LOW "ZERO" SULFUR DIESEL

FROM OUR OWN BACK YARD

ALASKA

ANGTL COMPANY
ALASKA NATURAL GAS TO LIQUIDS

THE ALASKAN NATURAL GAS TO LIQUIDS COMPANY PROPOSES TO

- BUILD THE FIRST COMMERCIAL SCALE GTL PLANT ON ALASKA'S NORTH SLOPE
  - USING EXISTING PROVEN GTL TECHNOLOGY
  - PARTNERING WITH MOSSGAS AND ALASKAN NATIVES
  - BATCH THE SYN-PRODUCT DOWN THE OIL PIPELINE
  - MARKET THE PRODUCT FROM VALDEZ
  - MARKET 40,000 BBL/D OF DIESEL IN PAD V
  - MARKET 10,000 BBL/D OF NAPHTHA IN FAR EAST

BENEFITS OF ANGTL PROJECT FOR THE US

- F-T DIESEL ENVIRONMENTALLY SUPERIOR TO EVEN PAD V DIESEL
- DRAMATICALLY REDUCE EMISSIONS FROM DIESEL ENGINES AND HELP CLEAN OUR AIR
- EFFECTS ON EXISTING OIL PRODUCTION
  - MINIMAL IMPACT (IF ANY) ON RECOVERABLE RESERVES
  - MINIMAL IMPACT (IF ANY) ON DAILY PRODUCTION
  - EXTENDS THE OPERATING LIFE OF THE OIL PIPELINE
- REDUCE US DEPENDENCE ON FOREIGN CRUDE OIL
- REDUCE US TRADE DEFICIT

BENEFITS OF ANGTL PROJECT FOR ALASKA

- LEVEL THE ECONOMIC PLAYING FIELD FOR GTL PLANTS BUILT IN ALASKA VS THIRD WORLD COUNTRIES
- PROVIDE THE INFRASTRUCTURE FOR FUTURE GTL PLANTS TO BE BUILT IN ALASKA
- CAN REDUCE CO2 EMISSIONS FROM EXISTING OPERATIONS
- NO NEW PIPELINE REQUIRED - ENVIRONMENTALLY ATTRACTIVE TO SOME
- GTL's CAN BE BATCHED DOWN THE EXISTING OIL PIPELINE – ENVIRONMENTALLY ATTRACTIVE TO OTHERS
- CAN EXTEND THE OPERATING LIFE OF THE TRANS-ALASKA OIL PIPELINE 30 TO 50 YEARS - ATTRACTIVE TO EVERYONE

