Gasoline Blendstock/Ethylene from Methane - The Synfuels Process Today

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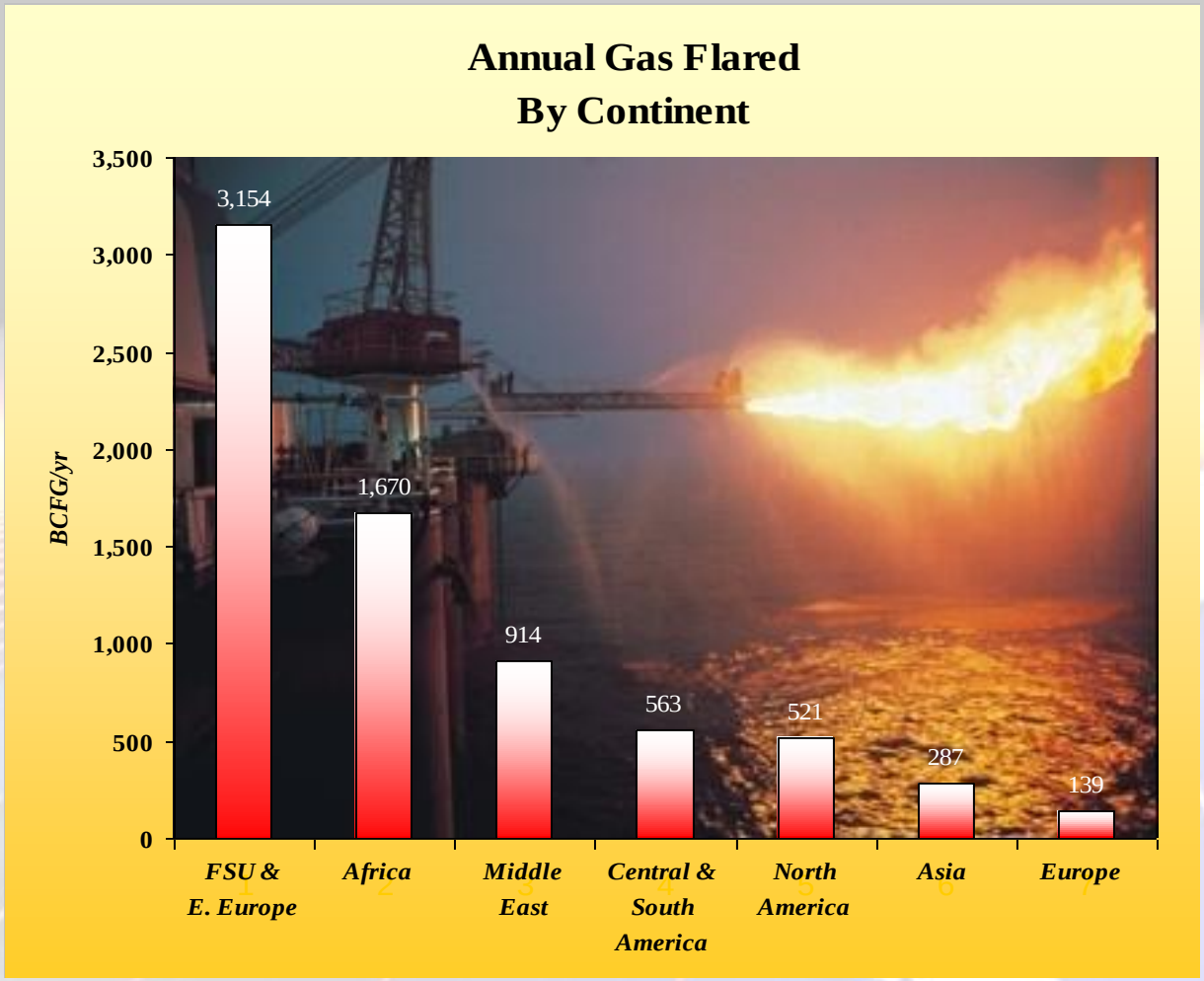
AREF ENERGY
AREF Energy Holding Company
Exclusive Agents, MENA

Gas-To-Liquids (GTL)
A New Source of Fuel



- Over 75% of the world's known gas reserves are remote and/or stranded
- About 15.5 trillion ft3 of stranded gas is flared, vented, or re-injected each year
- Could yield ***1.5 billion*** barrels of fuel per year
- Over ***4 million*** barrels per day

