

Plastic Marketing Overview

MAJOR THERMOPLASTICS TO BE REVIEWED
MAKE UP 80% OF MARKET

POLYETHYLENE (HDPE/LDPE)

PET

POLYPROPYLENE

MAJOR FABRICATION PROCESSES

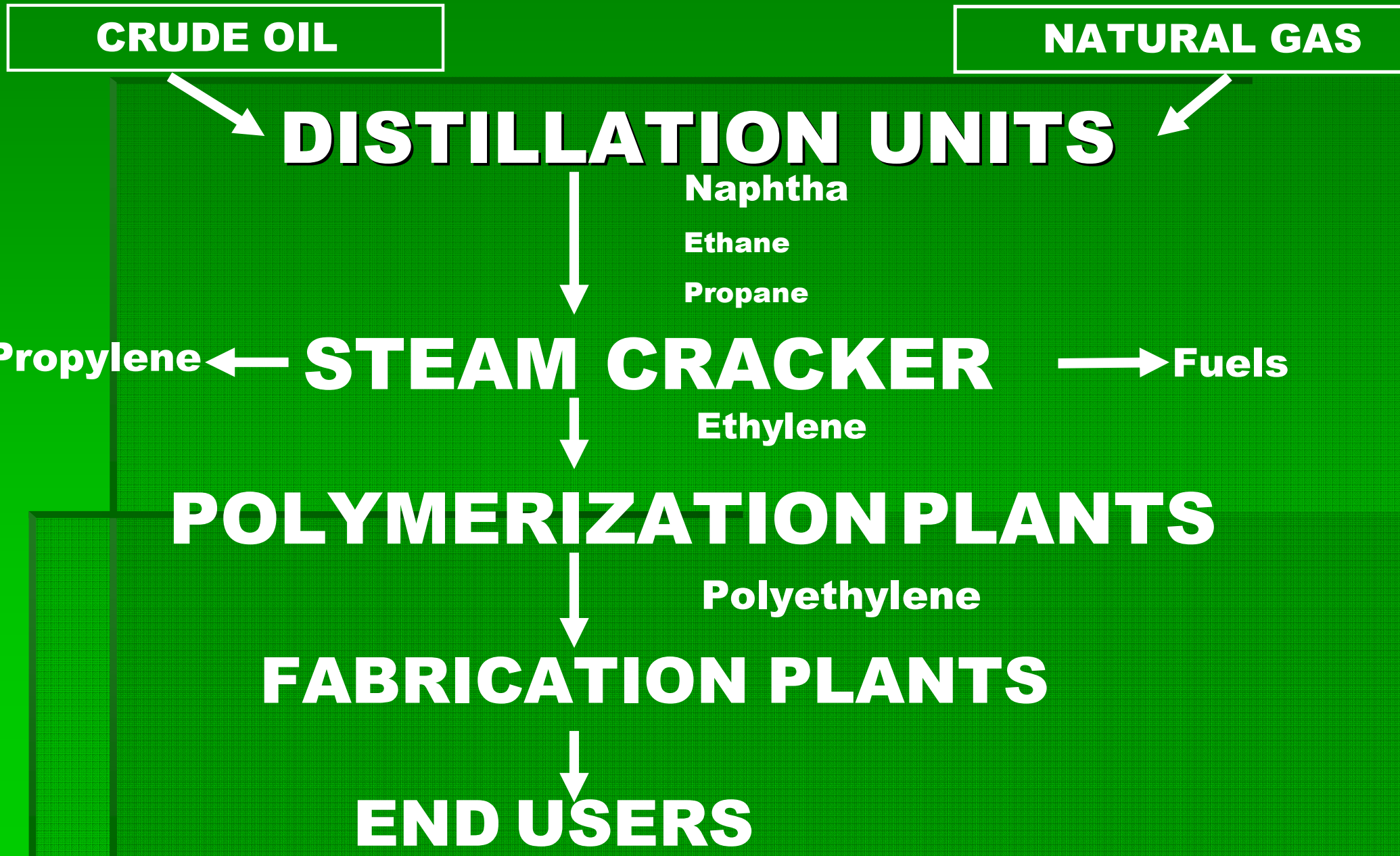
- INJECTION MOLDING
- BLOW MOLDING
- EXTRUSION
- FILM
- COMPOUNDING

MAJOR END USE MARKETS

TEN PERCENT OF US OIL CONSUMPTION IS USED IN PLASTIC MANUFACTURING

END USE	US MARKET k-TONS	PERCENT OF TOTAL MARKET
PACKAGING (Bottles, Film, Cups, etc.)	9683	25%
BUILDING & CONSTRUCTION (Pipe, Siding, insulation, etc.)	8554	22%
CONSUMER & INSTITUTIONAL (Toys, Housewares, Medical, etc.)	5290	13%
TRANSPORTATION	1846	05%
FURNITURE & FURNISHINGS	1694	04%
ELECTRICAL/ELECTRONICS	1461	04%