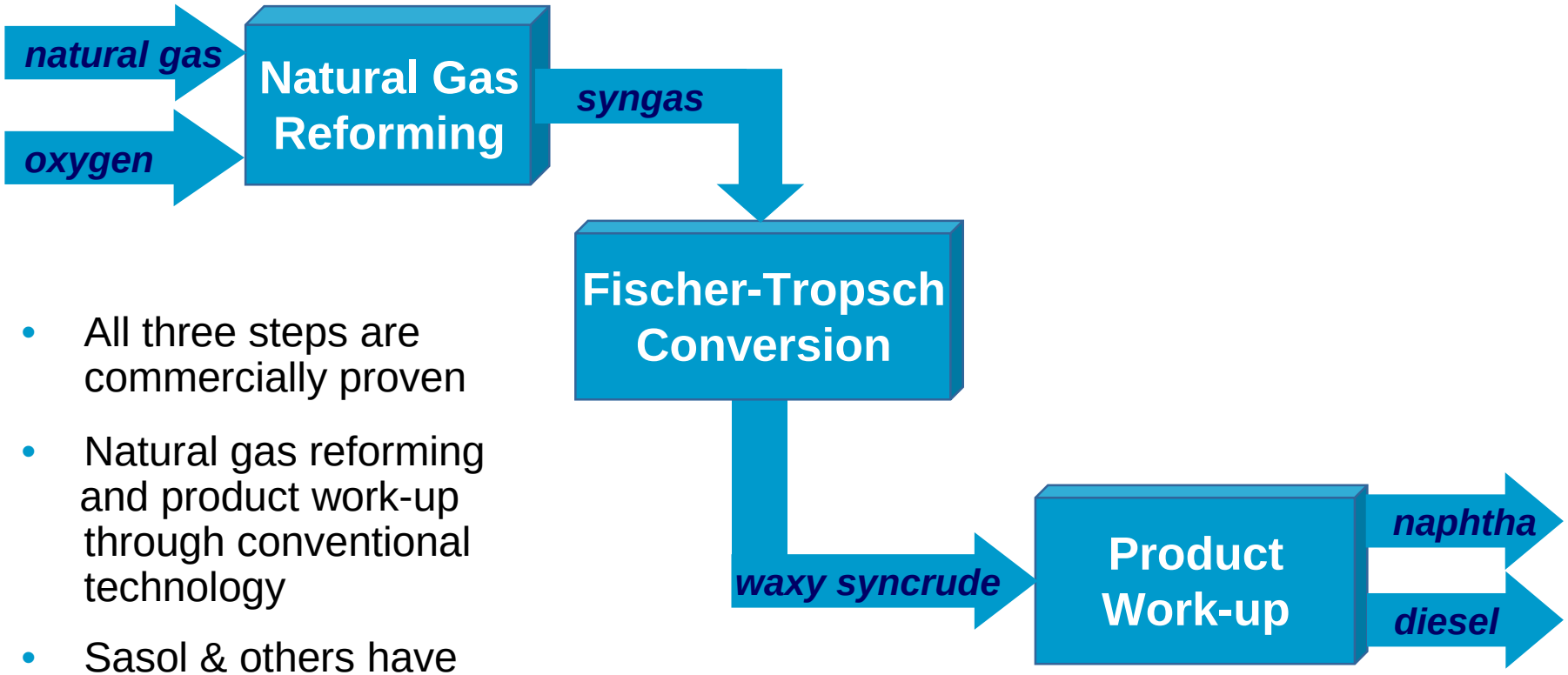
BENEFITS OF ANGTL PROJECT

- F-T DIESEL ENVIRONMENTALLY SUPERIOR PERIOD !!
- DIESEL HAS < 1 PPM SULFUR AND <.5 % AROMATICS
- CAN BE SIZED TO FIT THE MARKET
- CURRENT SLURRY PHASE DISTILLATE TECHNOLOGY WELL PROVEN. WORLD SCALE GTL PLANTS IN OPERATION, OVER 35 BILLION GALLONS OF DIESEL AND GASOLINE PRODUCED
- EPA HAS APPROVED F-T DIESEL AS A BIO- DEGRADABLE NON TOXIC DRILLING FLUID

