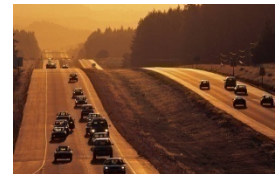
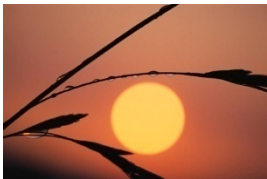


ANGTL PROPOSES A 70,000 + BBL/D GTL PLANT IN SOUTHCENTRAL TO ANCHOR A GAS LINE

WHY GTLs? WHY SOUTHCENTRAL?

THINK VALUE ADDED



ALASKA RESOURCE DEVELOPMENT “A LEGACY DECISION FOR ALASKA”

WHERE TO BUILD GTL PLANTS

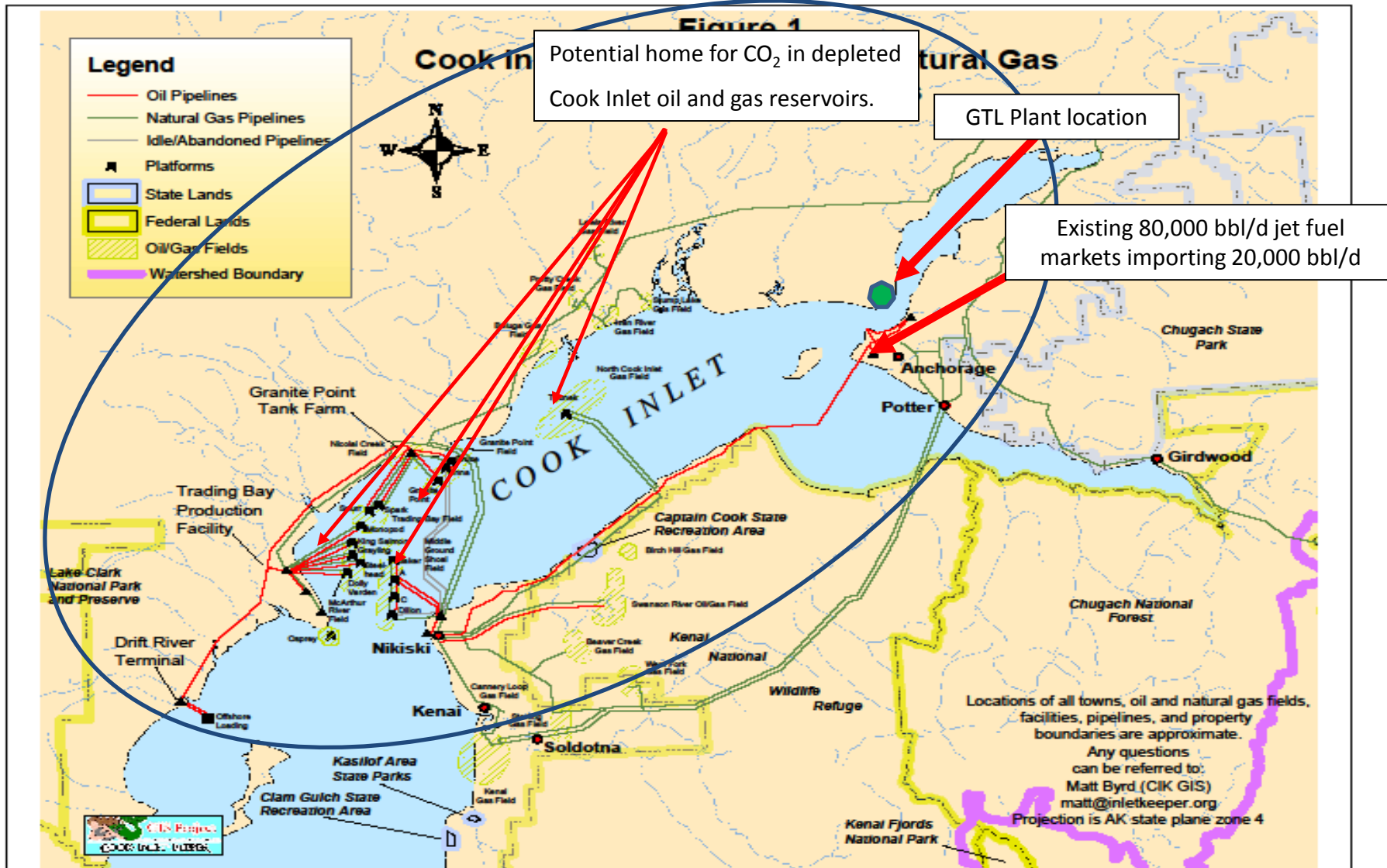
ONE OF THE MOST PRESSING ISSUES WITH THE MANUFACTURE OF F-T IS WHAT TO DO WITH THE PRODUCED CO₂

