

COOK INLET AREA IGCC/GTL & COGTL

ANGTL'S PERSPECTIVE



ANGTL DRIVEN BY

● **DESIRE TO**

- DEMONSTRATE GTL PROCESS IS VIABLE IN ALASKA
- PROVIDE FOR FUTURE GTL DEVELOPMENT
- ADDRESS MULTIPLE ENERGY NEEDS
- CREATE NEW INDUSTRIES FOR ALASKAN'S

● **US ENERGY POLICY ACT OF 1992**

- REDUCE ENVIRONMENTAL EMISSIONS
- REDUCE US DEPENDENCE ON FOREIGN CRUDE OIL
- NATIONAL ENERGY SECURITY ACT OF 2001

COOK INLET AREA

FUEL SOURCES

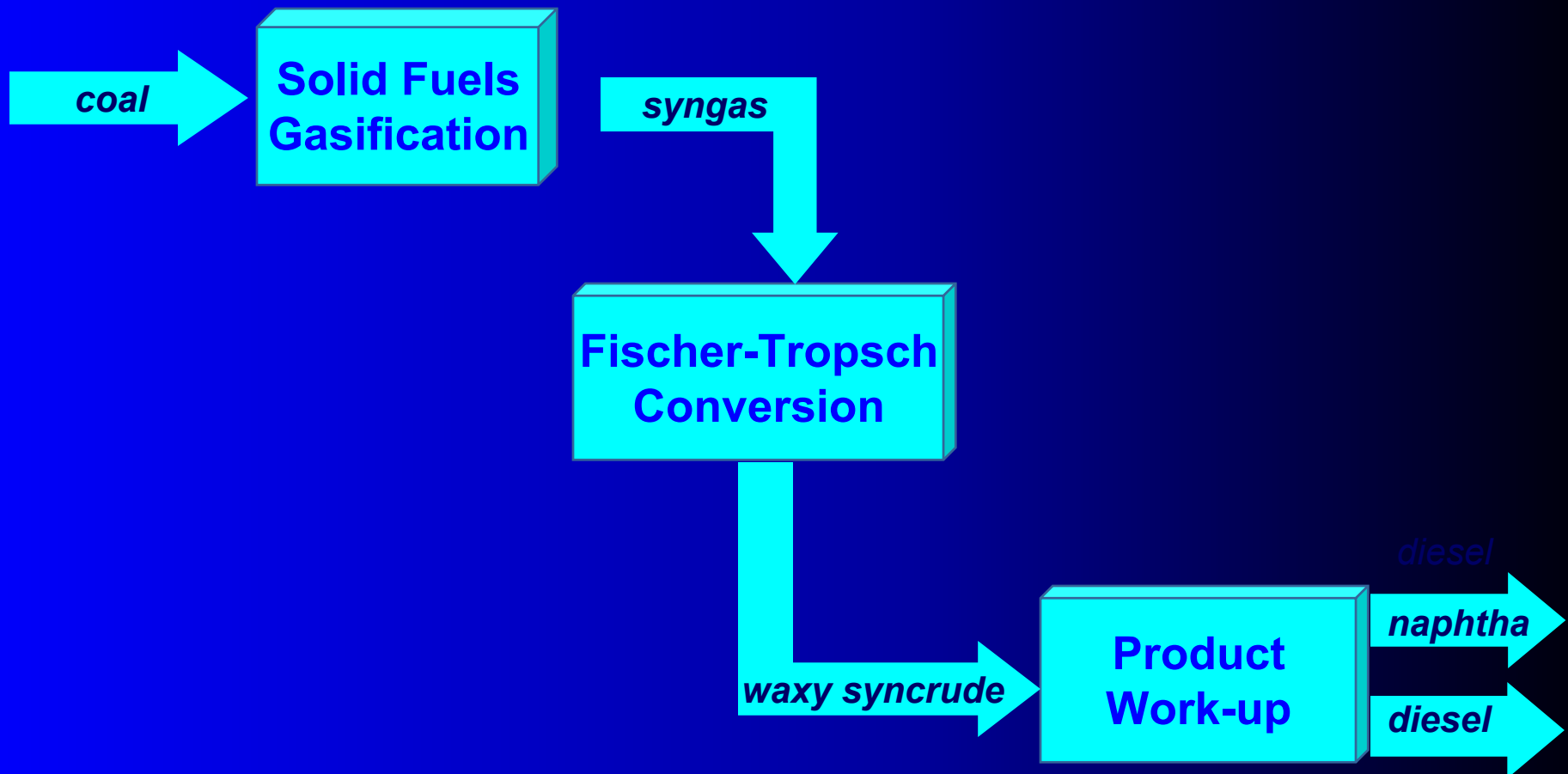
NATURAL GAS

COAL - GASIFICATION

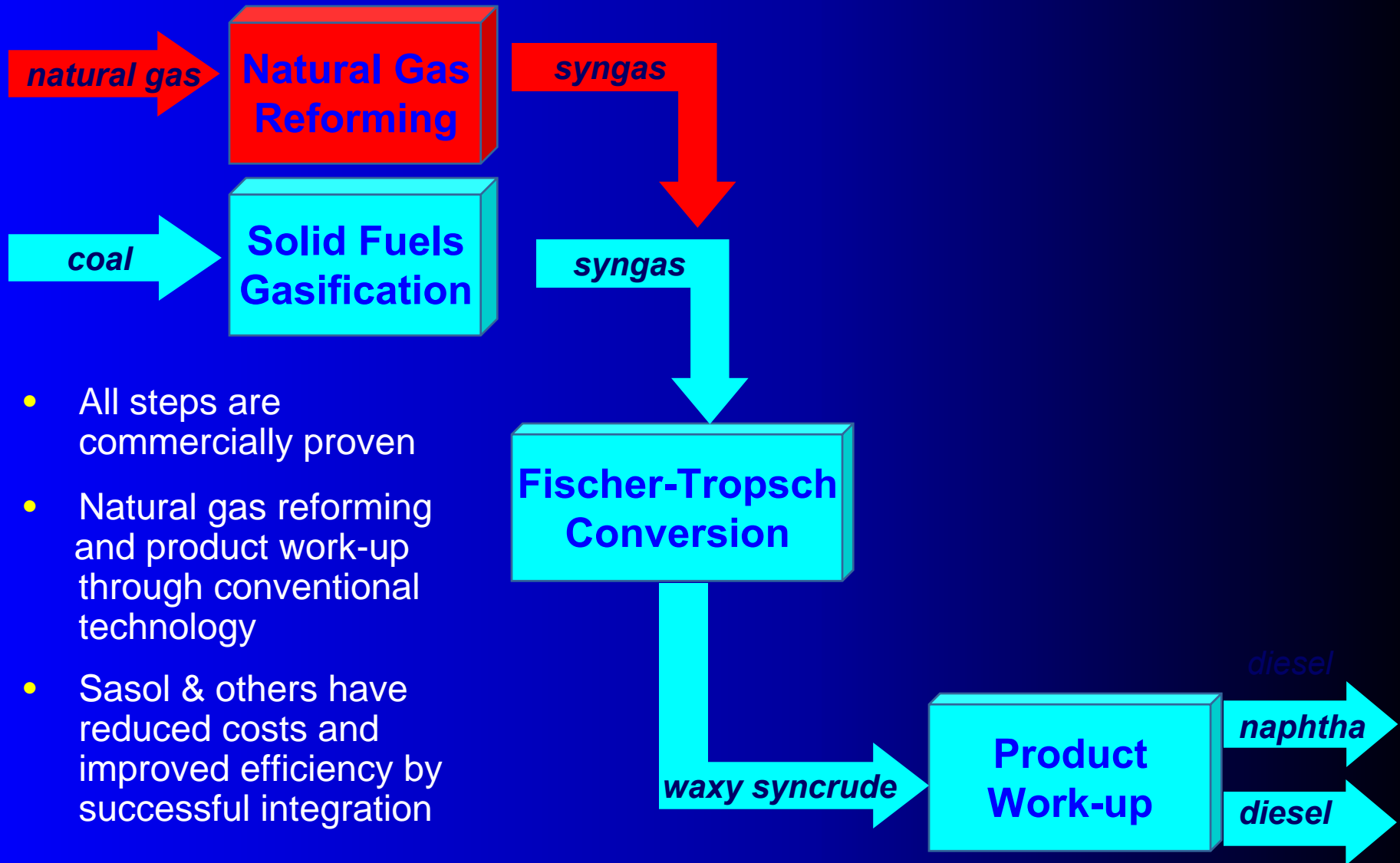
SYNTHETIC PRODUCTS

THE PROCESS

GAS TO LIQUID PROCESS