Incentives to employ the Synfuels GTL process

- Rising energy prices
- New source of liquid fuel
- Government restrictions on flaring and emissions
- Environmental concerns
- Laws for cleaner fuels
- Monetize all of an energy resource

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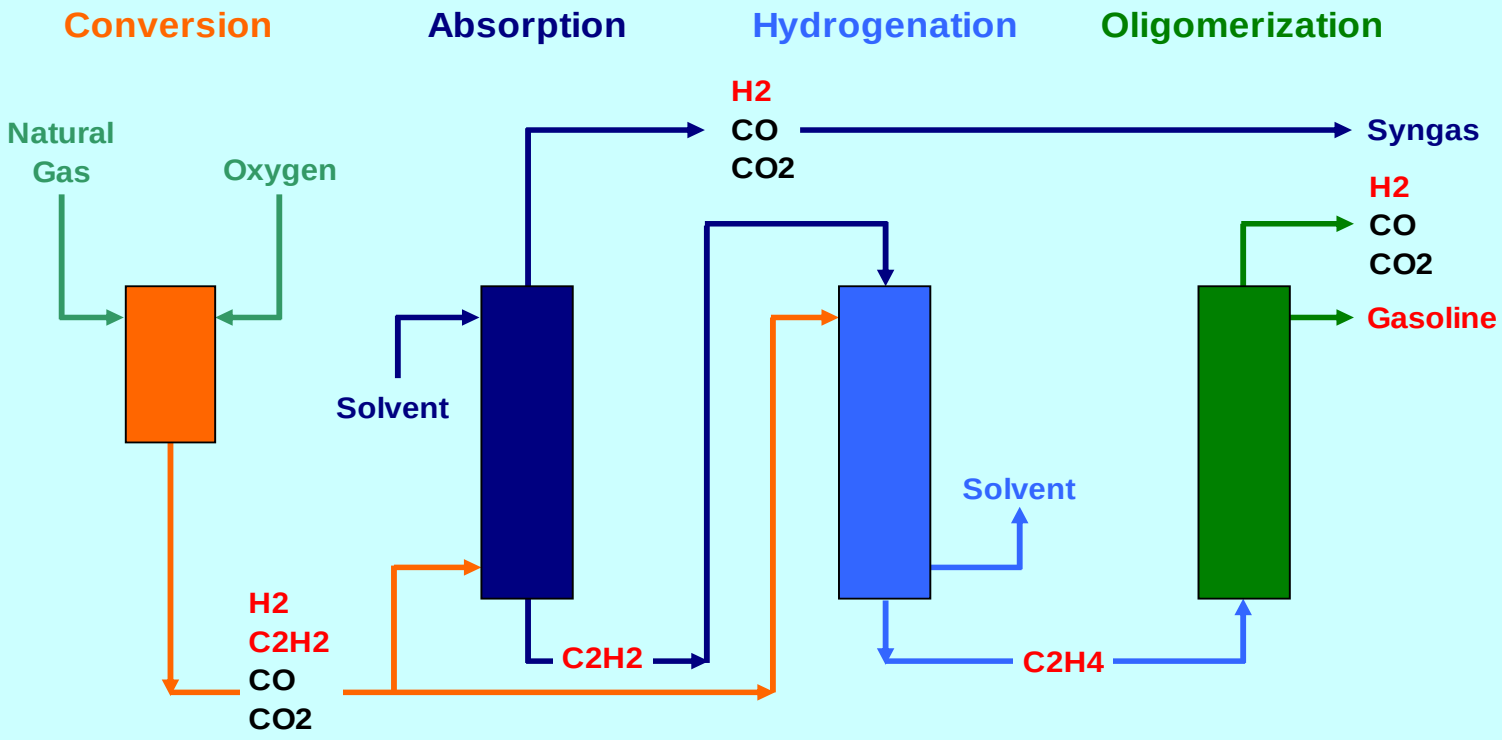
SYNFUELS INTERNATIONAL GTL TECHNOLOGY



