



AIR TRANSPORT ASSOCIATION

Airlines and Alternative Aviation Fuels

BIOMASS 2011

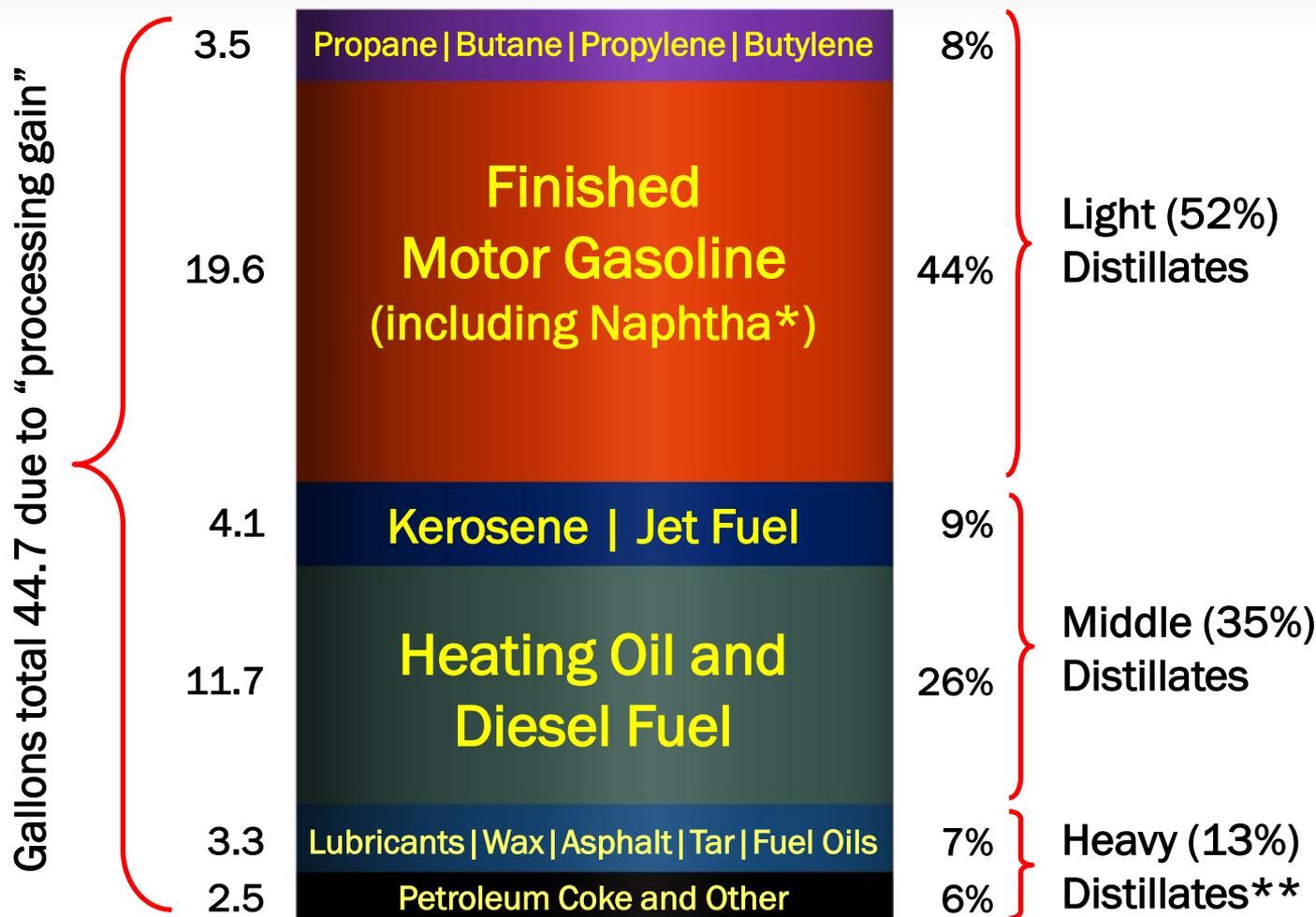
July 27, 2011

Steve Barker

Director, Technical Fuel Services and Standards
Air Transport Association of America