THE BEST LOCATION IN ALASKA IS PRUDHOE BAY – LARGEST SINK TO STORE CO₂ PLUS CO₂ WILL INCREASE OIL PRODUCTION AND MORE IMPORTANTLY KEEP THE TAPS LINE RUNNING FOR DECADES BY BATCH PIGGING OF GTLs AND NGLs

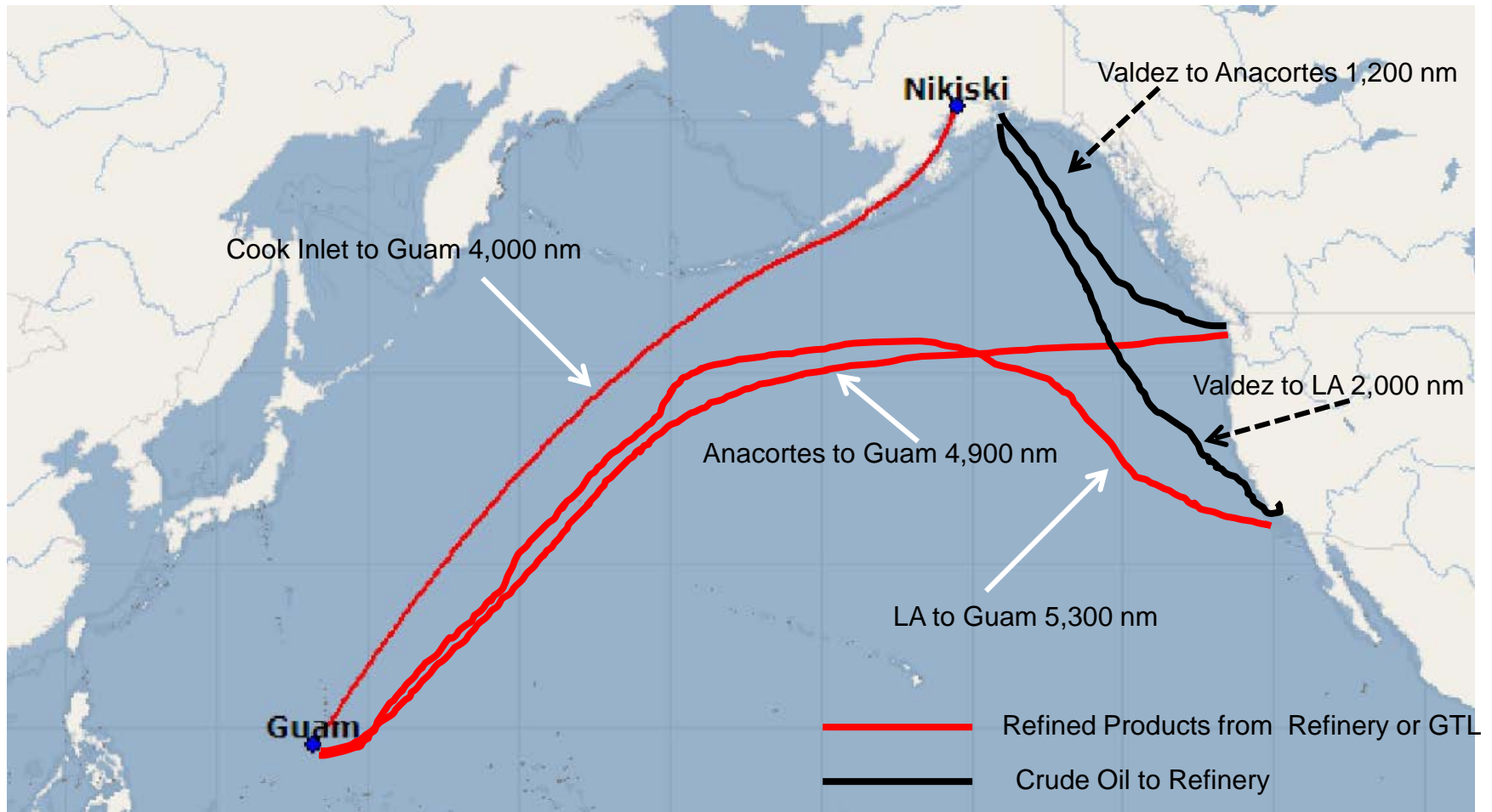
SECOND LOCATION - THE COOK INLET – SMALL SINK FOR CO₂ PLUS EASY EXPORT TO WEST COAST MARKETS PLUS WASTE HEAT ELECTRIC POWER HAS A READY EXISTING MARKET 60-80,000 BBL/D OF JET FUEL WITH OVER 20,000 BBL/D IMPORTED FROM OUTSIDE ALASKA