~~DIRTY~~ CLEAN DIESEL

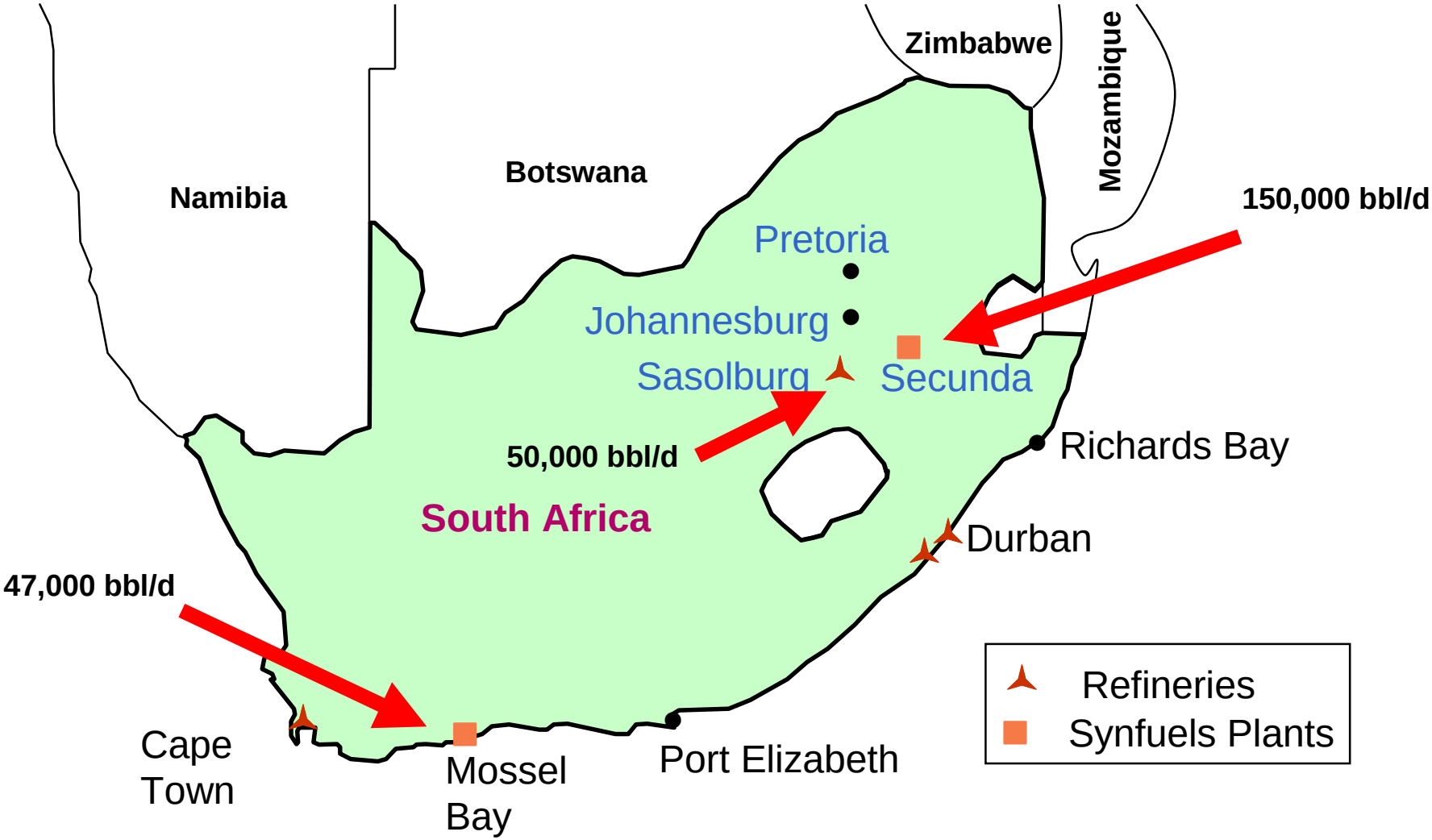
THE PROCESS

THE SLURRY PHASE DISTILLATE PROCESS



- All three steps are commercially proven
- Natural gas reforming and product work-up through conventional technology
- Sasol & others have reduced costs and improved efficiency by successful integration

