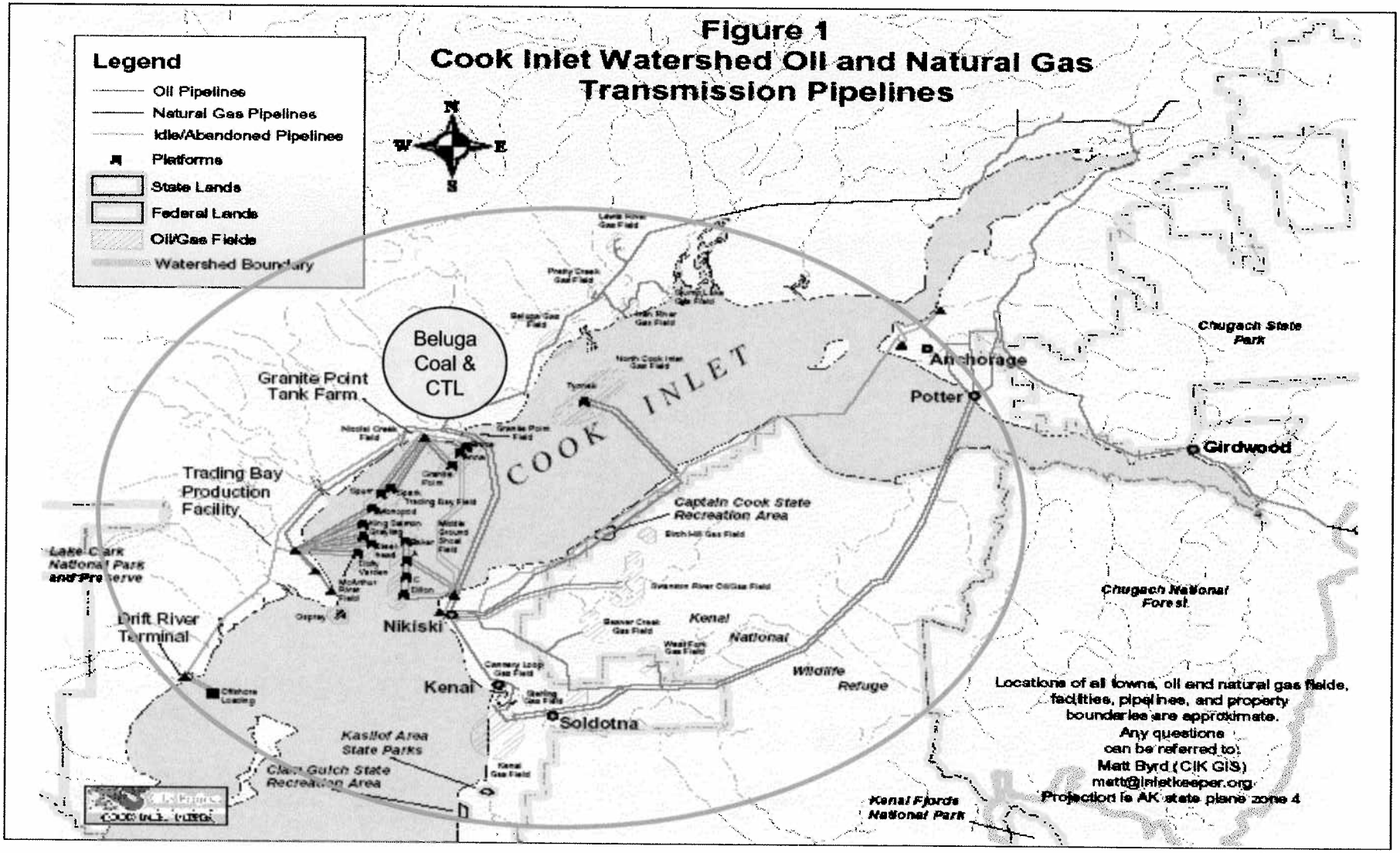


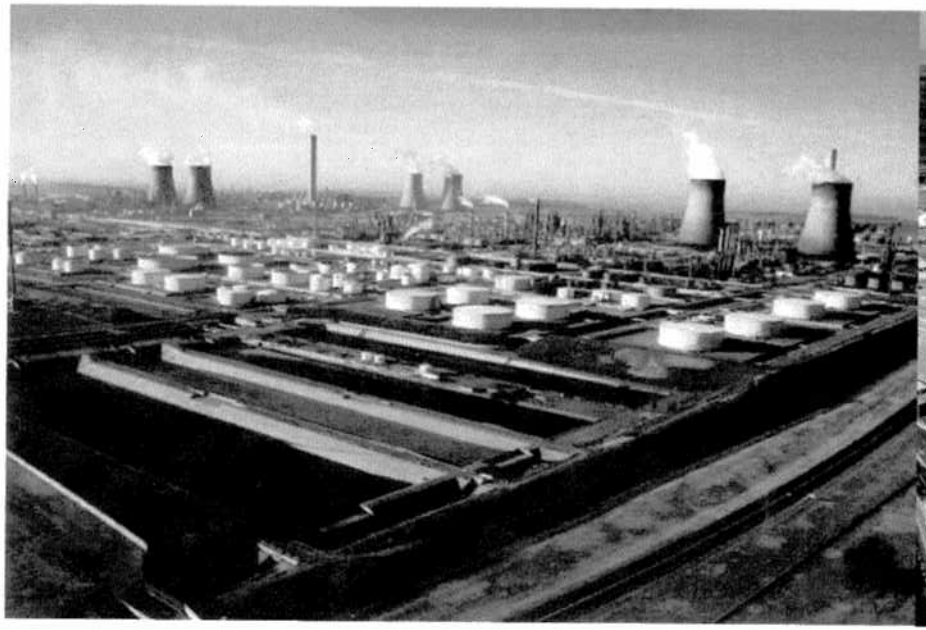
WHAT DOES 1.3 BILLION TONS OF WEST COOK INLET COAL REPRESENT

- 2 BILLION BARRELS OF FUELS
  - The SASOL F-T process will turn 1 ton of West Cook Inlet coal into 1.5 barrels of product
  - 1.5 barrels x 1.3 billion = 2 billion barrels of fuels
- 2 Billion of "RECOVERABLE" barrels
  - 2 Billion barrels of recoverable crude is the equivalent of a 6 Billion barrel oil find

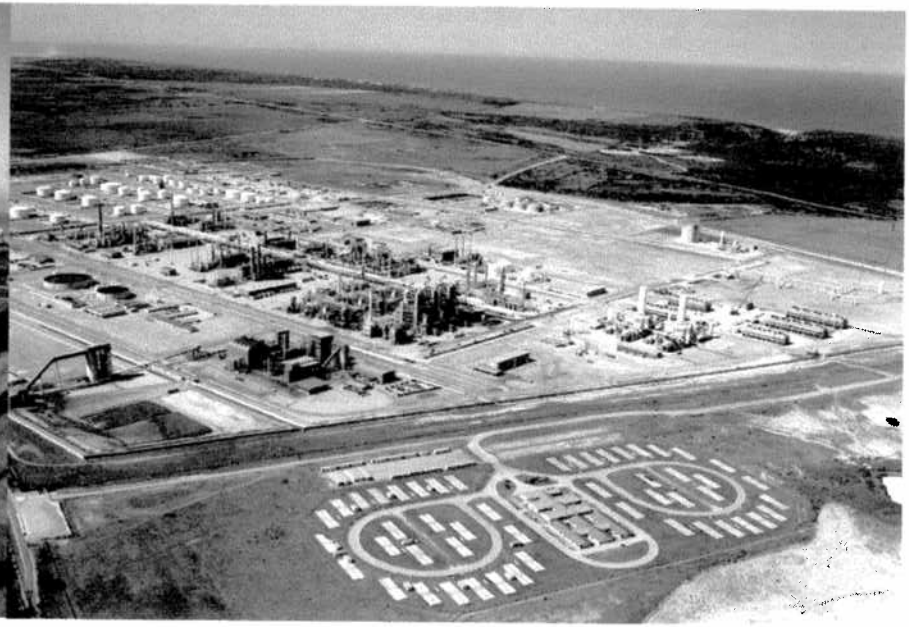
Note: the F-T conversion process depends upon the quality of the coal, (ie. the carbon content)
Assume that 3 to 4 tons of Alaska coal will produce 1 ton of F-T fuels. 1 ton of F-T fuels is approximately 326 gallons.
326 gallons is equal to 7.76 barrels thus 1 ton of Alaska coal could produce 2 to 2.6 barrels of finished fuels.

COOK INLET OIL & GAS FACILITIES





South African Secunda 150,000 BPD Coal to Liquids (CTL)



South African Mossgas 47,000 BPD Gas to Liquids (GTL)

Shell Bintulu 15,000 BPD Gas to Liquids (GTL)

THE F-T PROCESS IS COMMERCIAL

260,000 bbl/d already proven and operational in South Africa & Malaysia

500,000 bbl/d coming soon to Qatar

300,000+ bbl/d coming soon to China

A CTL/BTL PLANT PRODUCES FISCHER-TROPSCH (F-T) TRANSPORT FUELS AND PETROCHEMICAL FEEDSTOCKS SOME OF THE CLEANEST FUELS IN THE WORLD

BUT WHAT IS THE F-T PROCESS?