A LOCAL MARKET IS A MAJOR PLUS. THE ANCHORAGE AREA CONSUMES ABOUT 40 - 60,000 BARRELS PER DAY OF JET FUEL. THE U.S. MILITARY REQUIRES ANOTHER 20 TO 30,000 BARRELS PER DAY OF JET FUEL AND DIESEL TO SUPPORT ITS PACIFIC RIM OPERATIONS. A GTL REFINERY IN ANCHORAGE IS THOUSANDS OF MILES CLOSER TO THESE MARKETS THAN U.S. WEST COAST REFINERIES

WHY THE COOK INLET?



Mileage to Supply Fuels



WHY SOUTHCENTRAL GTLs

1. MARKET DEMAND FOR TRANSPORT FUELS IS REAL
2. GTL HAVE HIGHER MARKET VALUE
3. FEDERAL ECONOMIC SUPPORT AVAILABLE
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8. VALUE ADDED PRODUCTS

MARKET DEMAND IS REAL

SOUTHCENTRAL GTL PLANT AT 70,000 BBL/D
1 BILLION GALLONS PER YEAR

ANCHORAGE JET FUEL MARKET 1 BILLION GAL PER YR

ANGTL GTL Plant located 5 + miles from Anchorage Airport
Alaska largest refinery Flint Hills shut down in 2015
supplied up to 40,000 bbl/d of Anchorage area jet fuel market
Up to 20,000 bbl/d imported from lower 48 and / or Asia

THE F-T PROCESS IS
COMMERCIAL AND
PROVEN

The Fischer-Tropsch Synthesis

GTL – CTL - BTL



Okay, don't let the
chemistry scare you!

Let's take a look.....

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

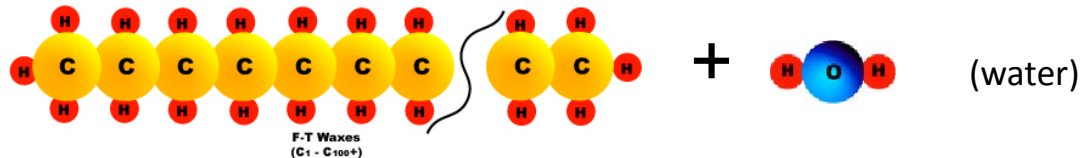
The F-T Processes use 3 distinct steps, all commercially proven to convert a gas, liquid or solid into synthetic transport fuels like gasoline, diesel and jet fuel:

- Step 1 - Syn-Gas generation (H_2 & CO)