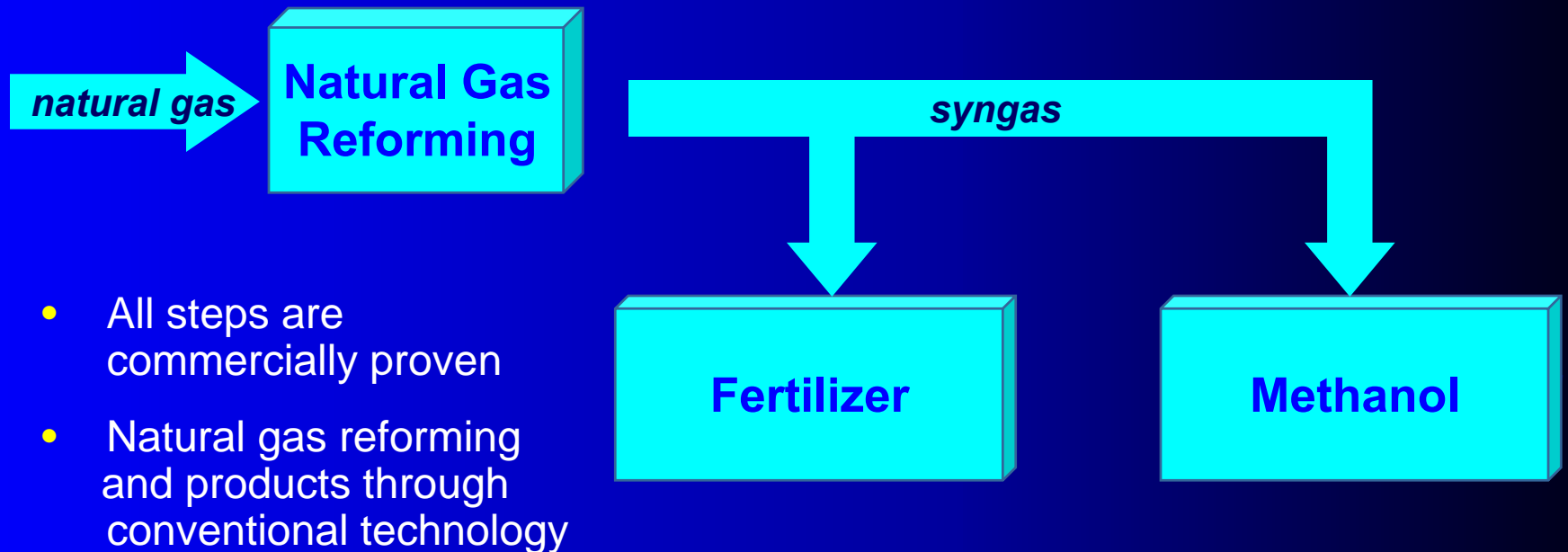


GAS TO LIQUID PROCESS

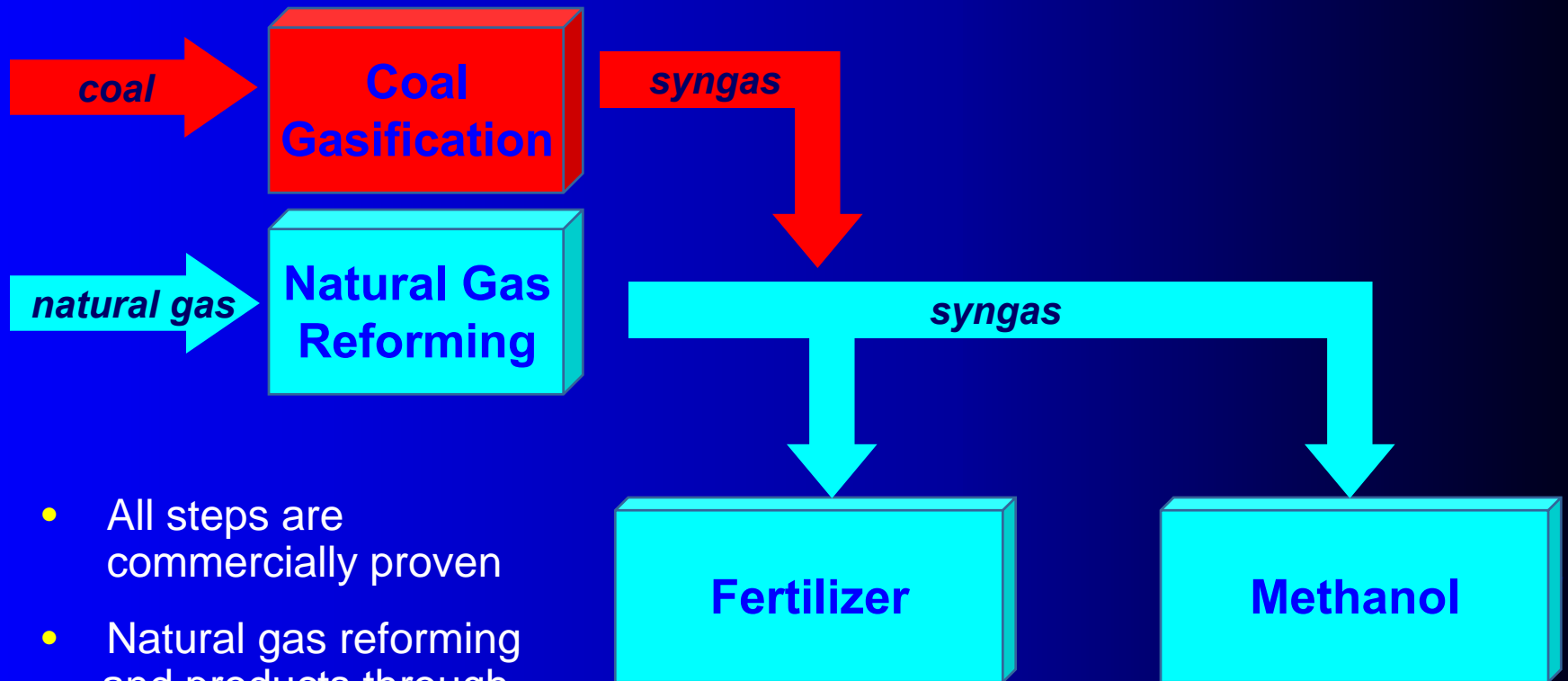


- All steps are commercially proven
- Natural gas reforming and product work-up through conventional technology
- Sasol & others have reduced costs and improved efficiency by successful integration