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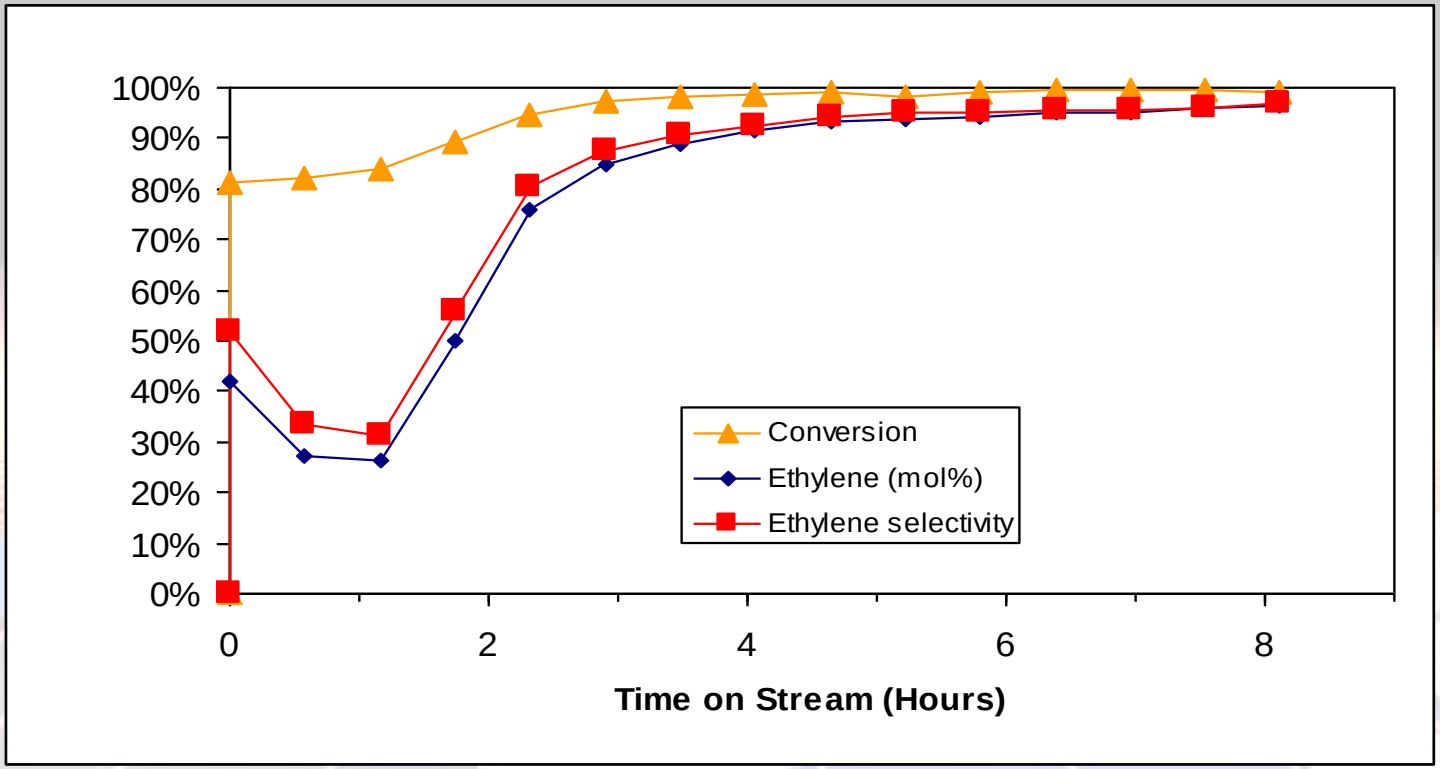
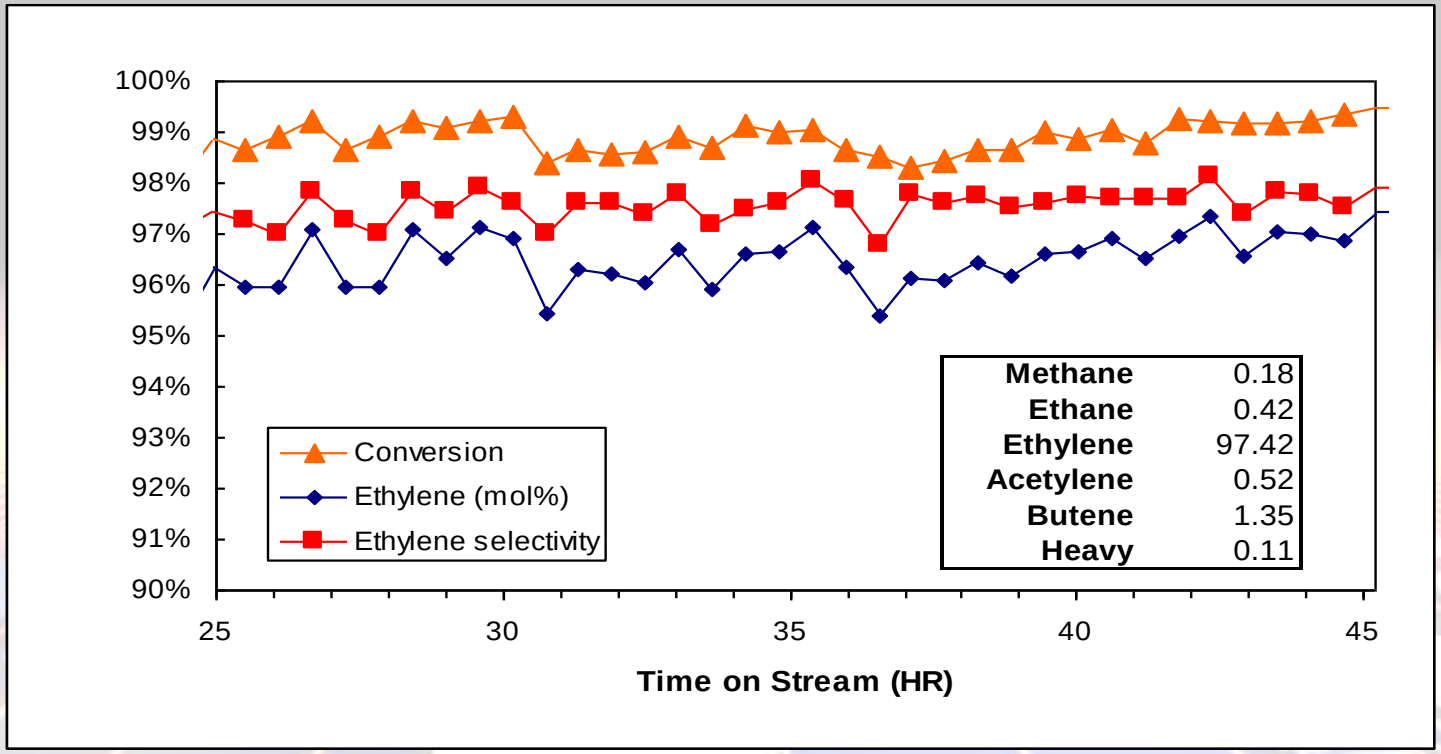
Synfuels Process using Liquid-Phase Hydrogenation of Acetylene