(if a solid you gasify “coal or biomass” – if a gas or liquid you reform “natural gas”)

- Step 2 - The F-T reaction (form long paraffin chains ➡ “wax”)



- Step 3 - Product upgrading (hydrocracking of the long chain F-T paraffin “wax” to produce the desired end product – similar to a crude oil refinery)

■ Kerosene – Diesel – Gasoline - Jet Fuel – Naphtha
$C_{10}-C_{13}$ $C_{14}-C_{20}$ C_5-C_{10} $C_{10}-C_{13}$ C_4-C_{10}

A FEW OF THE F-T PLANTS ACROSS THE WORLD



SA Secunda 150,000 BPD Coal to Liquids (CTL)



Shell Qatar 140,000 BPD Gas to Liquids (GTL)



SA Moss gas 47,000 BPD Gas/Condensate to Liquids (GTL)



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



Sasol Qatar 35,000 BPD Gas to Liquids (GTL)



CHOREN Freiberg 500 BPD Biomass to Liquids (BTL)

SYNTHETIC DIESEL

**F-T DIESEL
AS CLEAN AS CNG**

**U.S. EPA*
APPROVED**

NON-TOXIC

**U.S. FDA
APPROVED**



**ZERO SULFUR
ZERO AROMATICS**

70 + CETANE

PM10 ≤ CNG

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LNG DELIVERED TO JAPAN



5-year commodity price chart for Natural gas LNG, Japan

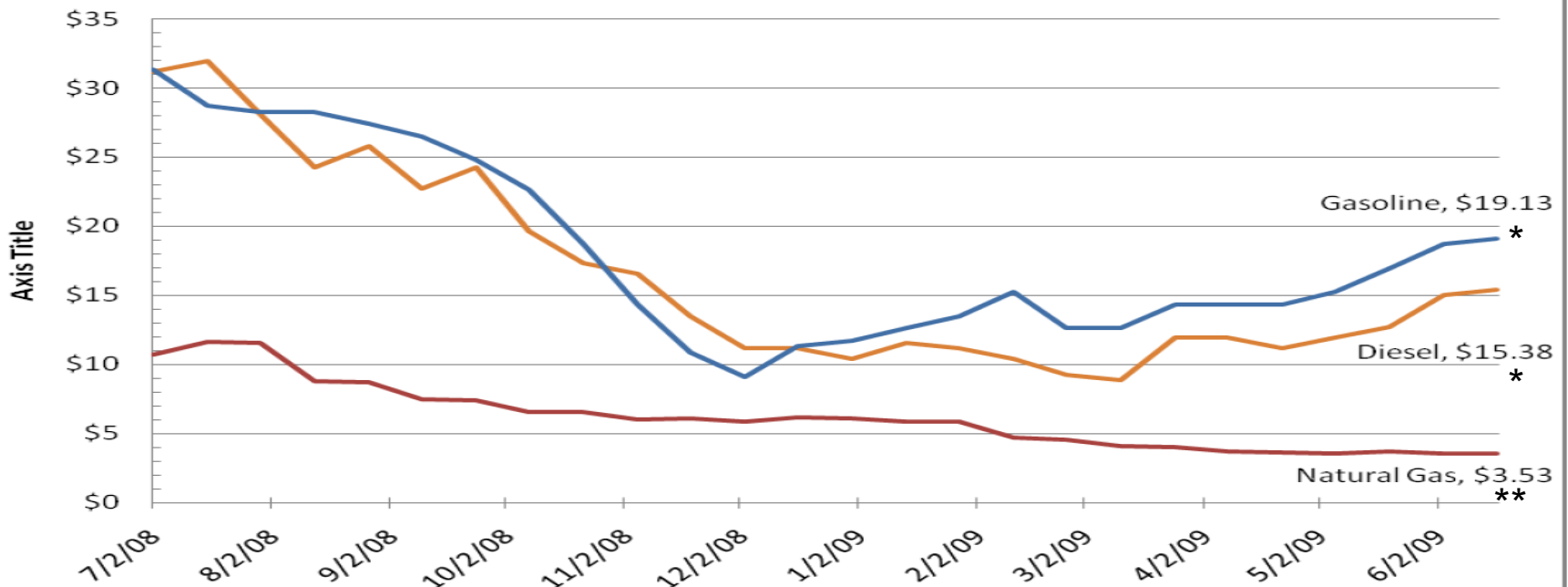


Gasoline and Diesel Always Sell at a Premium to Natural Gas on a mmbtu Basis in the Lower 48 Market¹