Fuel production in South Africa



SASOL SECUNDA PLANT RSA

MOSSGAS PLANT MOSSEL BAY RSA

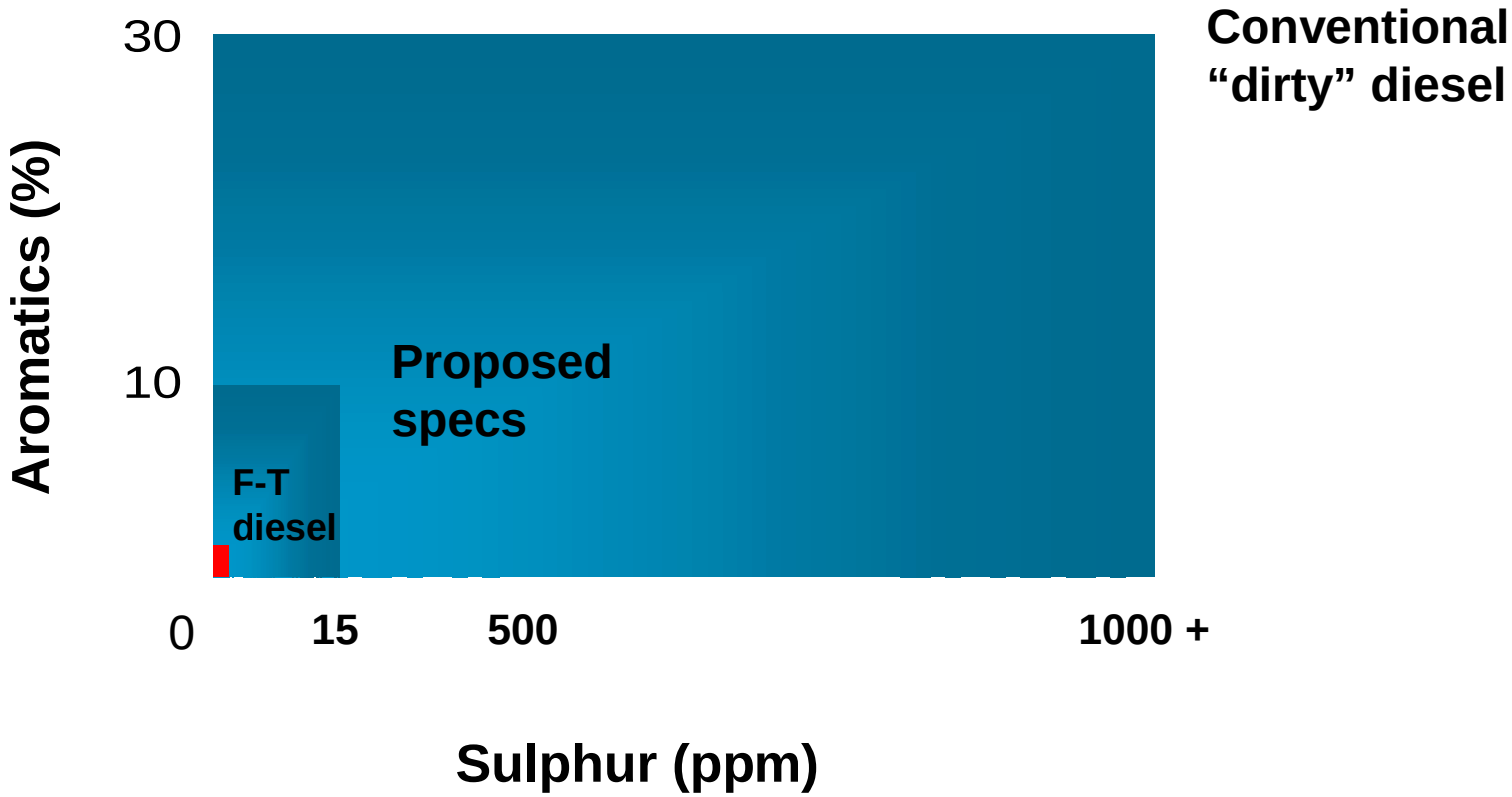
GTL Produces An Environmental Friendly Automotive Fuel

- GTL Diesel Properties:

	Mossgas	Rentech	Sasol
– Highly Paraffinic			
– Low Aromatics	< 0.5 vol %	< 0.05 vol %	< 3 vol %
– High Cetane Number	> 52	> 70	> 70
– No Sulphur	< 1 ppm	< 0.01 ppm	< 1 ppm
– Density	~ 48 lbs/ft3	(same for all three)	

- These lead to less toxic & lower exhaust emissions
- F-T GTL diesel meets the tighter specifications proposed by the EPA for future use
  - both on fuel quality and exhaust emissions