- Selectively absorbs acetylene
- Rejects unwanted gases
- Greatly reduces reaction volume
- Operates at moderate conditions
- No thermal “run-away” gas phase reaction
- Much higher acetylene concentrations can be used

Typical Hydrogenation Conversion and Selectivity



Extended Duration Conversion and Selectivity



- Synfuels Product Properties

Specific Gravity	0.7599 (Water=1)
API Gravity	54.71 @ 60 F
Molecular Weight	100.422
Weight	6.33 Lbs/Gal
Gross Heating Value	124190 BTU/CF

- Synfuels Product Composition

	vol%
Paraffins	12
Iso-paraffins	35.9
Olefins	1
Naphthenes	9.8
Aromatics	38.5

Intellectual Property

Synfuels Technology is covered by 8 US Patents and dozens of patents pending:

6,130,260	Method for converting natural gas to liquid hydrocarbons
6,323,247	Method for converting natural gas to liquid hydrocarbons
6,602,920	Method for converting natural gas to liquid hydrocarbons
7,045,670	Process For Liquid Phase Hydrogenation
7,119,240	Method for converting natural gas to olefins
7,183,451	Process For The Conversion Of Natural Gas To Hydrocarbon Liquids
7,208,647	Process For The Conversion Of Natural Gas To Reactive Gaseous Products Comprising Ethylene
7,250,449	High temperature hydrocarbon cracking

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Demonstration Unit

Summary

- New Synfuels GTL Process dramatically reduces capital cost
- Now majority of stranded gas fields can be utilized
- Unique new technology that blends established industrial practices with patent protected innovation
- Key to the Synfuels process are the innovative steps that isolate and convert intermediates, reducing recycle, compression, and system volumes
- Synfuels liquid-phase hydrogenation is the technology's cornerstone
- Liquid-phase hydrogenation may be applicable to other hydrogenation processes outside GTL

The Synfuels Team

- **Synfuels International, Inc.**
  - Ben Weber, CEO
  - Tom Rolfe, President
  - Charles Matar, Managing Director
  - Ed Peterson, Chief Engineer
- **Bryan Research and Engineering**
  - Jerry Bullin, President
  - Joel Cantrell, Operations Manager
- **Texas A&M University**
  - Kenneth Hall