

# PETROCHEMICALS: A GROWING AND PROFITABLE BUSINESS

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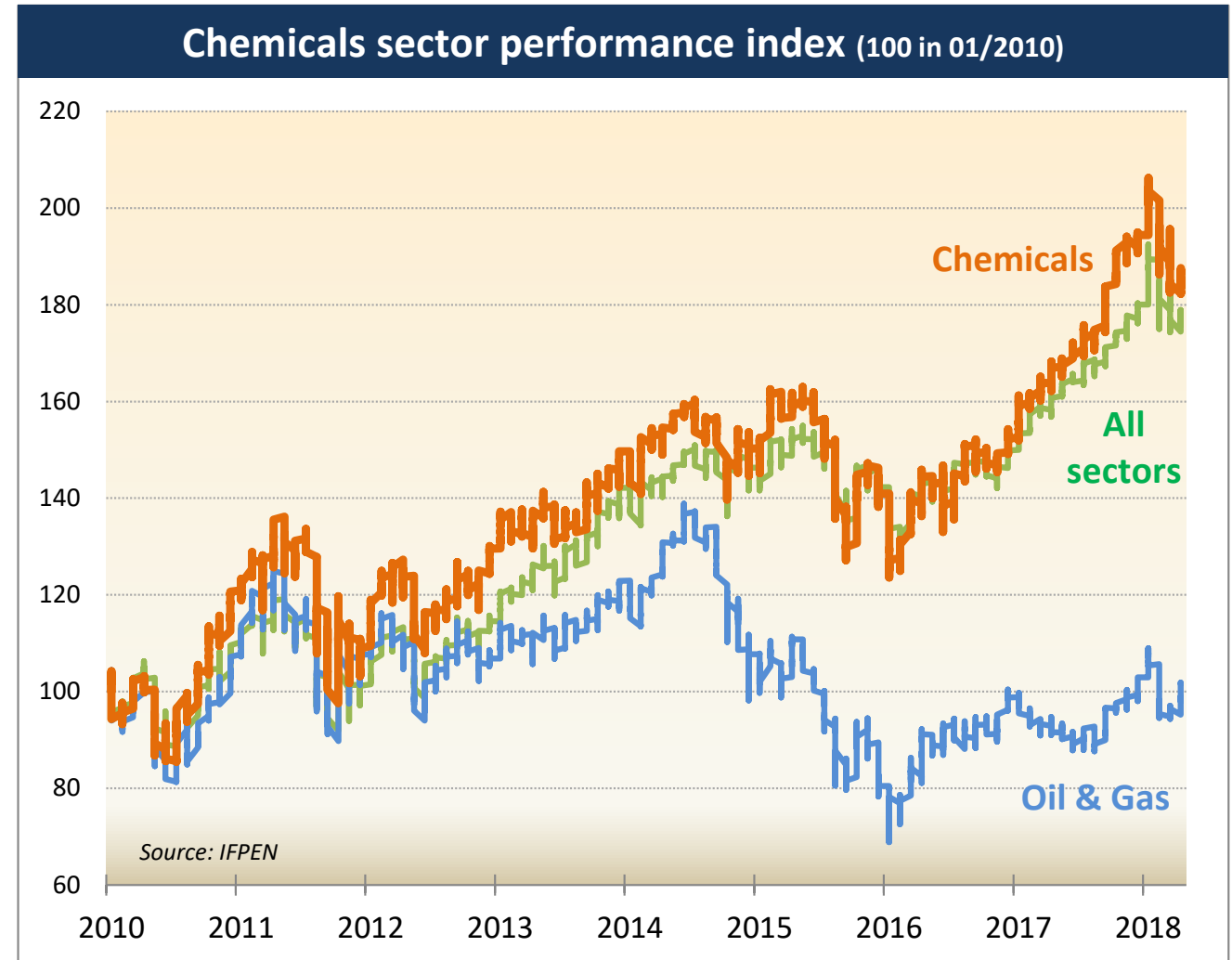
*Didier Houssin, Chairman & CEO of IFP Energies nouvelles*