The Fischer-Tropsch Synthesis

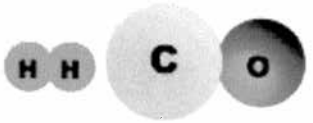
$$2\,CO(g) + H_2(g) \rightarrow (\text{-}CH_2\text{-})_n(l) + CO_2(g) + H_2O$$

Okay, don't let the chemistry scare you!

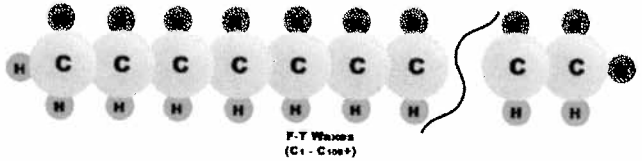
Let's take a look.....

Three Steps in GTL/CTL/BTL Refining to make F-T Fuels

GTL/CTL/BTL Processes use 3 distinct steps to convert a gas or solid into synthetic transport fuels:

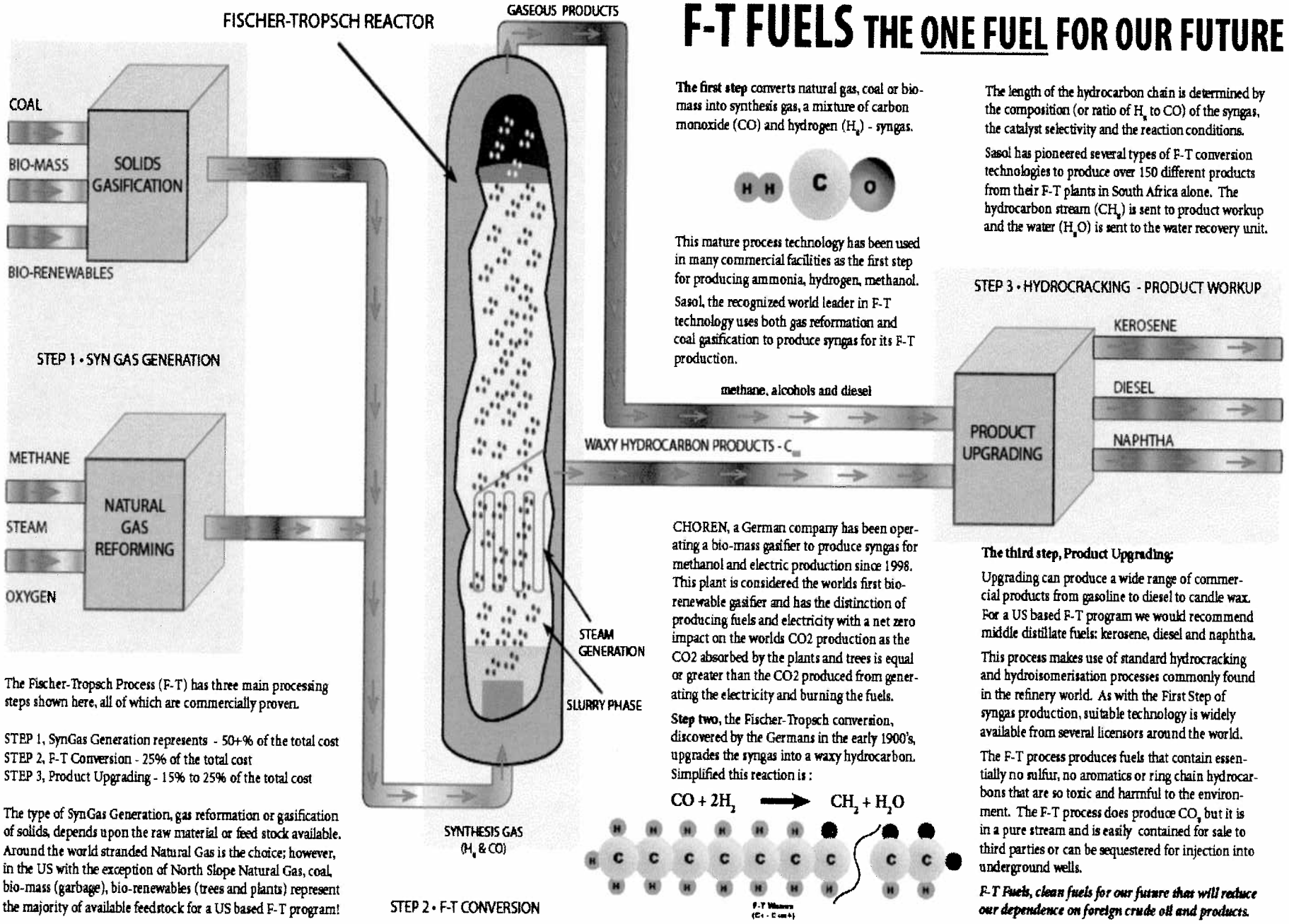


- Step 1 - Syn-Gas generation (H_2 & CO)
- Step 2 - The F-T reaction (paraffin wax)



- Step 3 - Product upgrading
  - Kerosene – Diesel – Gasoline - Jet Fuel - Naphtha

F-T FUELS THE ONE FUEL FOR OUR FUTURE



The first step converts natural gas, coal or bio-mass into synthesis gas, a mixture of carbon monoxide (CO) and hydrogen (H_2) - syngas.

This mature process technology has been used in many commercial facilities as the first step for producing ammonia, hydrogen, methanol.

Sasol, the recognized world leader in F-T technology uses both gas reformation and coal gasification to produce syngas for its F-T production.

The length of the hydrocarbon chain is determined by the composition (or ratio of H_2 to CO) of the syngas, the catalyst selectivity and the reaction conditions.

Sasol has pioneered several types of F-T conversion technologies to produce over 150 different products from their F-T plants in South Africa alone. The hydrocarbon stream (CH_2) is sent to product workup and the water (H_2O) is sent to the water recovery unit.

The Fischer-Tropsch Process (F-T) has three main processing steps shown here, all of which are commercially proven.

STEP 1, SynGas Generation represents - 50+% of the total cost
STEP 2, F-T Conversion - 25% of the total cost
STEP 3, Product Upgrading - 15% to 25% of the total cost

The type of SynGas Generation, gas reformation or gasification of solids, depends upon the raw material or feed stock available. Around the world stranded Natural Gas is the choice; however, in the US with the exception of North Slope Natural Gas, coal, bio-mass (garbage), bio-renewables (trees and plants) represent the majority of available feedstock for a US based F-T program!

CHOREN, a German company has been operating a bio-mass gasifier to produce syngas for methanol and electric production since 1998. This plant is considered the worlds first bio-renewable gasifier and has the distinction of producing fuels and electricity with a net zero impact on the worlds CO2 production as the CO2 absorbed by the plants and trees is equal or greater than the CO2 produced from generating the electricity and burning the fuels.

Step two, the Fischer-Tropsch conversion, discovered by the Germans in the early 1900's, upgrades the syngas into a waxy hydrocarbon. Simplified this reaction is :

$$CO + 2H_2 \longrightarrow CH_2 + H_2O$$

The third step, Product Upgrading:

Upgrading can produce a wide range of commercial products from gasoline to diesel to candle wax. For a US based F-T program we would recommend middle distillate fuels: kerosene, diesel and naphtha.

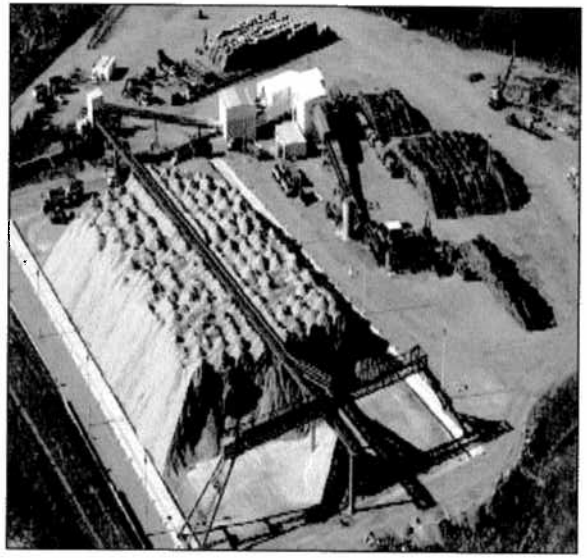
This process makes use of standard hydrocracking and hydroisomerisation processes commonly found in the refinery world. As with the First Step of syngas production, suitable technology is widely available from several licensors around the world.