¹ Natural gas is sold \$/mmbtu (million BTUs) based upon the energy content of the natural gas as measured in BTUs or British Thermal Units. Gasoline and diesel are sold on the basis of \$/gallon but each contain a certain amount of BTUs per gallon. When you convert \$/gallon for gasoline or diesel to \$/mmbtu you can directly compare the value of natural gas to gasoline and diesel.

Comparison of Diesel - Gasoline - Natural Gas on a mmbtu basis



* California wholesale rack price at refinery outlet

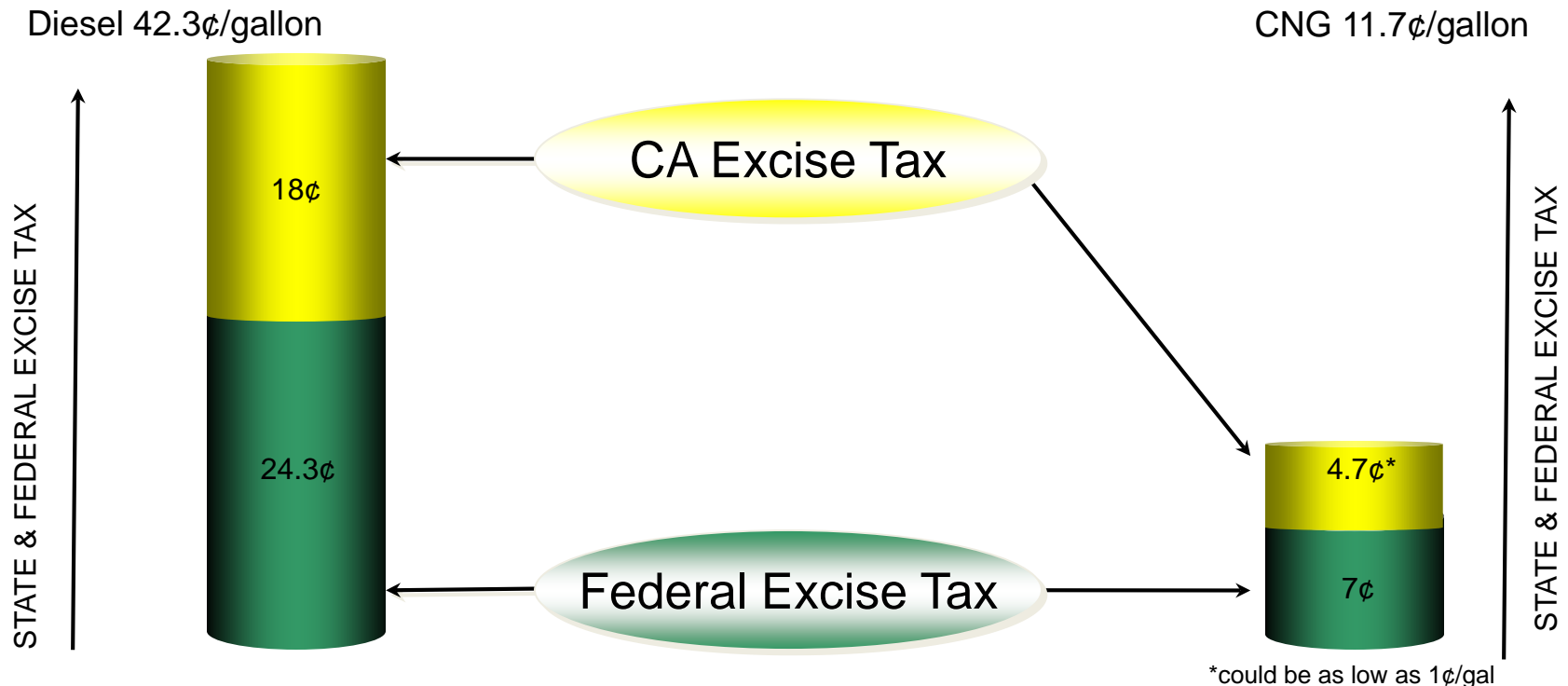
** Avg of AECO, Henry Hub, CA City Gate and US wellhead