# CHEMICALS SECTOR: STRONG PROFITS

RESPONSIBLE  
OIL AND GAS

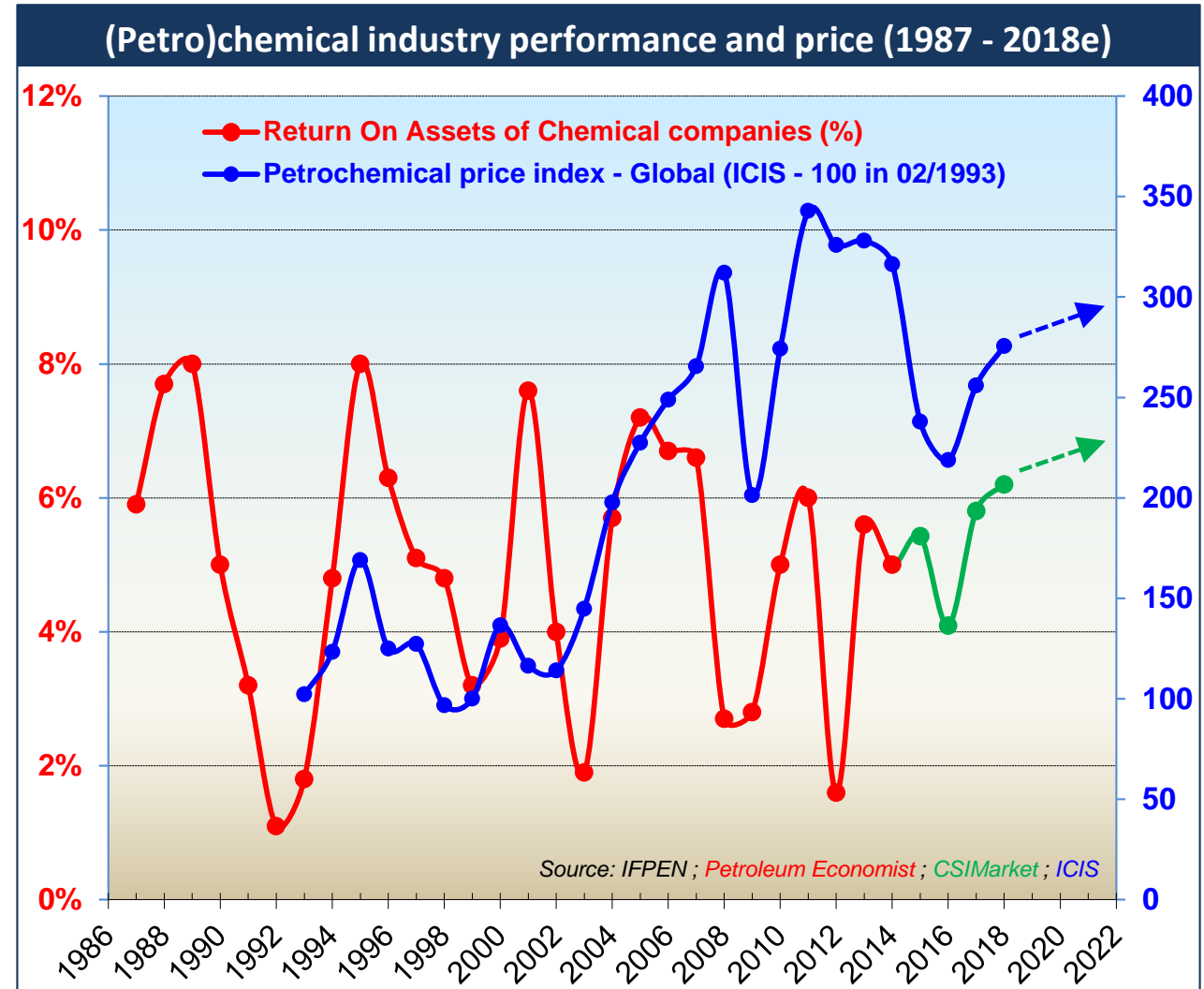
- Since 2015, **higher demand** for petrochemicals compared to Oil & Gas
- Petrochemicals have become a **stable** source of income
- **Long-term profitability** despite demand growth contingencies