BETTER THAN PROPOSED SPECS

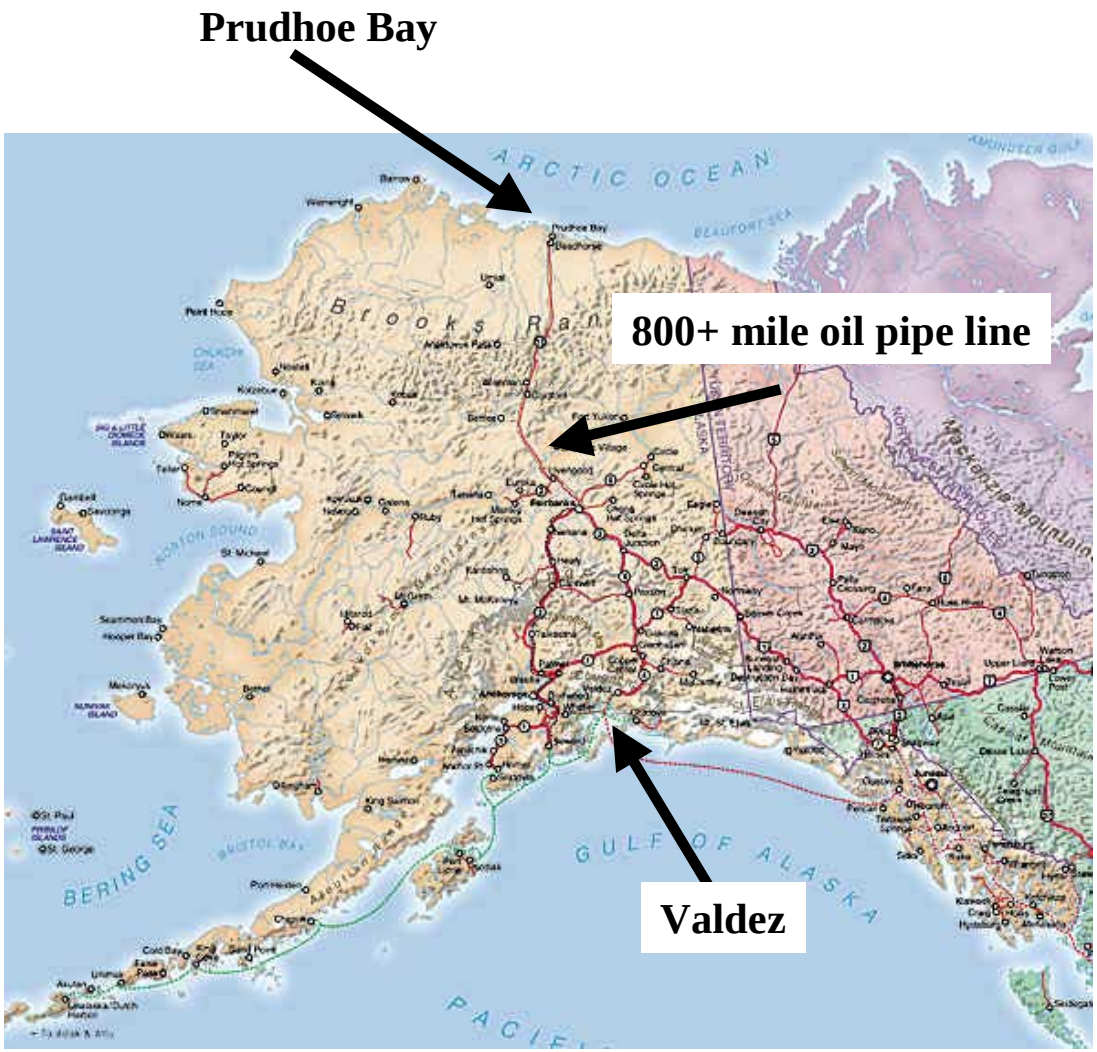


F-T DIESEL
CLEAR AND VIRTUALLY ODORLESS

MOSSGAS – MOSSEL BAY RSA

GTL - DIESEL

HOW TO MAKE IT WORK IN THE US


Prudhoe Bay
800+ mile oil pipe line
Valdez
ARCTIC OCEAN
BEAUFORT SEA
Brooks Ra
BERING SEA
GULF OF ALASKA