Jet Fuel Is a Drop in the Bucket, Subject to the Economics of Refining for All Petroleum Segments



* Feedstock for high-octane gasoline, petrochemicals and solvents
Sources: EIA and American Petroleum Institute

** Includes heavy oils and residuum used in industry, marine transportation and electric-power generation



Airline Industry Perspectives on Alternative Fuels and Related Strategic Partnerships

In 2010 US Airlines consumed 3 Billion fewer gallons than they did in 2000

- Conservation- more than doubled fuel efficiency since 1978
- New Aircraft and Engine Technology
- Operational changes

EPA's latest greenhouse gas (GHG) inventory

- commercial aviation's domestic GHG emissions declined 18 percent from 1990.



Low-Carbon Fuels Critical to Voluntary Environmental Commitments of Worldwide Aviation Industry

1. Improve fuel efficiency by 1.5% p.a. in 2009-2020
2. Achieve carbon-neutral growth (“CNG”) from 2020
3. Reduce sector emissions by 50% from 2005 to 2050



The Collective Goal is to Minimize Risk for All Involved

1. **Construction** – what is cost and time to complete?
2. **Technology** – what if the technology does not work, or if it fails to yield the promised production efficiency?
3. **Feedstock** – was it available at any cost, let alone at the presumed cost?
4. **Policy** – if the project's viability depends on government policy/assistance, will that policy remain constant throughout the facility's economic life?
5. **Financial** – were the economic assumptions (e.g., cost of debt and equity, cost of production, selling price of all of the fuel products) realized?
6. **Engineering** – was the engineering and design of the plant appropriate?
7. **Management** – what experience does management have and what happens if it proves inadequate for the task?



Airline Strategies

ATA is advancing the adoption of a global framework for further fuel efficiency and greenhouse gas emissions improvements under the International Civil Aviation Organization (ICAO)

ATA Supports US and Global Alternative Fuels Development

- Co-founder of the Commercial Aviation Alternative Fuels Initiative (CAAFI)
- ATA supports DLA Initiatives with the Navy, Air Force, PACOM
- ATA Works with Stakeholders, USDA and Congress to Support Farm to Fly Initiatives
- ATA and its Members Pursue Strategic Partnerships



Airlines Support of Alternative Fuels Development

Fischer-Tropsch-2009

- CTL
- BTL
- GTL

HEFA-Hydroprocessed Esters and Fatty Acids -2011

- Plant and Animal Oils/Tallow

Alcohol/Fermentation Derived Fuels



Airline Effectiveness and Leadership

- 2009
 - 8 U.S. airlines, signed a contract for renewable synthetic diesel to be used in ground equipment at LAX
 - 15 airlines signed MOUs to negotiate a future supply of Fischer-Tropsch and Hydrotreated Renewable Jet fuels for use in the U.S. Gulf Coast and the Pacific Northwest
- 2010
 - ATA signed a strategic alliance with the U.S. Defense Logistics Agency (DLA) to develop and deploy alternative aviation fuels in key U.S. regions
 - ATA/Boeing/USDA launched the “Farm to Fly” initiative – recognizing the critical role of USDA as a feedstock enabler for aviation fuel supply chains
- 2011
 - ATA member airlines announced letter of intent with Solena Fuels LLC for a future supply of aviation fuels derived from biomass in the San Francisco Bay area



Airline Industry Partnerships

- **2010**

- ATA established the Fuel Technical Committee (FTC)
- ATA FTC coordination at ASTM, NFPA and other associations
- ATA FTC establishing relationships with aviation fuel supply chains
 - Oil Companies
 - Pipeline Companies
 - Terminals

- **2011**

- ATA FTC cooperation with industry technical organizations
 - Energy Institute
 - Shared Inspection Group





AIR TRANSPORT ASSOCIATION

Airlines and Alternative Aviation Fuels

BIOMASS 2011

July 27, 2011

Steve Barker

Director, Technical Fuel Services and Standards
Air Transport Association of America



When America Flies, It Works



AIR TRANSPORT ASSOCIATION

www.airlines.org

www.caafi.org