# THE PROFITABILITY OF THE PETROCHEMICAL INDUSTRY IS CYCLICAL AND HAS RECOVERED

RESPONSIBLE  
OIL AND GAS

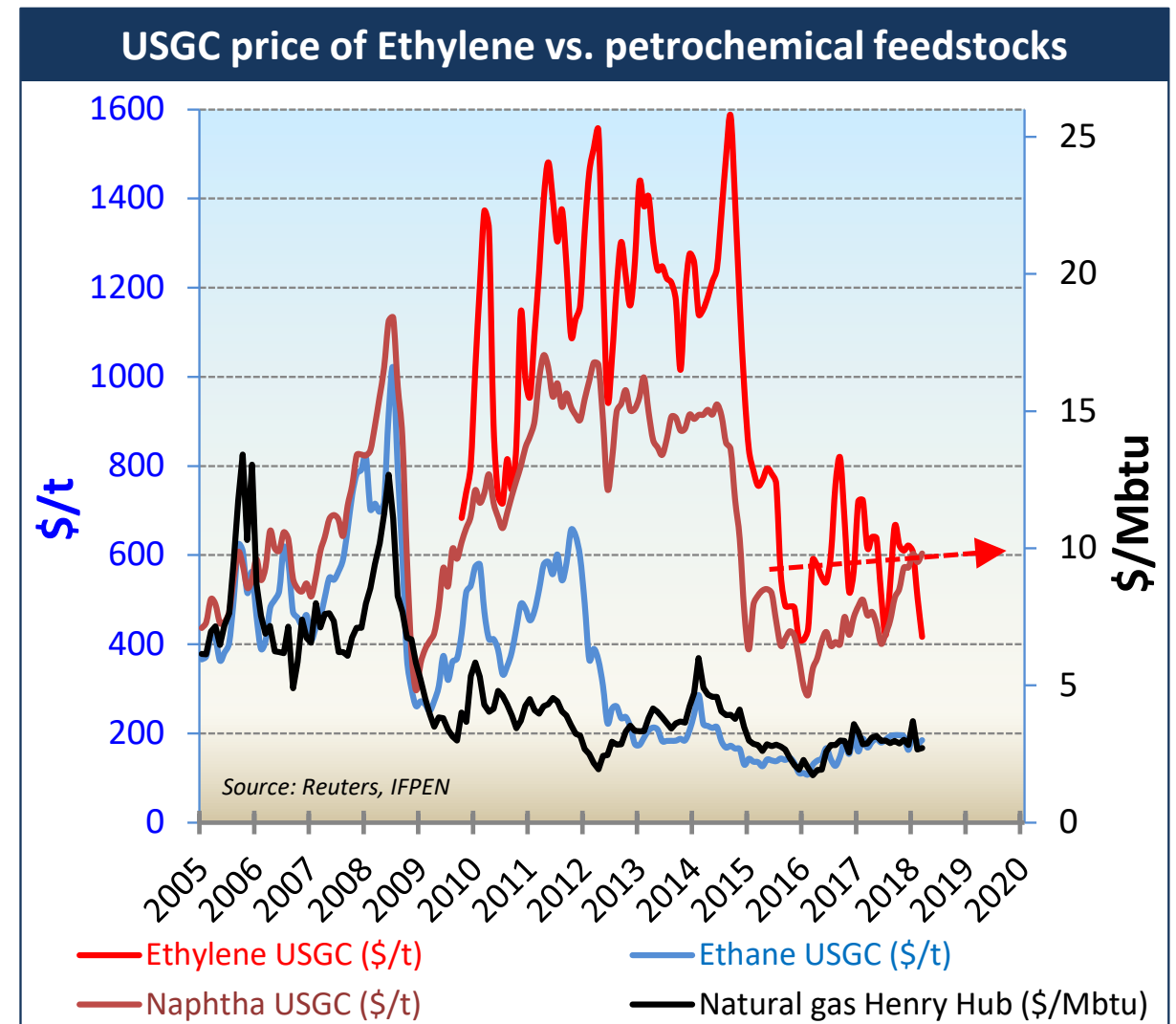
- Return On Assets has been **increasing** since 2016...
- ... like petrochemical prices
- ... in an improving global economy