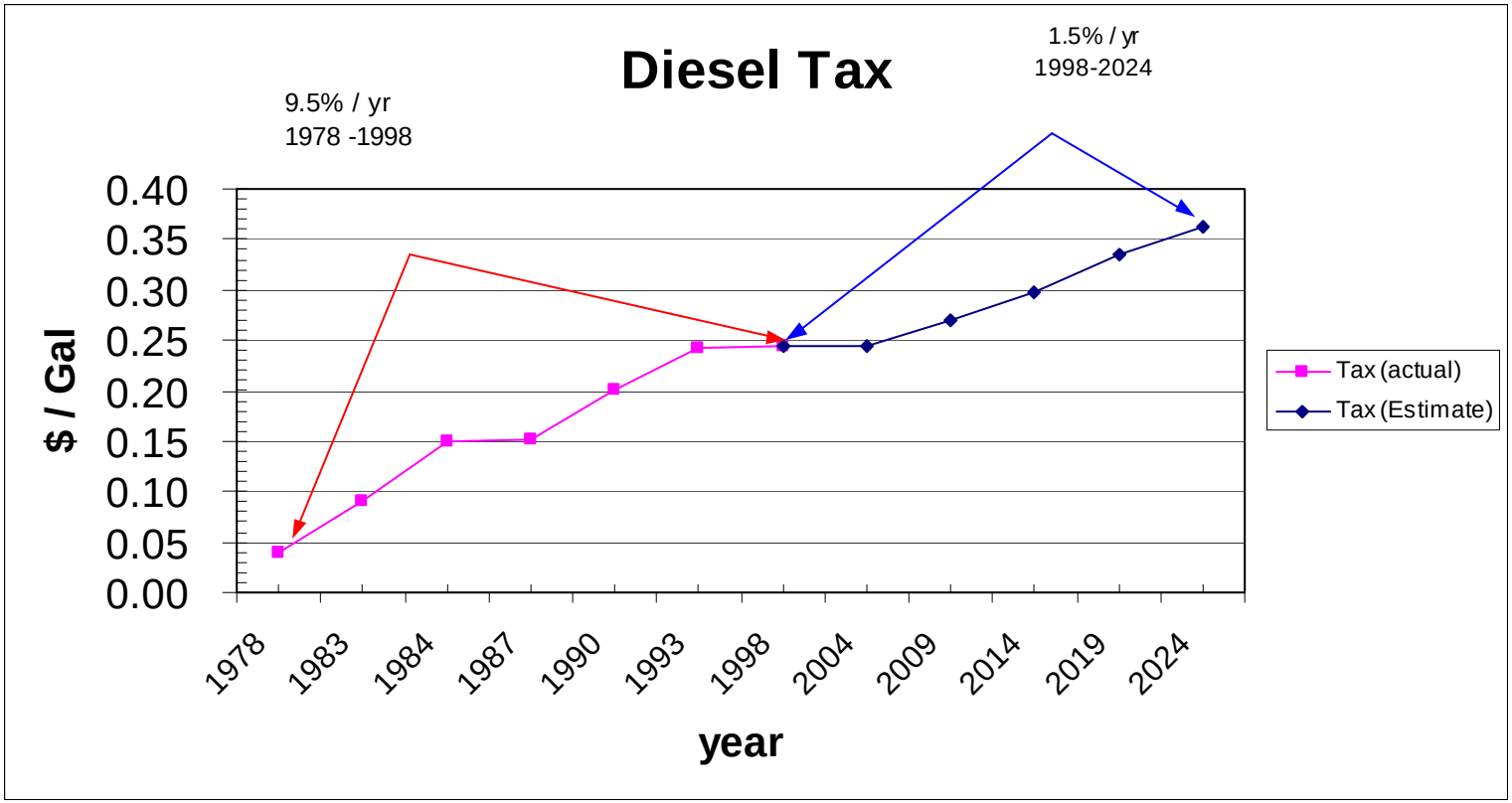
PRUDHOE BAY - WINTER

PRUDHOE BAY - SUMMER

FEDERAL SUPPORT

- FINANCIAL (CURRENTLY 3 OPTIONS BEING EXPLORED)
  - OBTAIN A FEDERAL “ALTERNATIVE FUEL” DESIGNATION FOR F-T ENVIRONMENTALLY SUPERIOR LOW “ZERO” SULPHUR DIESEL
  - OBTAIN A FEDERAL ENVIRONMENTAL CREDIT FOR DELIVERING A SUPERIOR LOW SULPHUR DIESEL
  - OBTAIN A ONE TIME FEDERAL GRANT FOR THE INFRASTRUCTURE TO SUPPORT A 50,000 BBL/D SPD “PILOT” PLANT AT PRUDHOE BAY AND BATCH PRODUCTS TO VALDEZ

FEDERAL HIGHWAY TAX ON DIESEL



ANGTL TIME LINE

- BEGAN FEDERAL PROCESS - MEETINGS WITH WASHINGTON REPRESENTATIVES AND KEY STATE AND FEDERAL OFFICIALS
  - EARLY 1999
- OBTAIN STATE (Alaska & California) SUPPORT
  - 2000
- OBTAIN FEDERAL FINANCIAL SUPPORT
  - LATE 2000 TO MID 2001

ANGTL TIME LINE CONT.

- BATCHING STUDIES
  - EARLY 2001
- BEGIN ENVIRONMENTAL STUDIES
  - EARLY 2001
- DETAIL ENGINEERING DESIGNS
  - MID TO LATE 2001
- BEGIN CONSTRUCTION
  - LATE 2002
- OPERATION FIRST PLANT
  - MID TO LATE 2006

