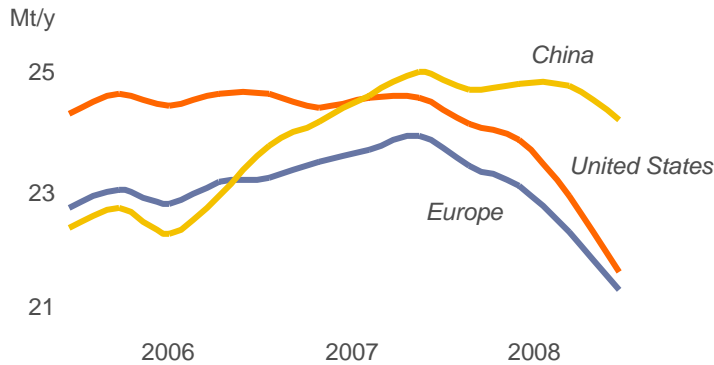


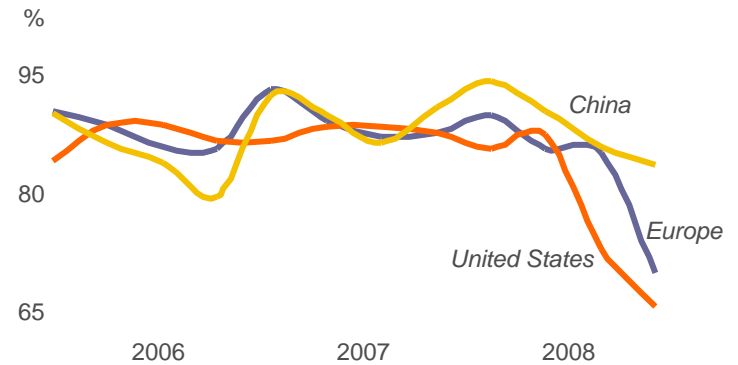
# Chemicals

# Chemicals environment strongly affected by economic crisis

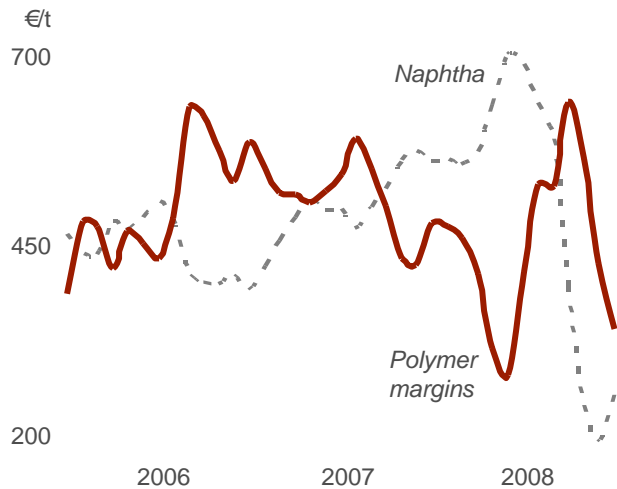
Polymer demand



Utilization rates for crackers



European polymer margins

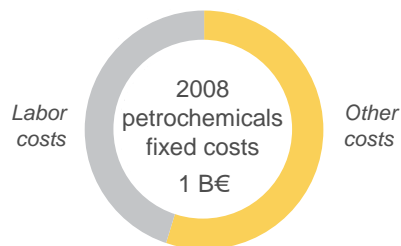


**2008, the first year of decline for ethylene demand in 30 years**  
**Financial difficulties for major independent chemical companies**  
**Potential impact on supply**  
**Specialty chemicals also affected**

source : public data

# Productivity programs play important role for petrochemicals

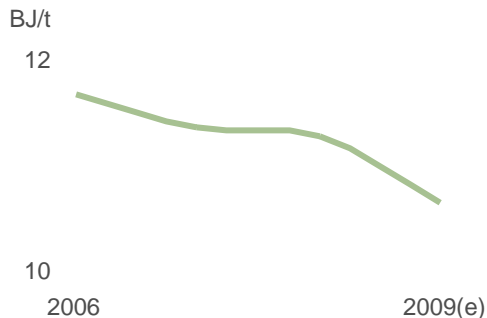
## Reducing fixed costs Europe – United States



Shut down Carling cracker early 2009  
-5% of petrochemicals labor costs

## Improving energy efficiency Europe – United States

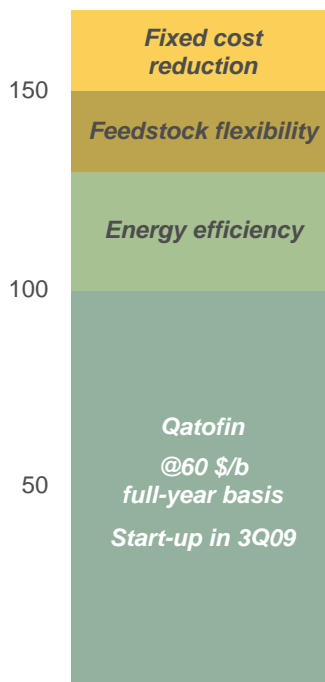
(energy consumption for petrochemical plants)