The F-T process produces fuels that contain essentially no sulfur, no aromatics or ring chain hydrocarbons that are so toxic and harmful to the environment. The F-T process does produce CO_2 but it is in a pure stream and is easily contained for sale to third parties or can be sequestered for injection into underground wells.

F-T Fuels, clean fuels for our future that will reduce our dependence on foreign crude oil and products.

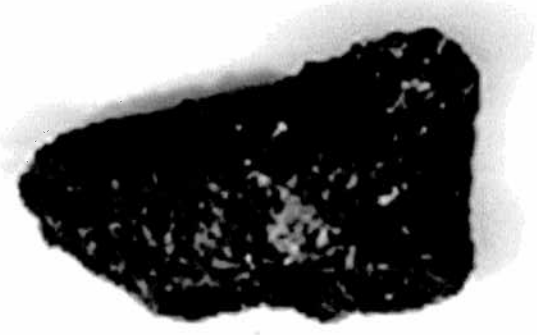
DIFFERENT DOMESTIC NATURAL RESOURCES –THE SAME END FUEL

wood - forests - plantations



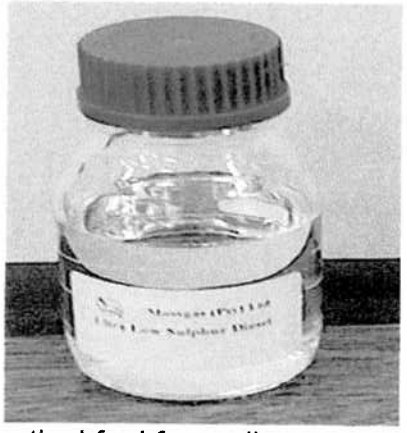
wood – residue / waste

MSW – garbage - treated human waste



coal

crops and agriculture wastes



identical fuel from all resources

SYNTHETIC DIESEL

F-T DIESEL
AS CLEAN AS CNG

U.S. EPA*
APPROVED

NON-TOXIC

ZERO SULFUR

ZERO AROMATICS

70 + CETANE

PM10 ≤ CNG

*EPA Water Docket, EB 57 located at 401 M Street SW Washington DC, 20460 Reference Docket No. W-98-26 in UNOCAL data file 4.A.a.3, Vol 13

WHAT DOES A BELUGA CTL PROJECT NEED TO BE SUCCESSFUL?

- **ATTRACT ONE OF THE WORLDS F-T TECHNOLOGIES TO ALASKA**
  - THERE ARE AT LEAST TWO F-T TECHNOLOGY OWNERS IN THE WORLD CAPABLE OF DESIGNING AND BUILDING A COMMERCIAL SCALE CTL PLANT!
    - **BOTH SASOL AND SHELL ARE BUILDING GTL PLANTS IN QATAR, 3 CTL PLANTS IN CHINA AND 1 IN AUSTRALIA**
    - **BOTH MAY BE PEOPLE CONSTRAINED TO PARTICIPATE IN MORE THAN 1 OR 2 ADDITIONAL CTL PROJECTS**
- ALASKA MUST BE COMPETITIVE WITH OTHER CTL/GTL PROJECTS ACROSS THE WORLD – (NEED *AS GOOD OR BETTER RETURN's*)
  - **(China, Australia, Indonesia, Iran, Qatar, South America)**
- ALASKA MUST BE BETTER THAN OTHER POTENTIAL CTL PROJECTS IN COAL RICH STATES IN THE LOWER 48
  - **Montana, Wyoming, Ohio, North Dakota, Illinois, Indiana, New Mexico, Arizona, Texas, Utah**
- IF ALASKA DOESN'T BUILD THE FIRST CTL PLANT IN THE US, IT MAY HAVE TO WAIT 10 TO 20 YEARS FOR THE NEXT OPPORTUNITY

WHAT DOES THE ALASKA BELUGA CTL PROJECT NEED?

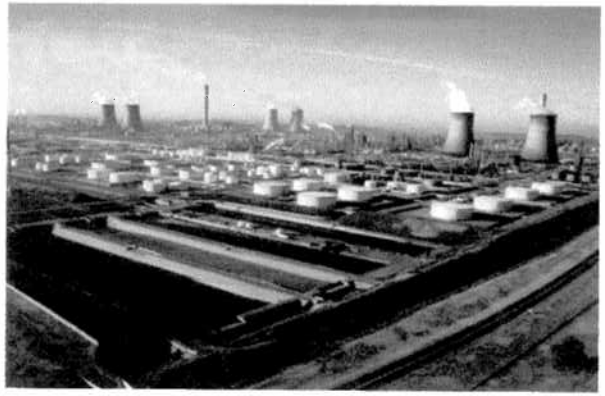
- THERE IS NO QUESTION THAT AT TODAY'S CRUDE OIL PRICES CTL IS ECONOMIC - HOWEVER
- BANKS DON'T LEND MONEY ON $50 CRUDE OIL PRICES
- S&P REQUIRES 1.5 TIMES DEBT COVERAGE AT $28 CRUDE OIL
- THE CURRENT 50¢/GALLON ENERGY CREDIT IN THE TRANSPORTATION BILL - HR-3 IS AN ANSWER - BUT
  - REQUIRES RENEWAL EVERY 5 YEARS
- EXTENDING (GUARANTEEING) THE TERM OF THE F-T ENERGY CREDIT IS ONE SOLUTION
  - Senate Bill 3325 (Coal to Liquids Fuel Promotion Act of 2006)

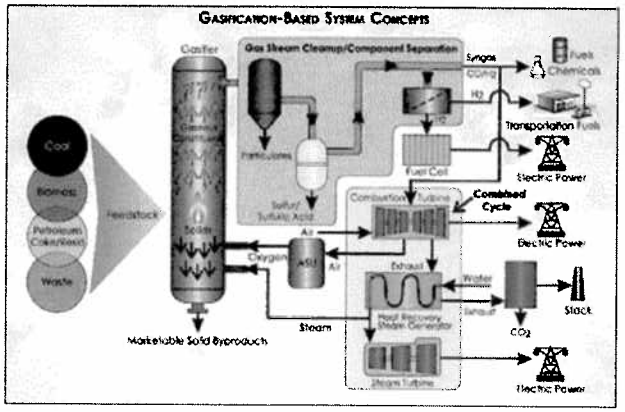
MORE THAN JUST A CTL PROJECT

HUNDREDS OF VALUE ADDED BUSINESSES ARE POSSIBLE

VALUE ADDED INDUSTRIES

- The Sasol CTL plants in South Africa produce over 150 different value added products from effluent streams.
- The North Dakota Gasification plant uses the Lurgi process to convert 6 million tons per year of lignite coal to syngas and liquids. The average daily production at Great Plains is about 160 million cubic feet of high quality pipe line natural gas.
- Many by-products are also produced at the plant, including: ammonium sulfate, anhydrous ammonia, carbon dioxide, dephenolized cresylic acid, krypton and xenon gases, liquid nitrogen, naphtha, phenol, and methanol.





SYN-GAS ECONOMICS

THE MARKET FOR SYN-GAS PRODUCTS IN ALASKA IS VERY LIMITED

IT CAN NOT SUPPORT A LARGE SCALE COMMERCIAL GASIFICATION COMPLEX!