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FEDERAL AND STATE (CA) TRANSPORTATION EXCISE TAX RATES FOR PETROLEUM BASED DIESEL AND CNG (GTL) IN THE SAME VEHICLE

~savings 31¢/gal - \$13/bbl



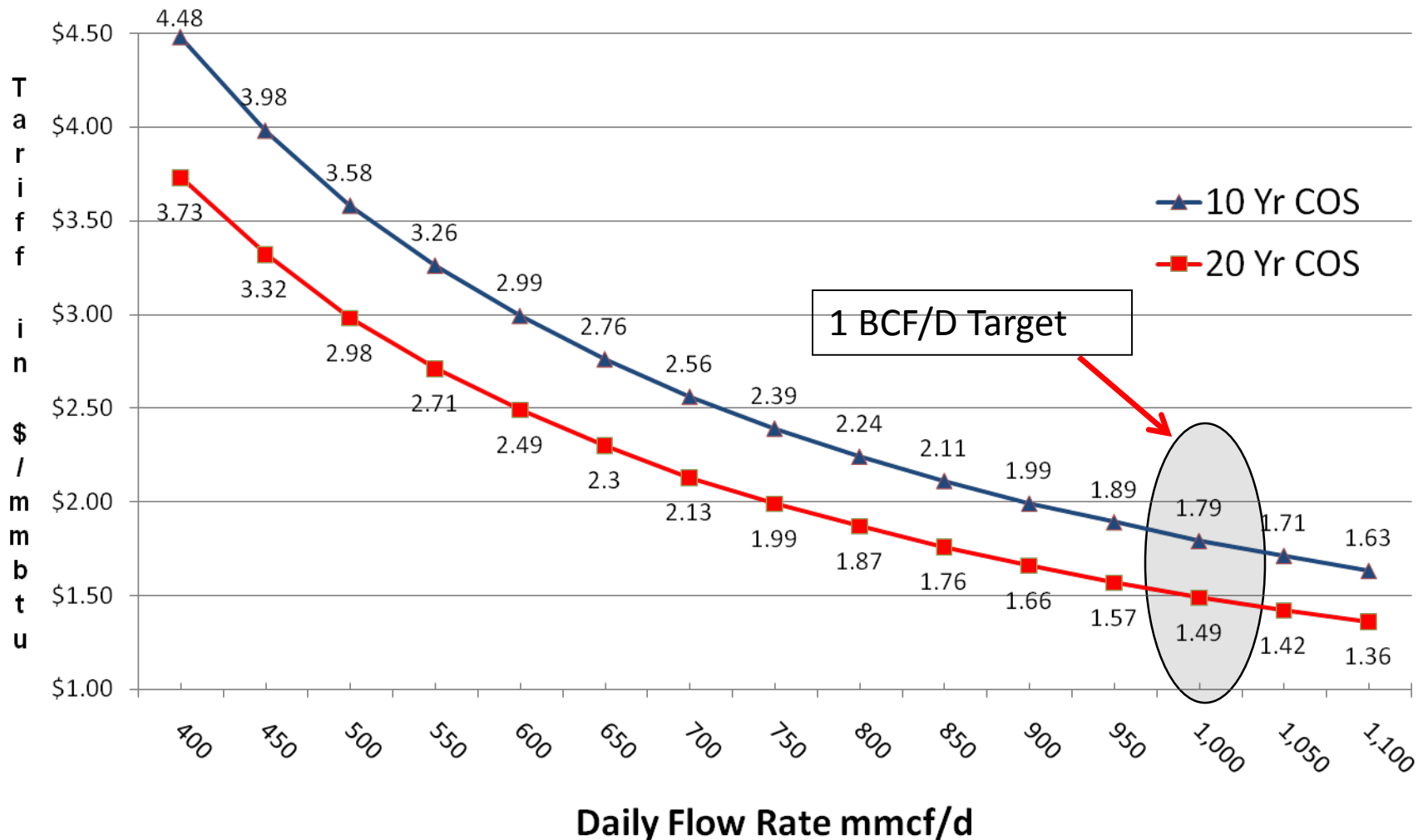
ALL ALTERNATIVE TRANSPORTATION FUELS ARE TAXED
AT LOWER RATES THAN CRUDE OIL BASED FUELS
GTL's SHOULD BE TAXED AT THE SAME RATE AS CNG?