SIMILAR GTL PROCESSES

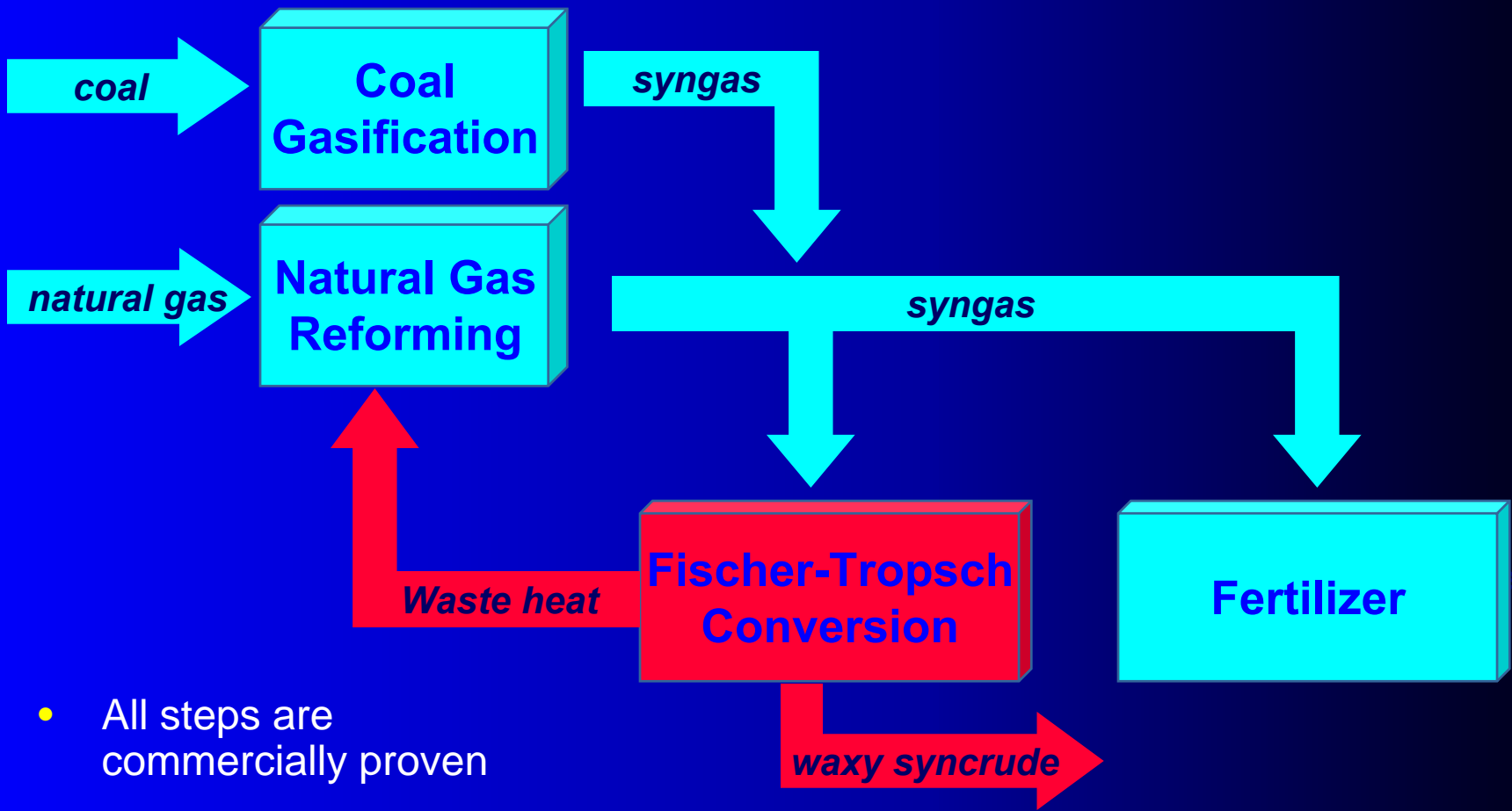


SIMILAR GTL PROCESSES



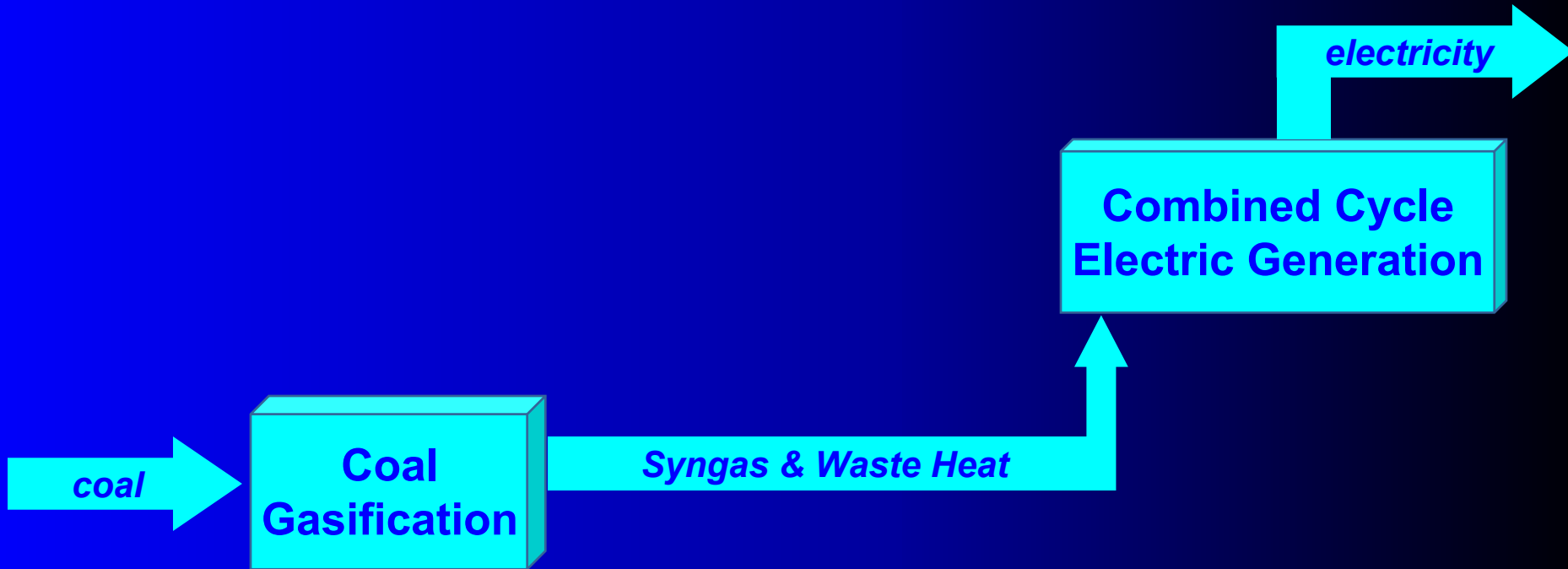
- All steps are commercially proven
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FERTILIZER & GTL PROCESS