Export is the only option

F-T Diesel - world market unlimited

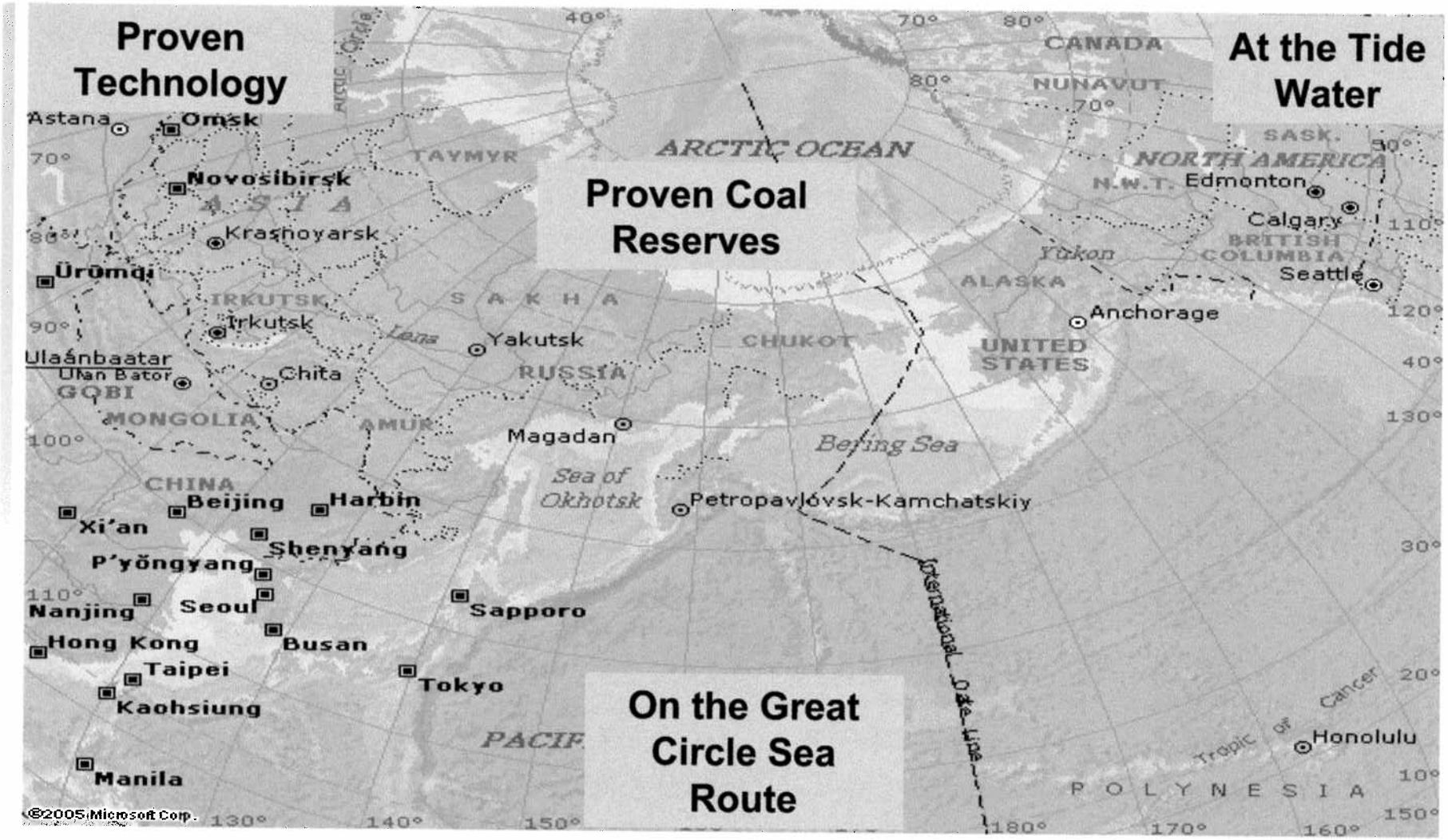
- 16 million barrels per day and growing (245 billion gallons per year)

California Diesel Market

- 420,000 barrels per day and growing (17 million gallons per day)

US WEST COAST THE PRIMARY MARKET FOR ALASKA CTL PRODUCTS

BELUGA CTL PROJECT
NEAR AN EXISTING DEEP WATER EXPORT TERMINAL



DRIFT RIVER EXPORT TERMINAL
COOK INLET, ALASKA

F-T FUEL TECHNOLOGY IS PROVEN BUT IS IT ECONOMIC ?

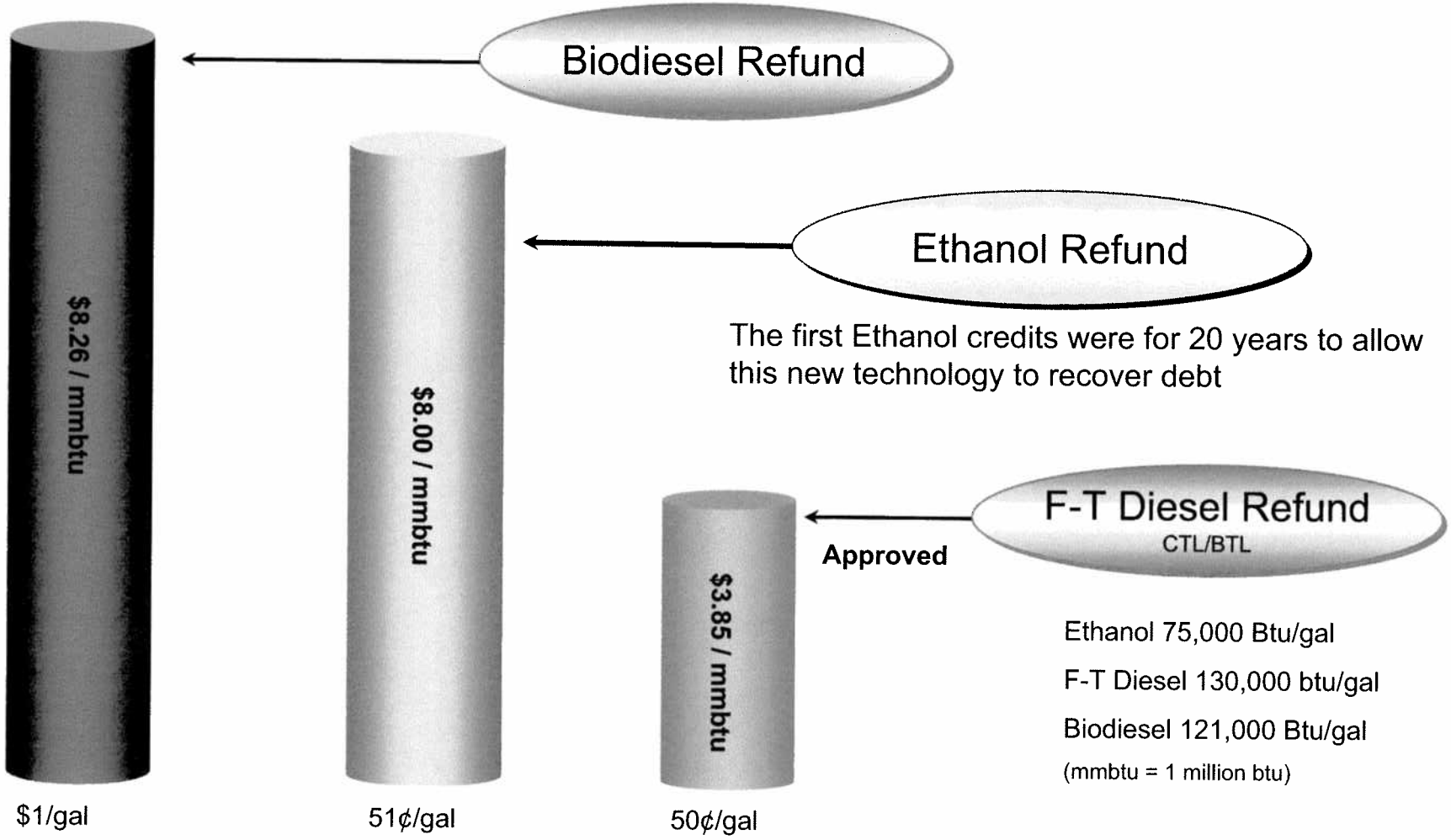
- Over 40 billion gallons of F-T fuels sold to date from BTL CTL and GTL plants around the world – It is proven !
- Over 500,000 bbl/d of new GTL plants under construction or planed for Middle East alone – it is commercial !
- At today's price of crude oil – they are economic !
- Commercial Banks don't lend money on today's crude oil price for projects

FISCHER-TROPSCH SUPPORT

COMPARED TO OTHER "ALTERNATIVE FUELS" IN THE US TODAY

Energy Credits for F-T Diesel (CTL - BTL)
On a $/million btu basis vs Biodiesel & Ethanol

(At the Federal level only)