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WE NEED AT LEAST
1 BCF/D OF MARKET TO KEEP
THE BULLET TARIFF AT OR
BELOW \$2/MMBTU

Alaska Bullet Line Service Tariffs



Data supplied by Enstar with a 800 + Mile distance Prudhoe Bay to MP 39 Parks Highway with a 24" Pipeline

Pre-Build Mega Gas Line

42" with one compressor station the right way to go
(assume 1440 psi inlet and 800 psi delivery pressure – 500 miles)

- 42" from the North Slope to Fairbanks no compression
 - Capacity 1.08 bcf/d
- 42" from North Slope to Fairbanks with 5-8 compression stations
 - Capacity 3.5 bcf/d
- 42" from the North Slope to Fairbanks with 8-12 compression stations
 - Capacity 4.2 bcf/d
- 24" from the North slope to Fairbanks no compression (500 psi delivery)
 - Capacity 0.2 bcf/d (202 million per day)
- 24" from the North Slope to Fairbanks with 10 -15 compressor stations
 - Capacity 1 bcf/d

The point of this that a 24" gas line is maxed out at 1 bcf/d whereas a 42" line can transport 1 bcf/d with no additional compression and with one, two, four, six or ten additional compression stations can transport from 2 bcf/d to 4.2 bcf/d. Lets build a system that can be expanded easily

A 42" line is expandable whereas a 24" line is not

THE BULLET LINE

WILL IT DOOM THE BIG LINE TO AN EXPORT MARKET?

**THE BULLET LINE NEEDS LESS THAN 7.5 Tcf or 20% OF THE CURRENTLY PROVEN
PRUDHOE BAY NATURAL GAS RESERVES LESS THAN 1/8 OF THE CURRENTLY
IDENTIFIED NORTH SLOPE NATURAL GAS RESOURCES**

NO BUT IT CAN BE EXPANDED IF A MARKET IS FOUND!

**BUT THE BULLET LINE WILL DELIVER ALASKA NORTH SLOPE NATURAL GAS
RESERVES TO MUCH HIGHER VALUE NET BACK MARKETS YEARS IF NOT DECADES
BEFORE THE ALASKA GAS LINE WILL; WITH ALL OF THE JOBS & CAPITAL
EXPENDITURES STAYING IN ALASKA!**

DO YOU WANT TO WAIT ANOTHER 25 YEARS?

WE DON'T THINK YOU HAVE TOO!

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F-T FUELS FOR U.S. MILITARY

The U.S. Military is in the final stages of selecting F-T fuels as the fuel of the future for the military. Why, because F-T fuels, primarily diesel can be used in an airplane, helicopter, truck, tank or ship with no modifications. F-T jet fuel is currently approved for a 50-50 blend in all aircraft around the world.

There are no F-T plants currently in the U.S.

The military can not pay a premium fuel but can enter into long term contracts

The military can enter into call contract to reserve a future call on capacity. This capacity can be airline seats, cargo capacity, container units, fuel tanker all at the market price for said capacity and in the future, an F-T fuel supply.