ANGTL PROJECT SUMMARY

- OBTAIN FEDERAL SUPPORT TO :
- LEVEL THE ECONOMIC PLAYING FIELD FOR GTL PLANTS BUILT IN ALASKA VS THIRD WORLD COUNTRIES
- PROVIDE THE INFRASTRUCTURE FOR FUTURE GTL PLANTS TO BE BUILT IN ALASKA

CONCLUSION

- IF YOU WANT ALASKA TO BECOME THE SUPPLIER OF ENVIRONMENTALLY SUPERIOR F-T DIESEL TO THE LOWER 48, THEN SUPPORT THE ANGTL PROPOSAL.
  - TELL YOUR COMPANY TO LOBBY FOR IT IN WASHINGTON DC
  - CALL YOUR CONGRESSMAN AND TELL HIM “HE” NEEDS TO SUPPORT GTL’S FROM ALASKA
  - ASK YOUR CONGRESSMAN TO TELL HIS FELLOW CONGRESSMAN TO SUPPORT F-T DIESEL PRODUCED IN AMERICA
  - TELL YOUR NEIGHBOR YOU HAVE SEEN THE FUTURE AND IT LOOKS A LOT CLEANER
  - F-T DIESEL, THE FUEL OF THE FUTURE, IS AVAILABLE TODAY

F-T DIESEL TESTING

- TO LEARN MORE ABOUT THE TESTS RUN ON F-T DIESEL AND THE RESULTS CONTACT THE FOLLOWING:
- MOSSGAS – HARRY HILL
  - MOSHCH@mossgas.co.za
- RENTECH - DICK SHEPPARD
  - ros@rentk.com
- SASOL - MARK SCHNELL
  - mark.schnell@sasol.com
- ANGTL – www.angtl.com