Optimization of furnaces and boilers  
Modernization of Gonfreville styrene unit

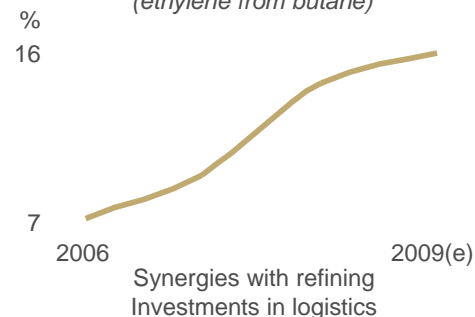
>150 M\$/year

Impact on net operating income  
for petrochemicals



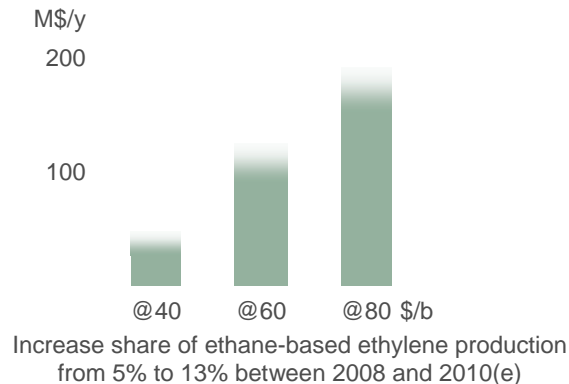
## Increasing feedstock flexibility Europe – United States

(ethylene from butane)



## Launching new ethane-based projects in Middle East

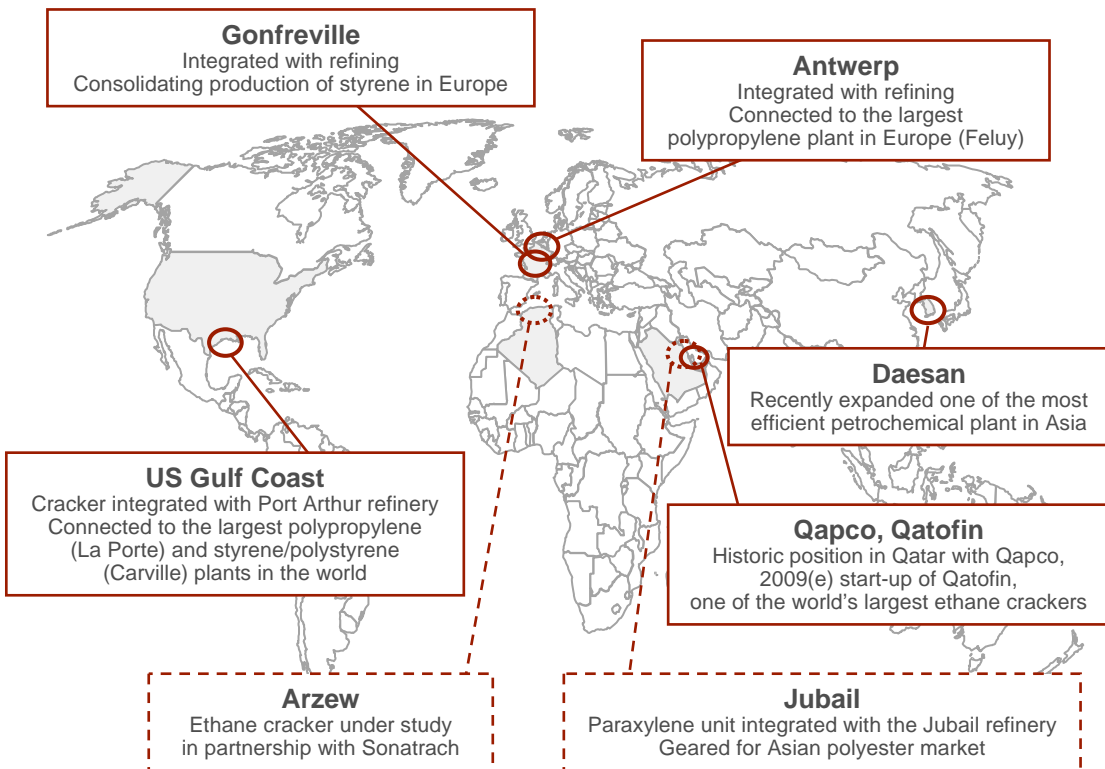
(Qatofin contribution to net operating income)



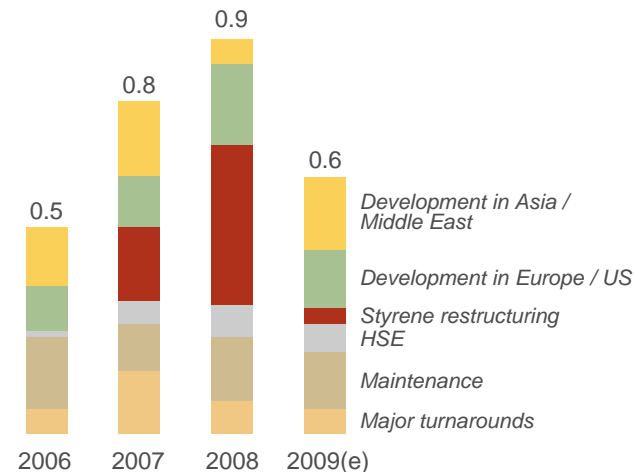
**Projected 2009 profitability still not satisfactory  
Additional self-help measures will be required**

# Optimizing portfolio and high-grading investments

## Concentrating on the main petrochemical platforms



## Capex for petrochemicals (B\$)



## Consolidating European styrene in 2009

- > Closure of Carling cracker in early 2009
- > Gonfreville styrene capacity expanded by 210 kt/y with modernization of world-class (600 kt/y) unit
- > Total's styrene capacity : -120 kt/y

**Adapting petrochemicals to market changes in mature areas**  
**Developing ethane-based projects in Qatar and Algeria**