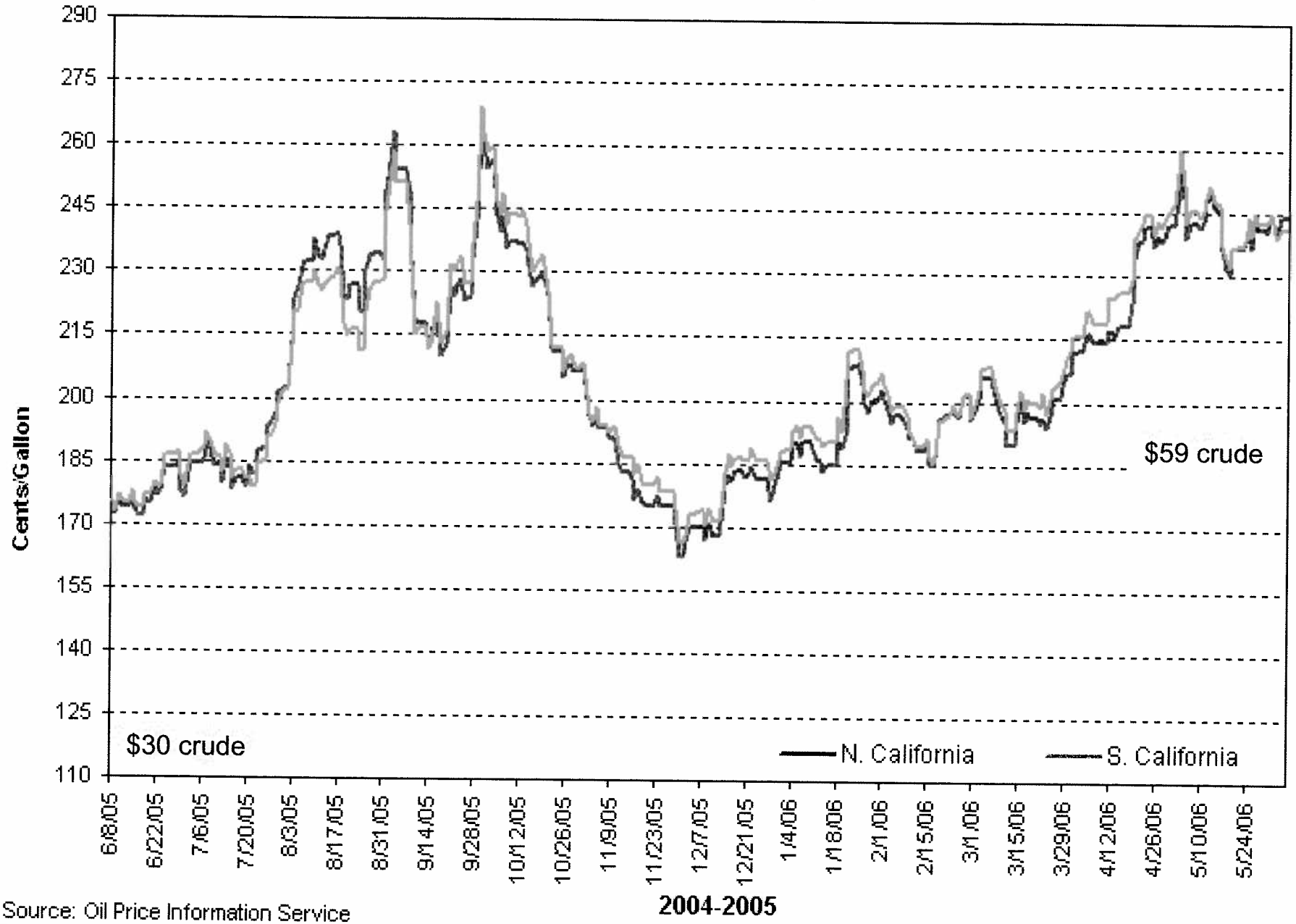


Energy Credits that F-T Diesel receives is less than half the Tax Credit of Biodiesel & Ethanol on a $/million btu basis

CURRENT FEDERAL SUPPORT FOR THE BELUGA CTL PROJECT

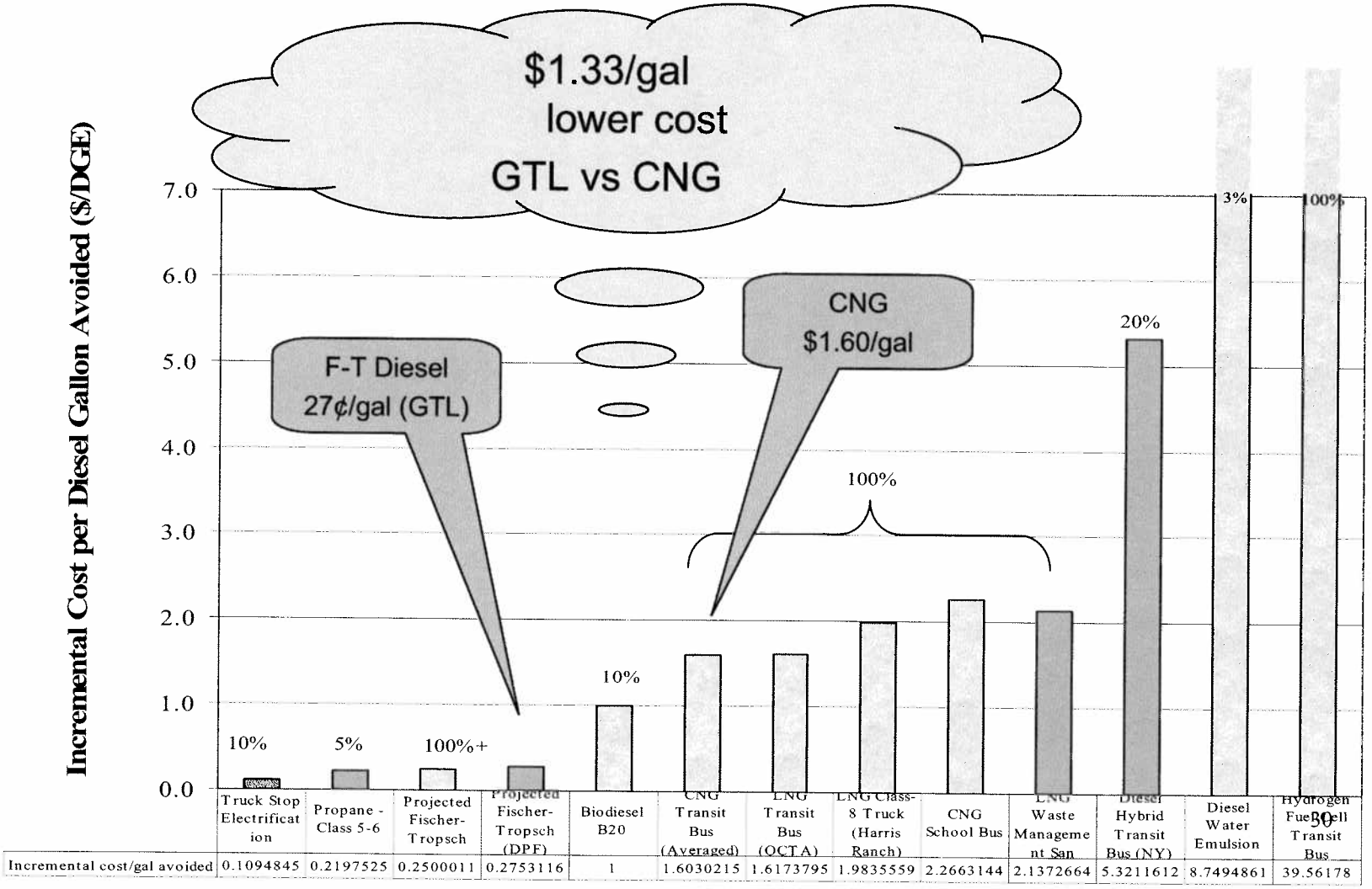
$500 + MILLION / YEAR

CARB Diesel Fuel Average Rack Prices
(As of 6/5/06)



Source: Oil Price Information Service

California Energy Commission "Cost of Fuel Options Study" for diesel vehicles



	Truck Stop Electrification	Propane - Class 5-6	Projected Fischer-Tropsch	Projected Fischer-Tropsch (DPF)	Biodiesel B20	CNG Transit Bus (Averaged)	LNG Transit Bus (OCTA)	LNG Class-8 Truck (Harris Ranch)	CNG School Bus	LNG Waste Management San	Diesel Hybrid Transit Bus (NY)	Diesel Water Emulsion	Hydrogen Fuel Cell Transit Bus
Incremental cost/gal avoided	0.1094845	0.2197525	0.2500011	0.2753116	1	1.6030215	1.6173795	1.9835559	2.2663144	2.1372664	5.3211612	8.7494861	39.56178

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM January 28, 2010

SUBJECT: Sectional Summary for SB 228 (Work Order No. 26-LS1324\R)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Donald M. Bullock Jr.
Legislative Counsel

You have requested a sectional summary of the above-described bill.

As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents. If you would like an interpretation of the bill as it may apply to a particular set of circumstances, please advise.

Section 1. Amends AS 43.20.042(a) to authorize a tax credit on the first $1,000,000 of qualified investment during a taxable year for a gas-to-liquids facility. The credit is applicable to investments made after December 31, 2010.

Section 2. Amends AS 43.20.042(b) to increase the amount of qualified investment for exploration, drilling of wells, development, or mining of certain minerals and other natural deposits that is eligible for a tax credit, to $1,000,000 for each taxable year. The credit is applicable to investments made after December 31, 2010.

Section 3. Amends AS 4320.042(c) to make the credits in secs. 1 and 2 only applicable to a gas-to-liquids facility or mining project that began operation and production after December 31, 2010. Describes when a gas-to-liquids or mining project is considered to have begun operation and production.

Section 4. Amends AS 43.20.042(f) by updating the reference to an Internal Revenue Code provision for carrying forward the investment tax credit. Provides that the credit may not be carried forward to a tax year beginning after December 31, 2025.

Section 5. Amends AS 43.20.042(g) by stating that investments made after December 31, 2020 are not eligible for the credit under AS 43.20.042, except as provided in AS 43.20.042(f).

Section 6. Repeals and reenacts AS 43.20.042(h) and includes definitions for term used in AS 43.20.042.

Section 7. Amends the definition of "used in the state" in AS 43.55.900(24). The definition is relevant to particular tax limits in AS 43.55 (Oil and Gas Production Tax and Oil Surcharge).