- All steps are commercially proven

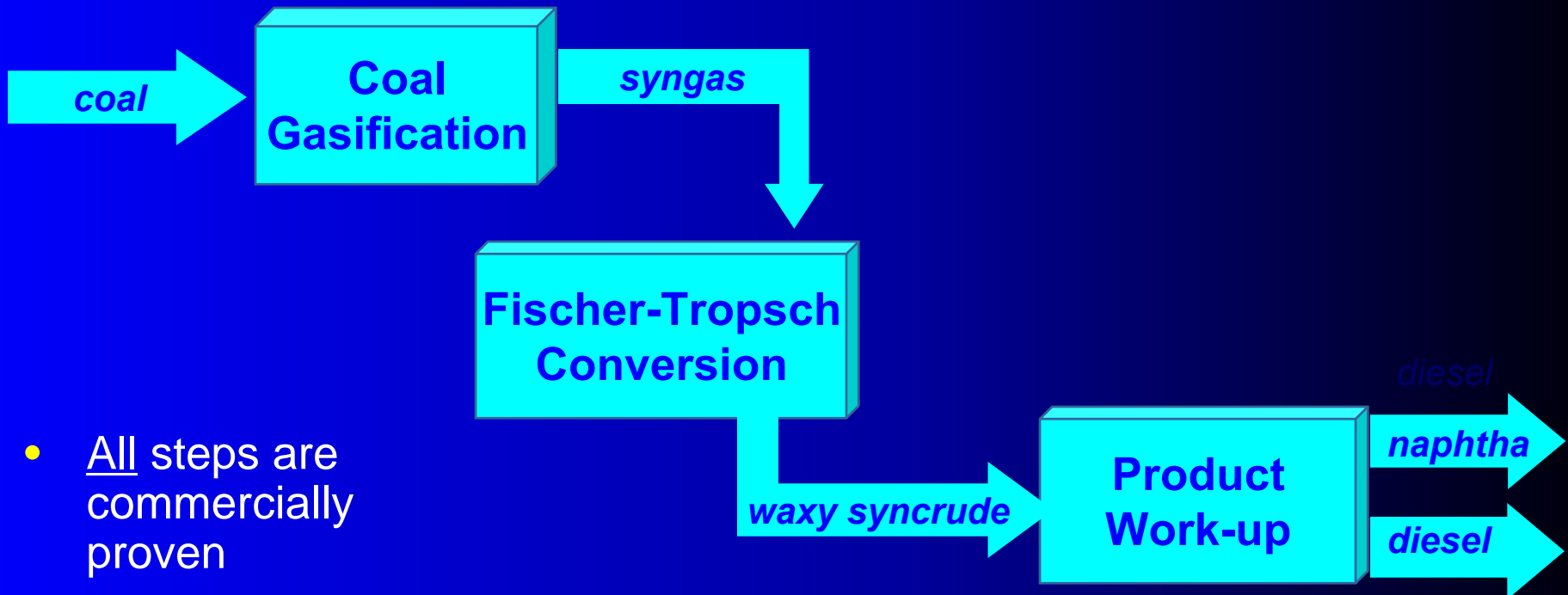
IGCC PROCESS



diesel

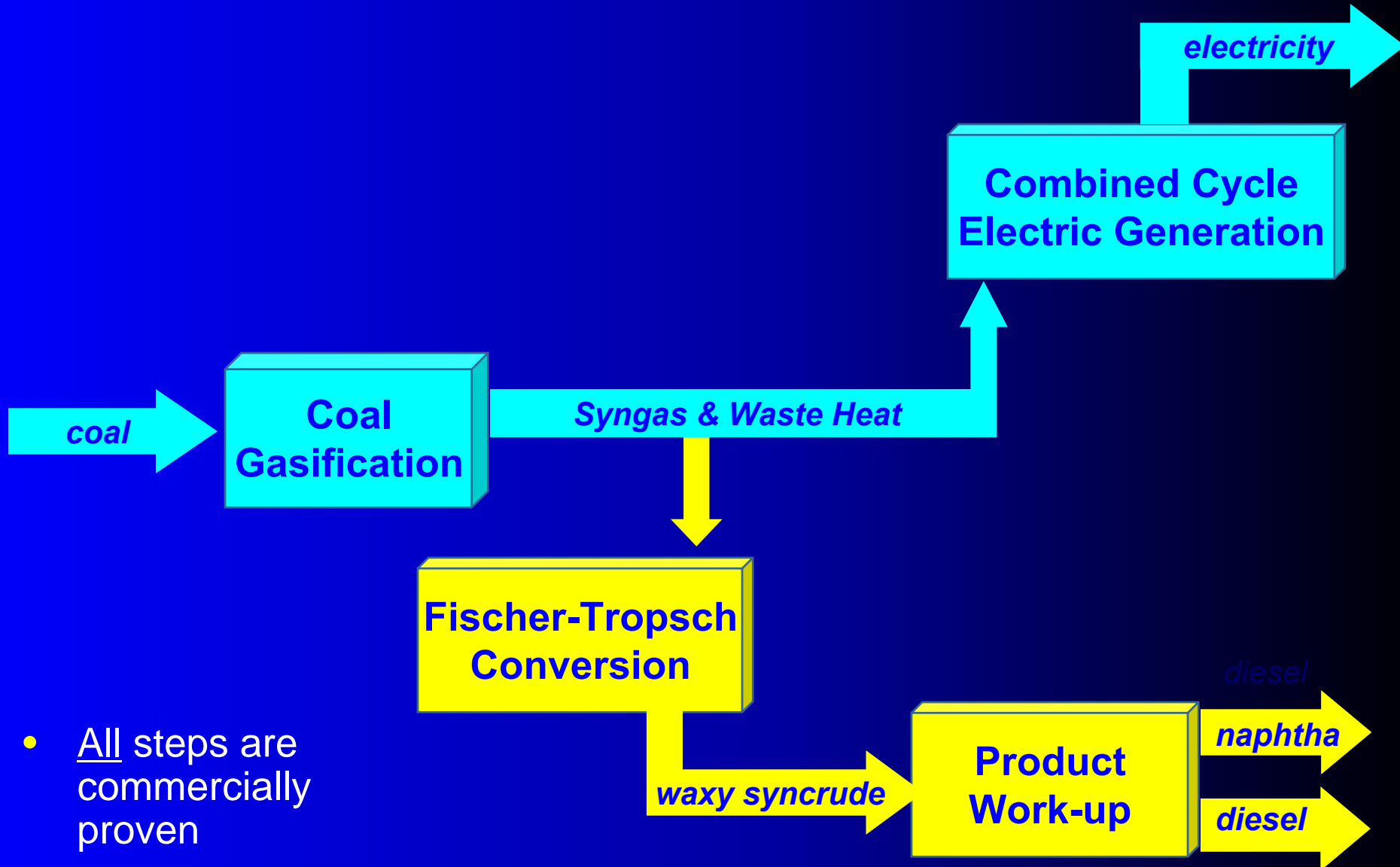
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GTL PROCESS