ANGTL has proposed to the Military a long term call on 35,000 bbl/d of F-T refining capacity at market price.

This 35,000 bbl/d of F-T can be blended with an equal amount of petroleum based fuels to provide 70,000 bbl/d for Pacific Rim military needs.

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WHERE WERE THE MAJORS ON GTLs

1. In 2003/04 ConocoPhillips and ExxonMobil signed agreements to build 160,000 bb/day and 150,000 bbl/day GTL plants in Qatar. They would not have made these commitments if they did not believe in GTLs plus possess the skills to build world-scale GTL plants.
2. Shell Oil, has a 15,000 bbl/d GTL plant in Malaysia plus a 140,000 bbl/d plant in Qatar.
3. Chevron, Sasol's world wide GTL partner, built a 34,000 bbl/d GTL plant in Nigeria and planned a 100,000 bbl/d GTL expansion with Sasol and a new 120,000 bbl/d GTL plant both in Qatar.
4. Marathon completed a pre-FEED study for a 120,000 bbl/d GTL plant in Qatar in 2003.
5. BP and Statoil are working on barge mounted GTL plants.

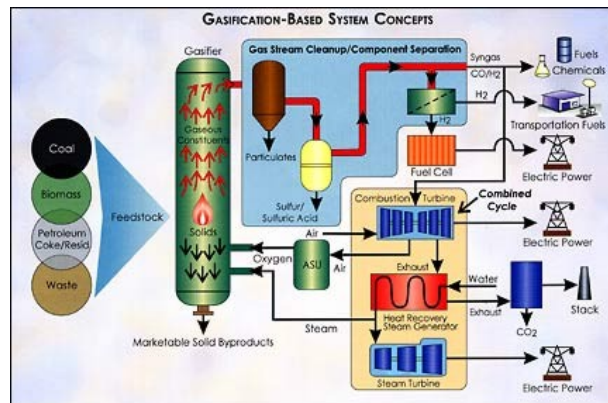
Clearly, the North Slope majors possessed all the skills necessary to build GTL plants worldwide including in Alaska. The economics of building in Alaska are there. But North Slope producers were also west coast refiners. Is it possible that they did not want the competition?

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VALUE ADDED INDUSTRIES

- The Sasol CTL / GTL plants in South Africa produce over 100 different value added products from effluent streams.
- 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.
- GTL wax produces one of the best base oils for synthetic lube oils. Maybe Anchorage can be established as a major supplier of high value oils for the Western U.S. and Pacific Rim markets.



SUMMARY

- **FAIRBANKS NEEDS AN ALTERNATIVE SUPPLY OF NEW ENERGY**
 - THIS ENERGY MUST BE CLEAN BURNING
- **SOUTHCENTRAL NEEDS ADDITIONAL NATURAL GAS SUPPLIES TO**
 - STEM THE LOSS OF INDUSTRY, AND
 - TO PROVIDE RESIDENTIAL AND COMMERCIAL CUSTOMERS WITH LONG TERM WINTER DELIVERABILITY AND RELIABILITY
- **ALASKA'S LARGEST CRUDE OIL REFINERY CLOSED**
 - FLINT HILLS REFINERY A MAJOR JET FUEL SUPPLIER IN ALASKA SHUT DOWN,
- **THE U.S. WEST COAST FUELS MARKET EXCEEDS 1.8 MILLION BBL/D**
 - THE ALASKA GTL PLANT ONLY REPRESENTS 3.9% OF THIS EXISTING MARKET
 - PAC-RIM MILITARY SUPPLY IS SEEKING 70,000 BBL/D OF A 50-50 F-T BLEND BY 2018
- **A SOUTHCENTRAL GTL PLANT CAN ANCHOR A 1 BCF/D BULLET GAS LINE**
 - 70 TO 75% OF ALASKA'S POPULATION WILL POSITIVELY DIRECTLY BENEFIT FROM A BULLET GAS LINE AND GTL PLANT – 100% WILL RECEIVE BENEFITS
 - A GTL plant can supply value added feedstock for new industries in Alaska