DMB:plm
10-041.plm

sasol
reaching new frontiers

reaching new energy frontiers

through competitive GTL technology

Sasol's integrated gas-to-liquids (GTL) solution offers significant economic, strategic and environmental benefits for many of the world's gas-rich countries. This proven technology – based on many years of focused research and development in Fischer-Tropsch synthesis technology in South Africa – presents an opportunity for gas-rich countries to diversify and expand their national energy sectors, while also substantially reducing the undesirable emissions produced by burning conventional diesel fuels.

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sasol at a glance

Leading the way through Fischer-Tropsch technology

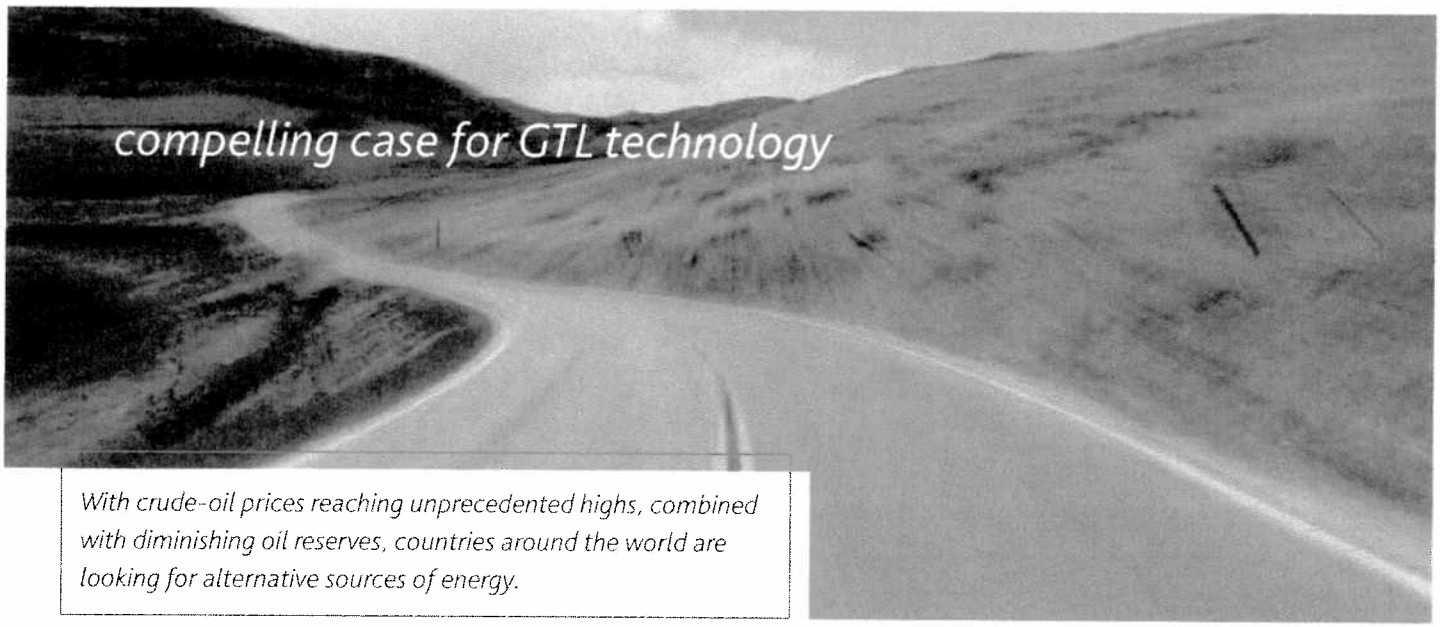
Sasol is an integrated oil and gas company with substantial chemical interests. Based in South Africa and operating worldwide, the company is listed on the New York Stock Exchange and the JSE stock exchange in Johannesburg, South Africa. Sasol is the leading provider of liquid fuels in South Africa and a major international producer of chemicals. It uses proprietary Fischer-Tropsch technologies to commercially produce synthetic fuels and chemicals from low-grade coal and natural gas.

Sasol has more than 50 years of proven commercial experience in producing synthetic fuels. Gas-to-liquids (GTL) technology is a step within the proven coal-to-liquids (CTL) technology that Sasol has perfected in South Africa. In fact, today, Sasol is world-renowned for operating the only world-scale coal-based synthetic fuel manufacturing facility in Secunda, south-east of Johannesburg. The Secunda plant produces 160 000 barrels a day (b/d) of fuel from coal.

Sasol manufactures more than 200 fuel and chemical products that are sold worldwide. In South Africa, Sasol also operates coal mines to provide feedstock for its synthetic fuels plants.

Sasol produces crude oil off the coast of Gabon, refines imported crude oil into liquid fuels in South Africa and retails liquid fuels and lubricants through a growing network of Sasol convenience centres and Exel service stations. Its liquid fuels interests also include wholesaling in South Africa and overland exports to several sub-Saharan African countries.

Sasol produces natural gas in Mozambique for supply to customers and as feedstock for some of its fuel and chemical production in South Africa. The company commissioned its first international joint-venture GTL plant in Qatar in 2006 and a second GTL plant is under construction in Nigeria for planned commissioning in 2009. These GTL ventures incorporate the proprietary Sasol Slurry Phase Distillate™ process.



With crude-oil prices reaching unprecedented highs, combined with diminishing oil reserves, countries around the world are looking for alternative sources of energy.

Rising to global energy challenges

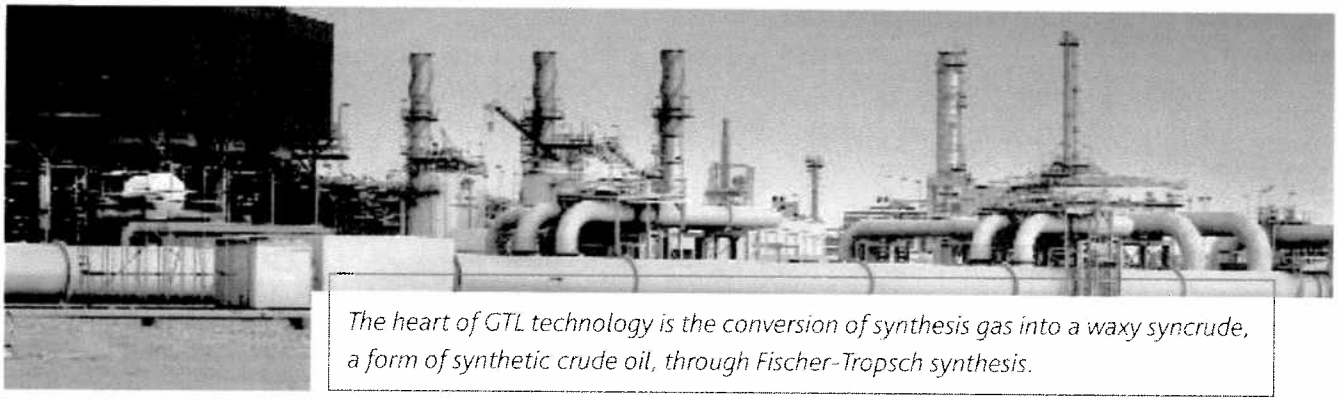
The case for investing in gas-to-liquids (GTL) fuel-production technology has become increasingly compelling. GTL technology offers an exciting opportunity for stakeholders to:

- *monetise underutilised natural gas resources;*
- *diversify economies and create new employment opportunities;*
- *reduce dependence on crude oil;*
- *counter geopolitical risks;*
- *use cleaner fuels and reduce emissions to the atmosphere; and*
- *manage dieselisation - the rapid growth in diesel-powered vehicles compared with their petrol-powered (gasoline) counterparts.*

With crude-oil prices reaching unprecedented highs (exceeding US$70,00 a barrel during May 2006), combined with diminishing oil reserves, countries around the world are looking for alternative sources of energy. Many are turning to gas. The world has abundant gas reserves, with an estimated 50% substantially underutilised.

Today, Sasol is providing its proven GTL technology to gas-producing countries like Qatar and Nigeria, allowing them to convert some of their gas reserves into a low-sulphur, low-aromatics form of synthetic diesel, GTL diesel. Backed by five decades of operational experience, as well as comprehensive research and development in Fischer-Tropsch process technology, Sasol has developed, and is marketing worldwide, its unique GTL technology, the Sasol Slurry Phase Distillate™ process.

understanding GTL technology



The heart of GTL technology is the conversion of synthesis gas into a waxy syncrude, a form of synthetic crude oil, through Fischer-Tropsch synthesis.

Turning gas into cleaner diesel

GTL technology comprises proven chemical processing technologies to convert natural gas into liquid fuels and related petrochemicals.

The heart of GTL technology is the conversion of synthesis gas into a waxy syncrude, a form of synthetic crude oil, through Fischer-Tropsch synthesis. Synthesis gas – or syngas – is a blend of hydrogen and carbon monoxide that can be used as the building block for producing more-complex molecules, such as those needed to make high-quality GTL diesel.