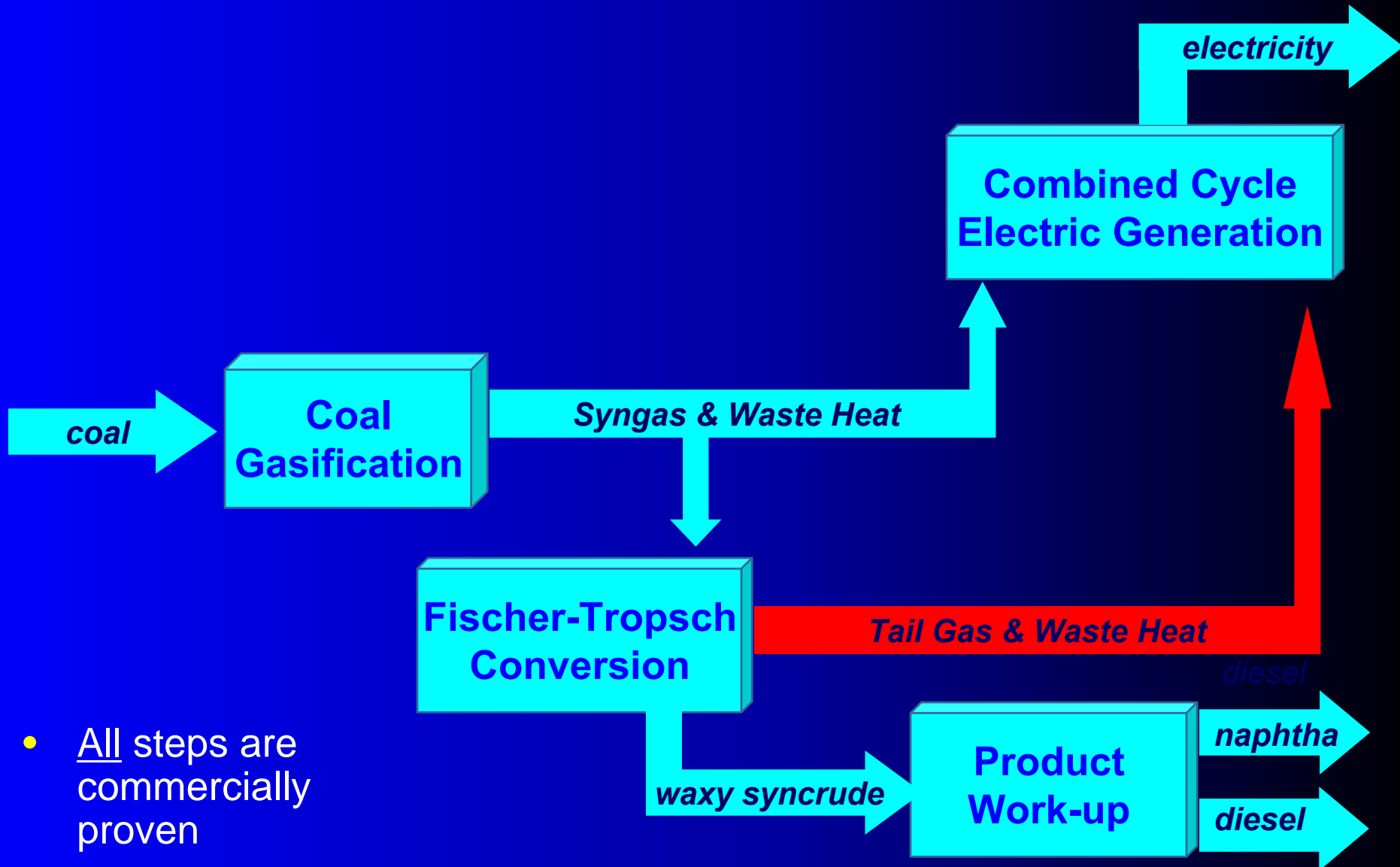
- All steps are commercially proven

IGCC/GTL PROCESS



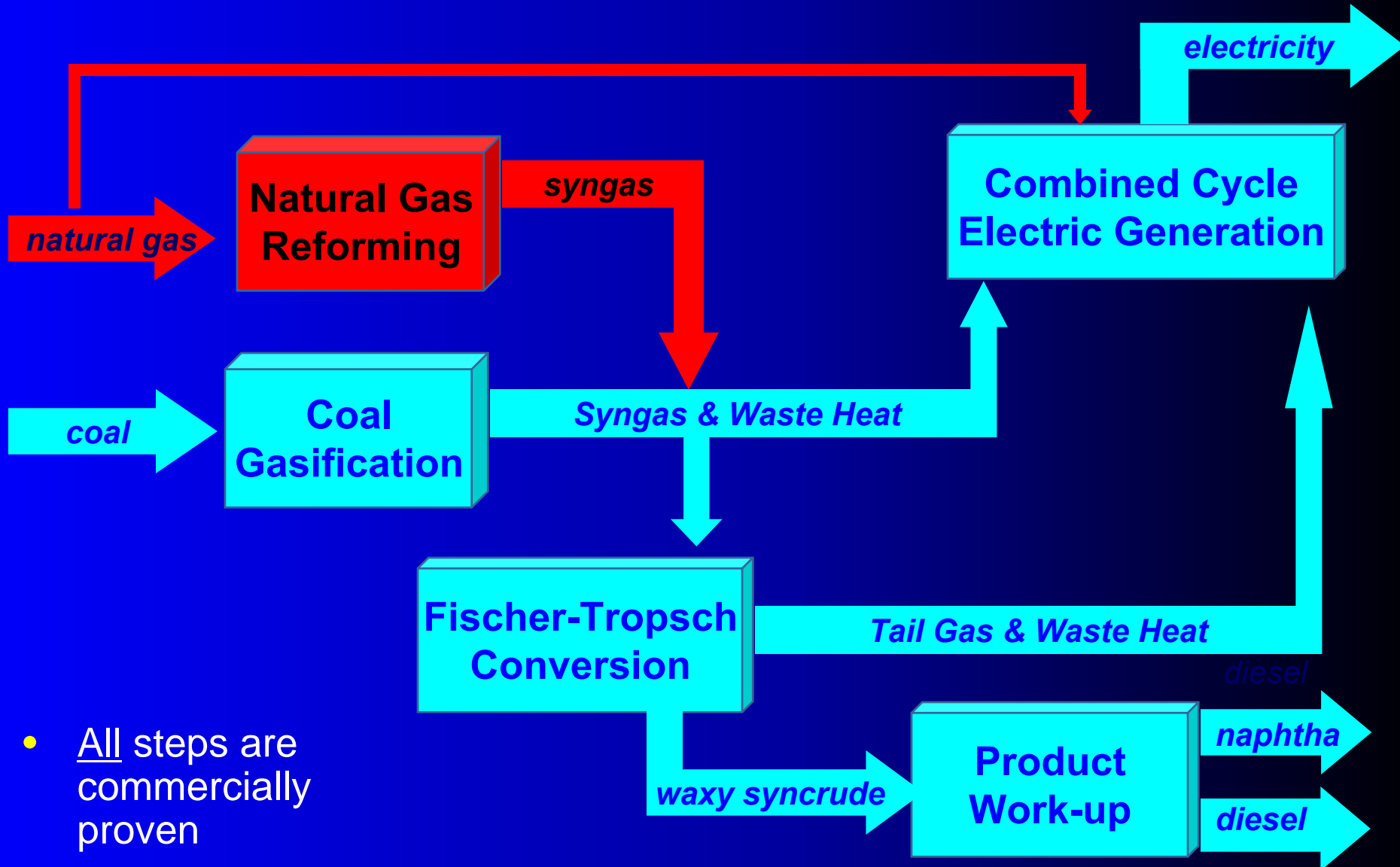
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IGCC/GTL PROCESS