# PRODUCING ETHYLENE FROM ETHANE IS PROFITABLE

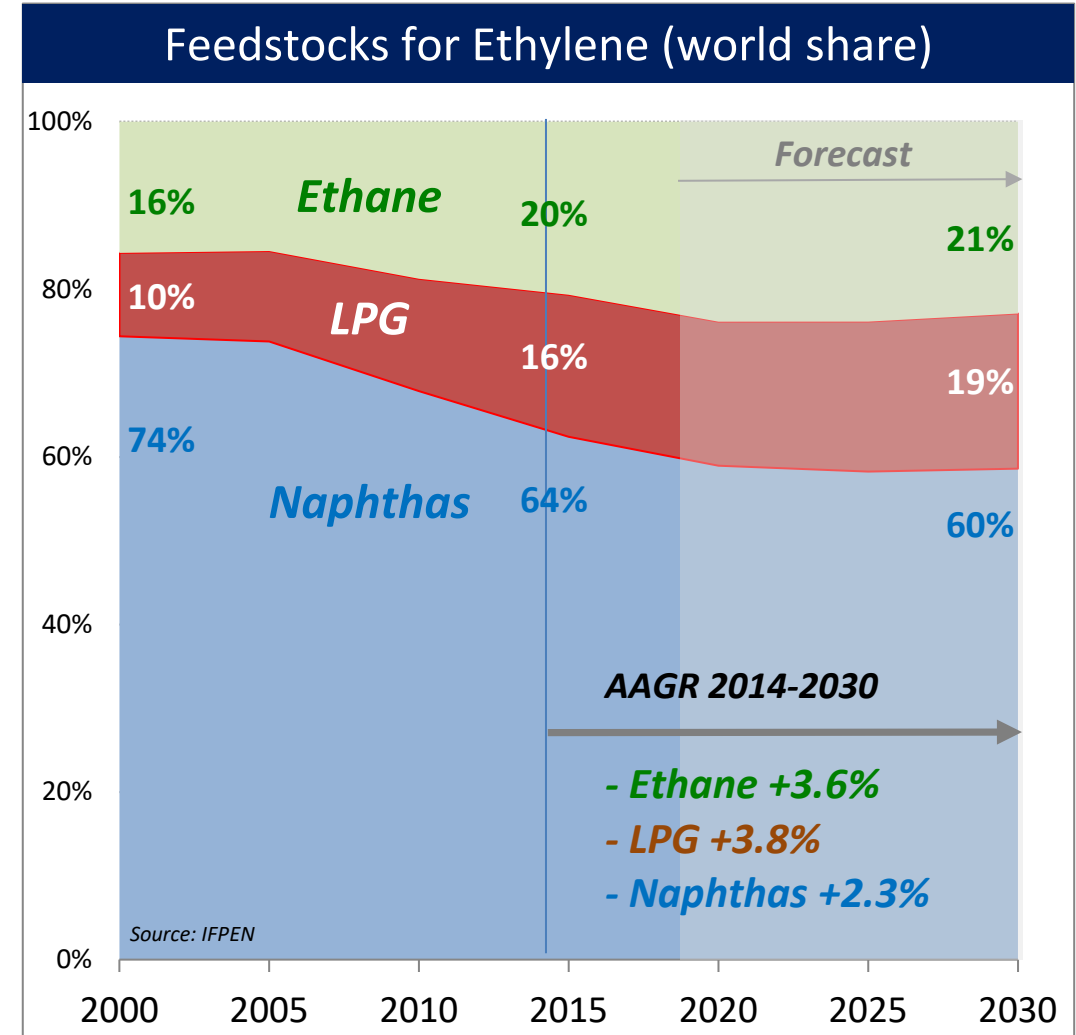
RESPONSIBLE  
OIL AND GAS

- In the USA, “low” ethane price and strong demand have supported ethylene price making it attractive for investors
- Producing ethylene from naphtha is less attractive but unlike ethane, **naphtha leads to valuable heavier olefins** (e.g. propylene)
- Demand growth for these petrochemicals is expected to **exceed** ethylene’s.