In the case of the Sasol Slurry Phase Distillate™ (Sasol SPD™) process, Sasol uses its proprietary low-temperature Slurry Phase Fischer-Tropsch technology to convert natural gas into GTL diesel, GTL naphtha and some liquefied petroleum gas (LPG). (See page eight).

Naphtha – a mixture of light hydrocarbons – is used as a feedstock for producing certain chemicals. GTL naphtha is ideal as a feedstock for producing ethylene. It is also ideal for fuel-cell applications.

LPG comprises gaseous hydrocarbons or petroleum gases such as propane, butane and pentane that are pressurised in liquefied form and used for heating.

The Fischer-Tropsch process – incorporated into both GTL technology and coal-to-liquids (CTL) technology – was first developed during the 1920s and has been advanced by Sasol in South Africa since the 1950s. Sasol's original Fischer-Tropsch research and development was focused on improving CTL technology.

During the 1980s, Sasol's focus began to include GTL technology. From this commitment, the group's unique GTL technology was born: the Sasol SPD™ process.

abundant gas reserves

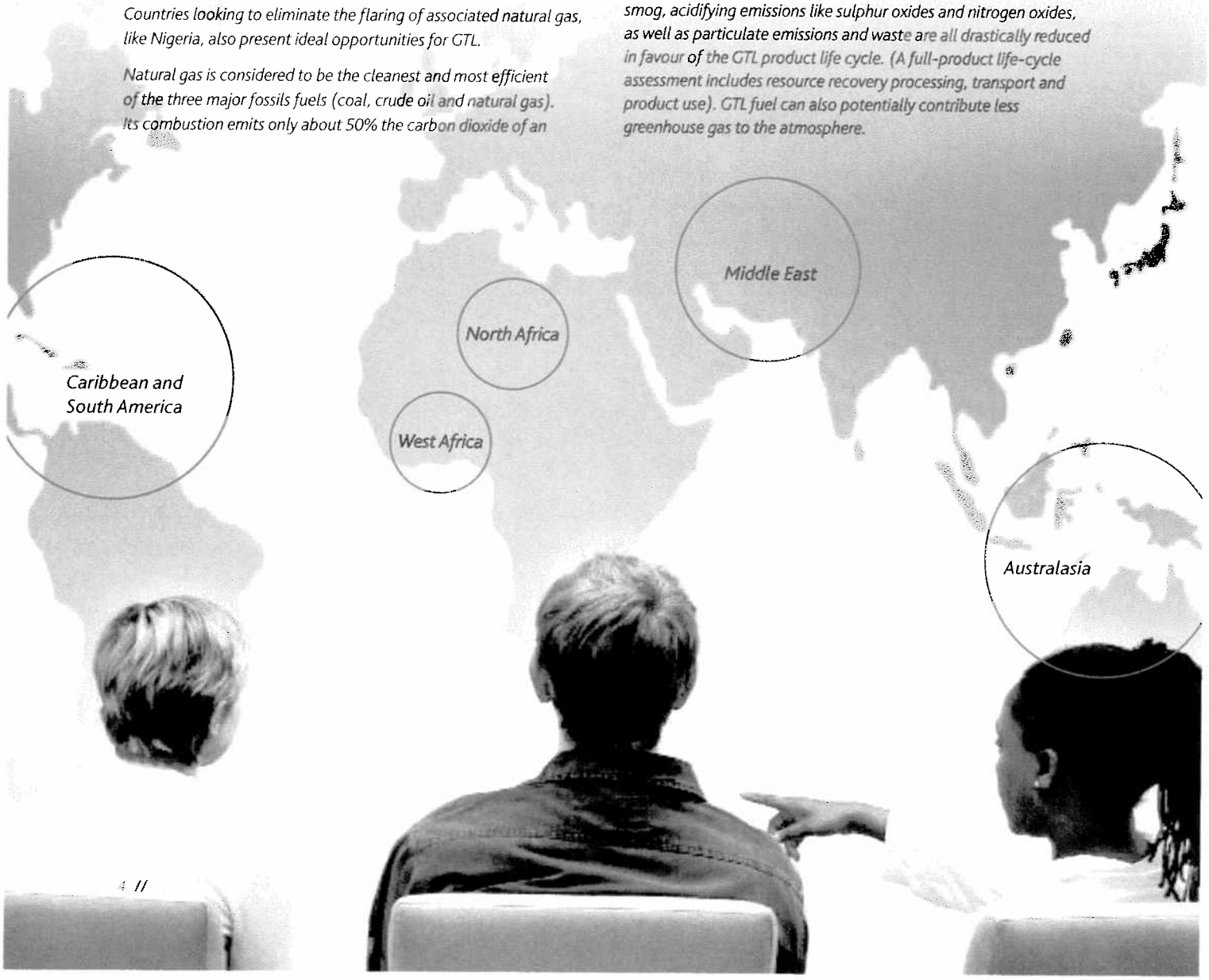
Providing an important new gas-monetisation solution

GTL plants are ideally suited for gas-rich countries, especially where the reserves are underutilised or where large amounts of associated gas are flared during commercial oil production.

The world has abundant reserves of natural gas: about 175-trillion cubic metres – an oil equivalent of at least 1 000-billion barrels. Major underutilised reserves are found in Russia, Iran, Qatar, other parts of the Middle East, parts of North America and Australia. Countries looking to eliminate the flaring of associated natural gas, like Nigeria, also present ideal opportunities for GTL.

Natural gas is considered to be the cleanest and most efficient of the three major fossils fuels (coal, crude oil and natural gas). Its combustion emits only about 50% the carbon dioxide of an equivalent amount of combusted coal. On the strength of this, along with its abundance, natural gas has in recent years become increasingly attractive as a hydrocarbon energy source for developed and emerging economies around the world.

Independent comparative studies recently conducted between traditional crude-oil refining and GTL technologies came to the same conclusion: volatile organic compounds, which contribute to smog, acidifying emissions like sulphur oxides and nitrogen oxides, as well as particulate emissions and waste are all drastically reduced in favour of the GTL product life cycle. (A full-product life-cycle assessment includes resource recovery processing, transport and product use). GTL fuel can also potentially contribute less greenhouse gas to the atmosphere.



dieselisation and the changing energy paradigm

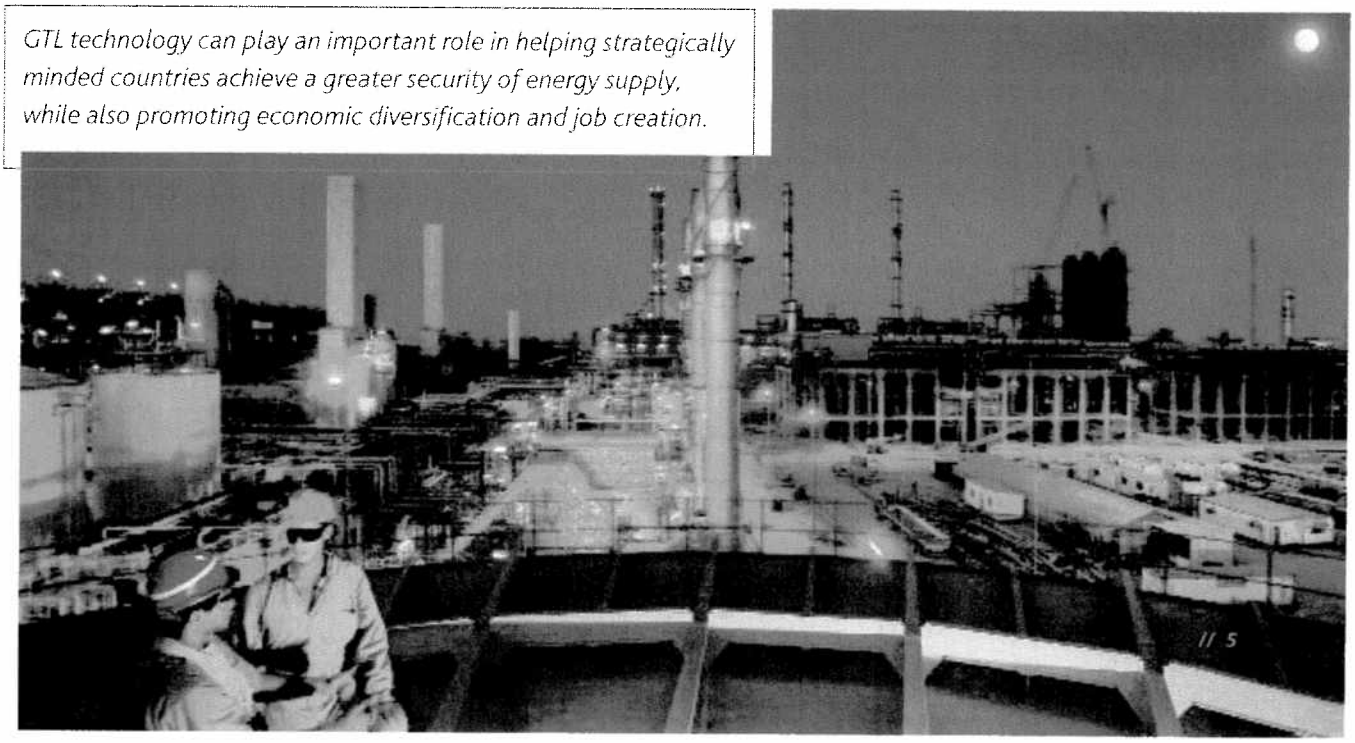
Bringing a smart solution to rapid dieselisation

GTL diesel offers a potentially far-reaching solution for the world's changing energy paradigm, most notably because of the dramatic rise in diesel consumption in both developed and emerging economies.