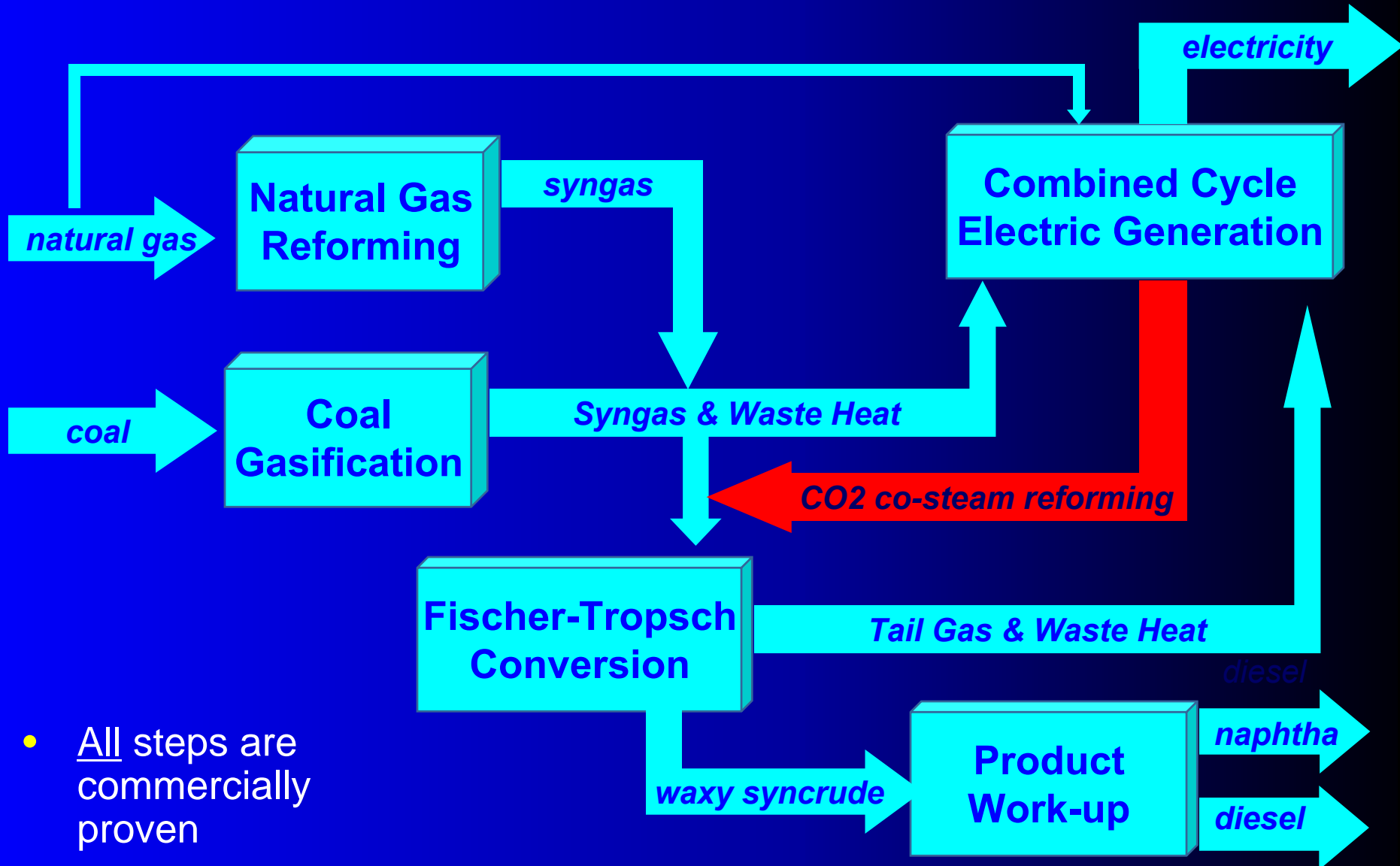
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IGCC/GTL PROCESS