POLYETHYLENE SUPPLY CHAIN



POLYPROPYLENE SUPPLY CHAIN

CRUDE OIL

NATURAL GAS

DISTILLATION UNITS

Naphtha, Propane, etc

STEAM CRACKER

FCC

Fuels

Propylene

Propylene

Alkylation Units

69%

29%

POLYMERIZATION UNITS

POLYPROPYLENE

FABRICATION PLANTS

CONSUMERS

Ethylene

ISSUES FACING THE PLASTICS INDUSTRY

- FEED STOCK SUPPLY
 - A global market continues to grow demanding greater supplies
- INTERNATIONAL TRADE
 - Creates pricing disparities for domestic manufactures.
- NEED TO IMPROVE U.S. PLANTS
 - New processes
 - Upgrade older plants

CONCLUSIONS

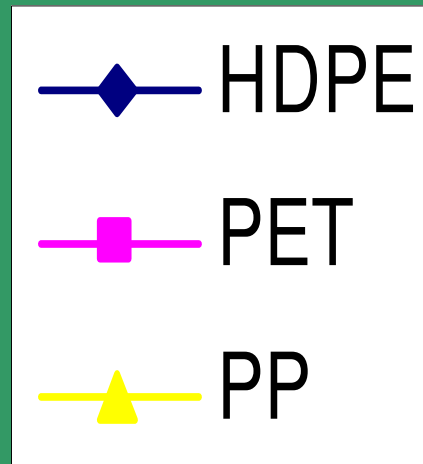
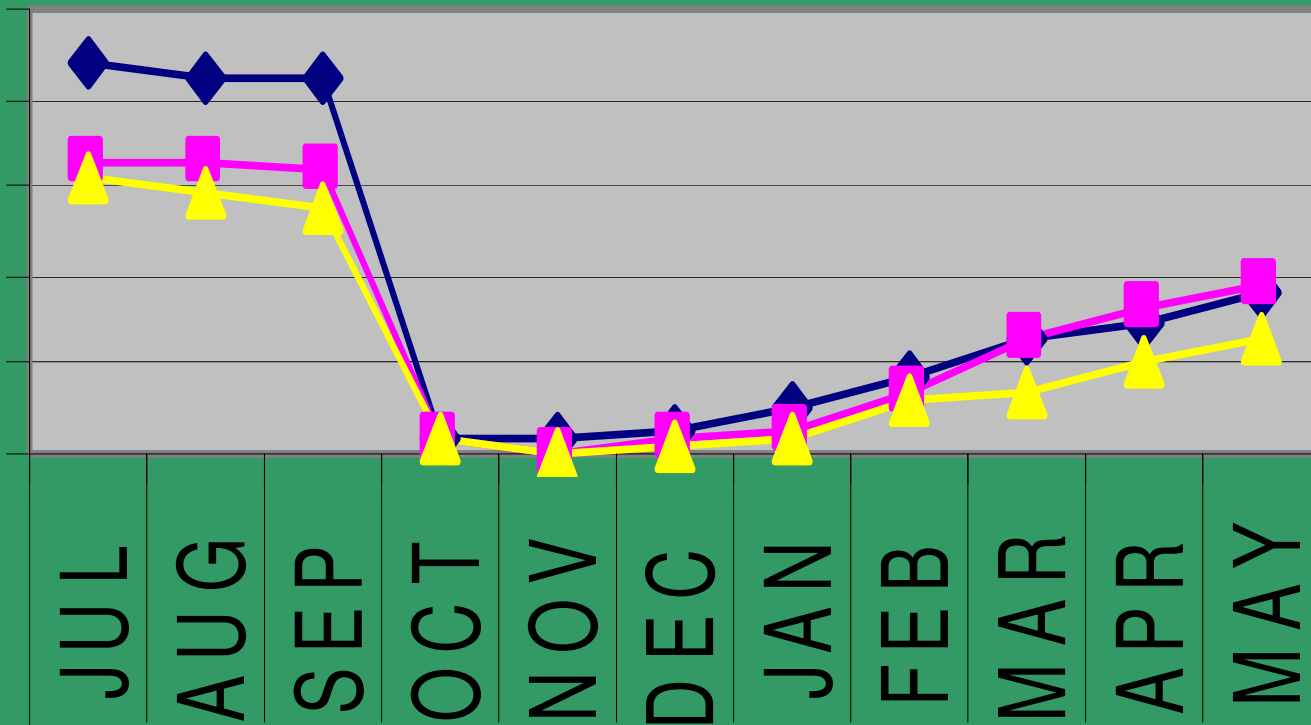
- ECONOMY IS IMPROVING
- TO IMPROVE PROFITABILITY
 - REDUCE OVERCAPACITIES
 - Shut down non-competitive plants
 - Build larger economically based plants based on good market research
 - Shift product lines from specialties to base grades

CONCLUSIONS

- **TO IMPROVE PROFITABILITY**
 - IMPROVE PROCESS/PRODUCTS
 - IMPROVE MARKET IMAGE
 - ENCOURAGE EDUCATION
 - DEAL WITH CHANGING REGIONAL MARKET DEMANDS

PLASTICS MARKET TREND

\$0.250
\$0.200
\$0.150
\$0.100
\$0.050
\$0.000



Plastic Market Values July 08 through
May 09