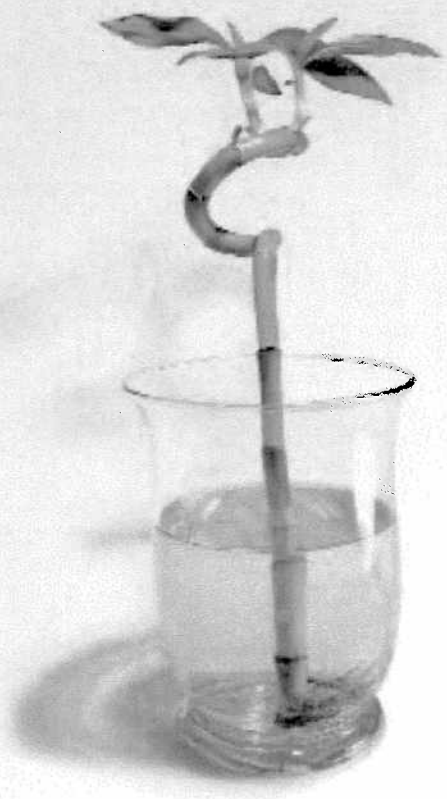
With crude-oil prices escalating, GTL technology plays an important role in helping strategically minded countries achieve a greater security of energy supply, while also promoting economic diversification and job creation.

The case for GTL technology is further strengthened by the growing demand from consumers, environmentalists, governments and automotive producers for cleaner, higher-performing fuels. Diesel is far more energy efficient than petrol and contributes to the drive to reduce carbon dioxide emissions in the transportation sector.

GTL technology can play an important role in helping strategically minded countries achieve a greater security of energy supply, while also promoting economic diversification and job creation.



benefits of GTL products



GTL diesel is positioned as a clean, premium product or as a blend stock to enhance the quality of conventional diesels.

Offering a cleaner, better-performing diesel

GTL diesel is of significant higher quality than diesel derived from crude oil. GTL diesel has a high cetane number (at least 70 compared with a 45 to 55 rating of most diesels), low sulphur (less than five parts per million), low aromatics (less than 1%), and good cold flow characteristics, which can be optimised to suit specific applications.

GTL diesel is positioned as a clean, premium product or as a blend stock to enhance the quality of conventional diesels.

Best of all, GTL diesel can be used in all modern diesel engines. Its high-quality properties result in reduced noise and other performance benefits. The high cetane number and very low levels of sulphur and aromatics ensure a more efficient and cleaner-burning combustion environment. This leads to a substantial reduction in engine wear and exhaust emissions.

Significantly, too, GTL diesel is compatible with established fuel distribution infrastructures. It can therefore be distributed by ship, road tanker or rail tanker without transport operators having to undertake new investments to modify their equipment. It can also be used with both current and envisaged future engine and exhaust technologies. Compression-ignition vehicles using GTL diesel do not need to undergo any engine or exhaust system modifications.

GTL ventures offer other benefits. A high-quality GTL naphtha is also produced in the Fischer-Tropsch process. With a high content of paraffins and very low contents of sulphur, naphthenes and aromatics, it is ideal as cracker feedstock to produce ethylene for the plastics industries (mostly for producing polyethylene and polyvinyl chloride).

sasol's role in promoting GTL

sasol
reaching new frontiers

Promoting optimum competitiveness

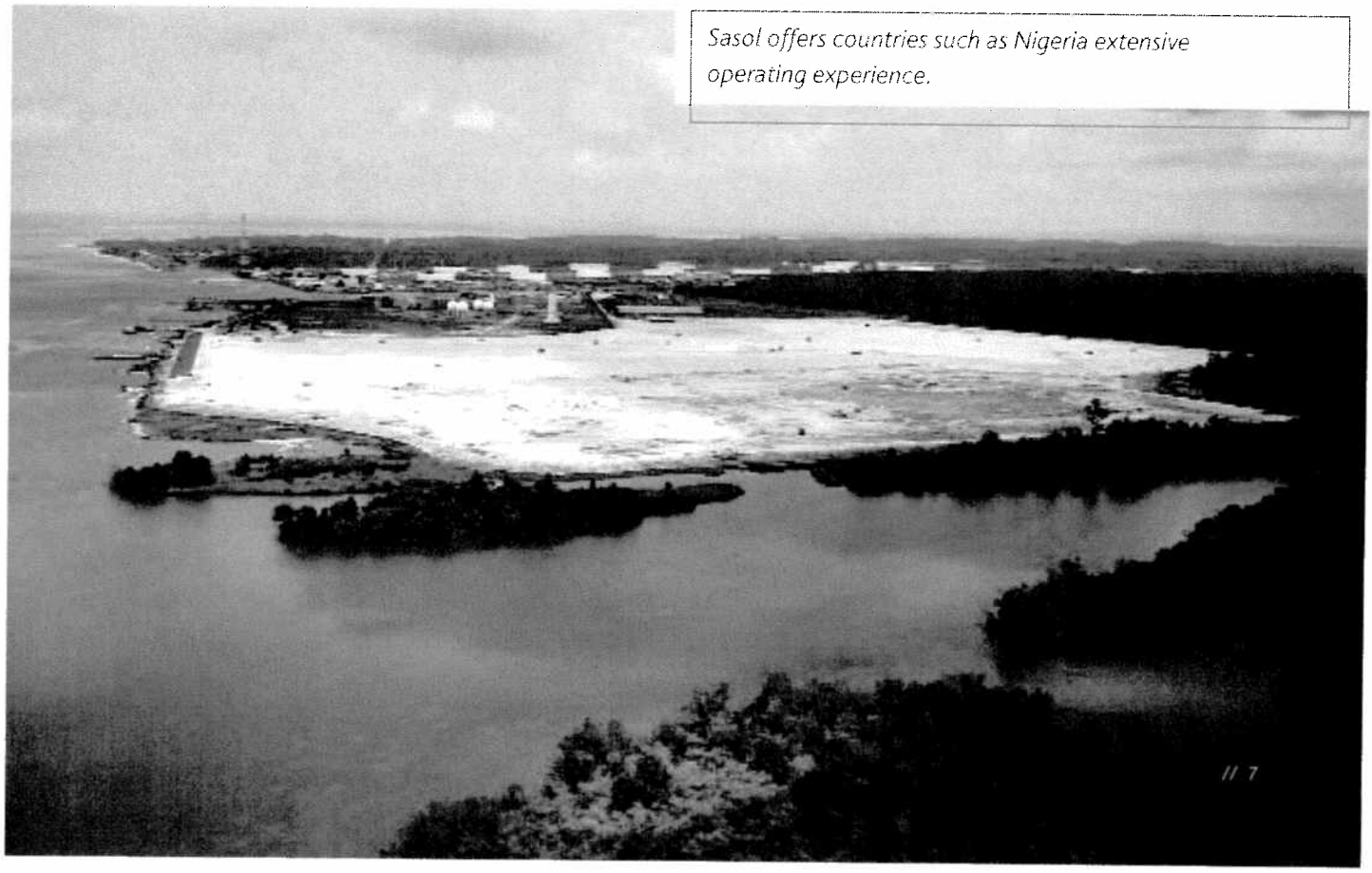
Since the mid-1990s, Sasol has focused on developing GTL ventures internationally with world-renowned partners.

Sasol formed a joint venture with Chevron of the USA, Sasol Chevron, to develop sustainable GTL projects, as well as market and distribute GTL products worldwide.

Such partnerships make good business sense. Besides creating greater synergy in areas such as technology, plant design and plant operations, GTL partnerships also enable large capital investments. GTL ventures, such as the ORYX plant in Qatar, require at least US$1-billion to develop.

In Qatar, Sasol has partnered with the state oil company, Qatar Petroleum, while in Nigeria it has, through Sasol Chevron, entered into a venture with the National Nigerian Petroleum Company and Chevron Nigeria Limited.

Sasol offers gas-rich countries a proven gas-beneficiation technology that can be used to monetise underutilised gas reserves. Sasol also offers extensive operating experience, having brought on stream its first Fischer-Tropsch-based CTL venture in 1955. Since then, Sasol has undertaken extensive research and development in Fischer-Tropsch synthesis technology and patented several processes and specialised catalysts.



Sasol offers countries such as Nigeria extensive operating experience.