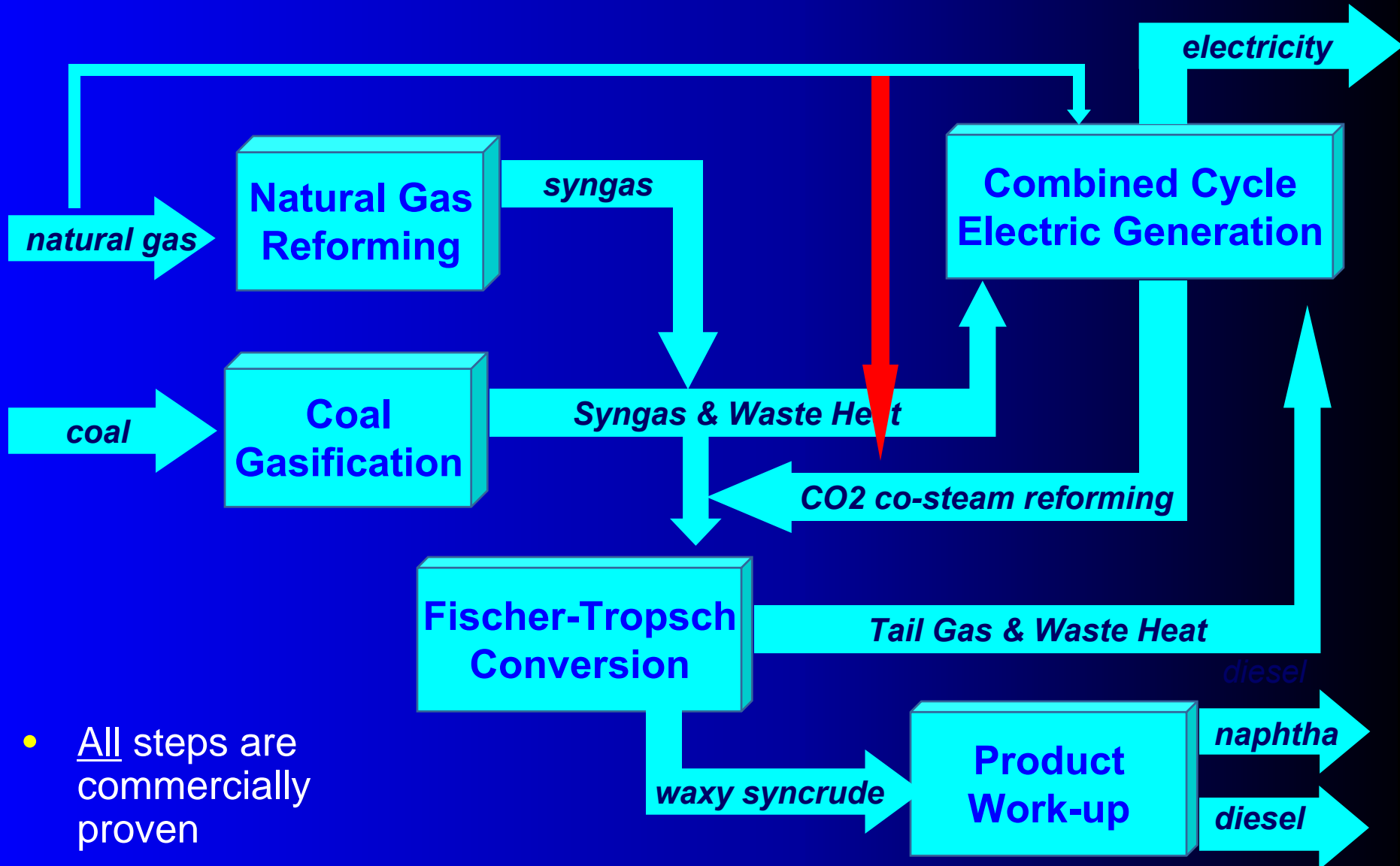
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IGCC/GTL PROCESS



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IGCC/GTL PROCESS



- All steps are commercially proven

BENEFIT OF IGCC/GTL PROJECT FOR COOK INLET

- COAL GASIFICATION / GTL / COMBINED CYCLE ELECTRIC GENERATION – MOST EFFICIENT USE OF COOK INLET ENERGY RESOURCES
- SYNGAS FROM COAL GASIFICATION PROVIDES SECOND FUEL TO GENERATE ELECTRICITY FOR 80% OF ALASKAN'S

BENEFIT OF A COOK INLET IGCC/GTL PROJECT FOR ALASKAN'S

- COAL GASIFICATION / GTL PROVIDES ALASKA WITH SYNTHETIC DIESEL THAT EXCEEDS EPA DIESEL STANDARDS FOR 2010 AND BEYOND
- ALASKA CAN LEAD THE US IN THE CLEAN GENERATION OF ELECTRICITY AND SYNTHETIC FUELS FROM BOTH COAL AND NATURAL GAS

- **COOK INLET GTL'S WILL REDUCE GREEN HOUSE GASES IN ALASKA**

- Virtually “zero” sulfur diesel from Cook Inlet GTL's can reduce motor vehicle emissions by 40 % or more.
- Waste heat recovered from the GTL process can supplement gas fired generation which will reduce demand on the area's limited natural gas resources.

- **GTL'S IN ALASKA WILL RESULT IN THOUSANDS OF JOBS BOTH IN ALASKA AND THE US**

- Each IGCC/GTL plant will employ thousands during construction will provide hundreds of permanent operating jobs.

ENVIRONMENTAL BENEFITS OF GTL'S

- EPA APPROVED AS NON TOXIC - BIODEGRADABLE
- F-T DIESEL HAS < 1 PPM SULFUR, <0.5 % AROMATICS
- REDUCES EXHAUST PIPE PARTICULATE MATTER
- REDUCES NO_x

SYNTHETIC DIESEL CLEAR AND VIRTUALLY ODORLESS



● **ANGTL IS READY TO START TODAY**

- IGCC/GTL technology exists TODAY
- Both processes commercial
- Several very successful IGCC plants in operation
- IGCC costs comparable with present day natural gas CC projects

SUMMARY

A COOK INLET IGCC/GTL PROJECT WILL:

- REDUCE COOK INLET DEPENDENCE ON NATURAL GAS
- IMPROVE AREA ELECTRIC GENERATION EFFICENCY
- MEET EPA DIESEL STANDARDS FOR 2007 AND BEYOND
- PROVIDE THE BEGINNING OF VALUE ADDED INDUSTRIES IN ALASKA - PETROCHEMICAL
- PROVIDE FOR FUTURE GTL PLANTS TO BE BUILT IN ALASKA

CONCLUSION

- CLEAN ELECTRICITY & ULTRA CLEAN DIESEL FROM ALASKA'S COOK INLET
 - ELECTRICITY & GTL's FROM COAL and NATURAL GAS
 - BIODEGRADABLE - ZERO SULFUR – ZERO AROMATIC
 - F-T SYNTHETIC DIESEL, THE FUEL OF THE FUTURE AVAILABLE TODAY

CONCLUSION

- CAN THERE BE A BETTER SOLUTION

- FOR THE PEOPLE OF ALASKA & AMERICA
- FOR OUR CHILDREN - THE REAL FUTURE OF OUR COUNTRY

- WE HAVE SEEN THE FUTURE

IT LOOKS A LOT CLEANER!