# ETHANE VS. NAPHTHA: WHAT ABOUT LPGs?

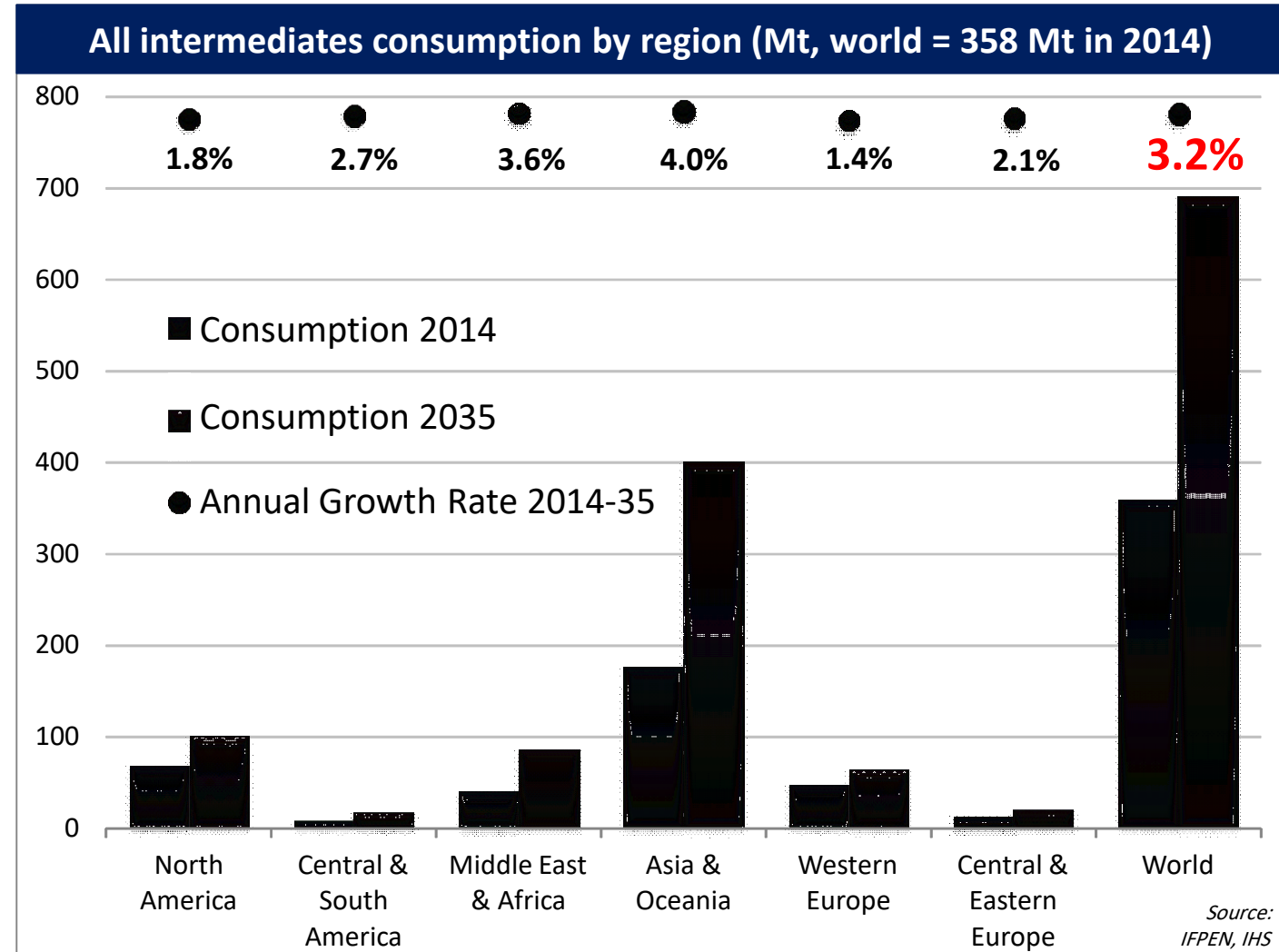
- **Naphthas market share in 2030**
  - 60% of the total feedstock
  - Ethane+LPGs+Naphthas and still the 1st feedstock used
- **Ethane market share**
  - growing sharply until 2020-25, then stabilizing
- **LPGs market share**
  - reaching 19% in 2030, should not be considered as the « forgotten feedstock » any more



# CONSUMPTION SHOULD DOUBLE IN 20 YEARS

RESPONSIBLE  
OIL AND GAS

- 691 Mt of petrochemical intermediates in 2035, + 3.2%py between 2014 and 2035
- Most dynamic markets are Asia and Middle-East. 58% of the total consumption in 2035 will occur in Asia (49% in 2014)
- In 2035, Middle-East is expected to equal Europe's consumption with a 12% share each

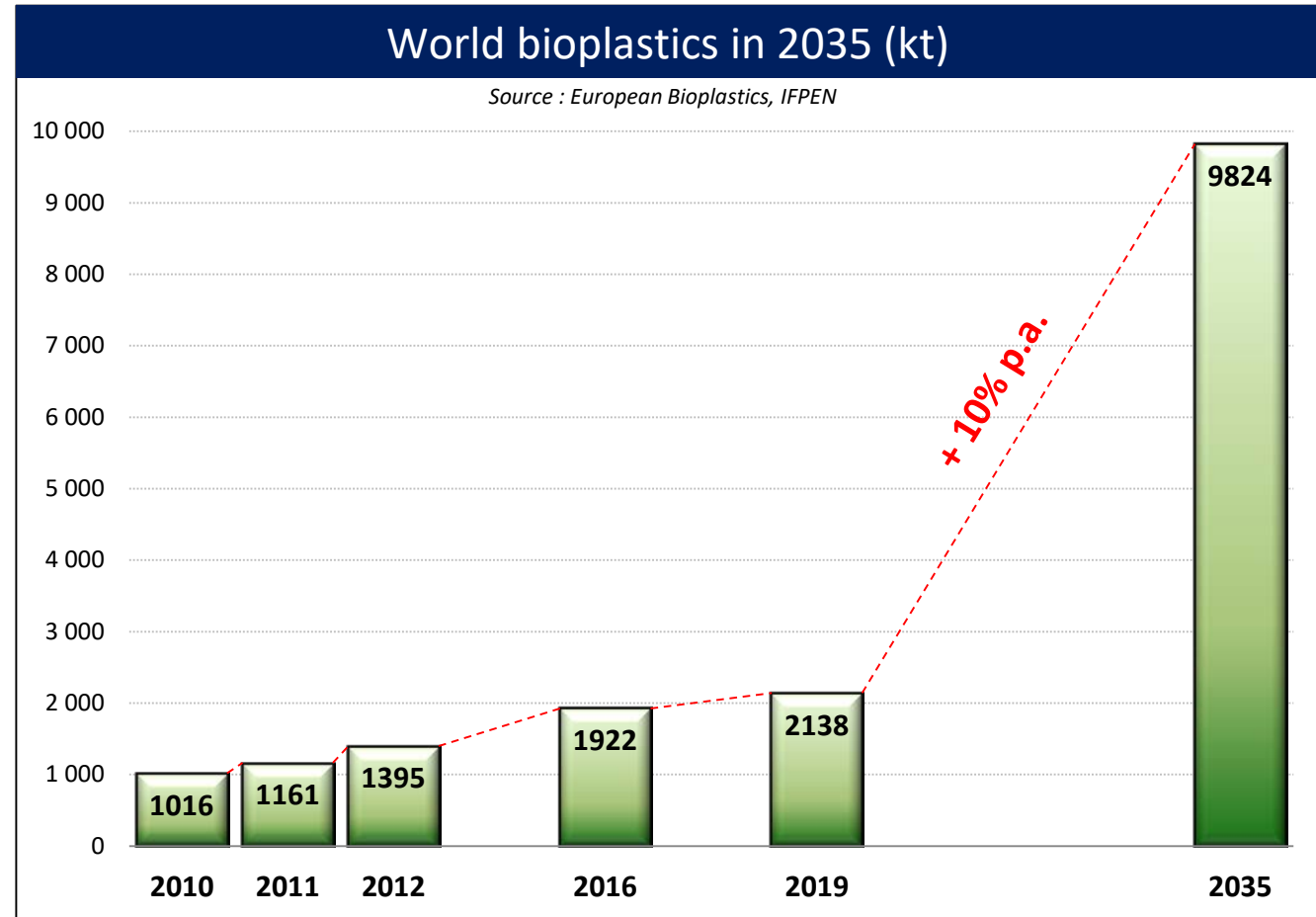


# THE BIOPLASTICS INDUSTRY COULD DELIVER 10 MT OF PRODUCTS IN 2035

RESPONSIBLE  
OIL AND GAS

## ● Bioplastics production

- Is increasing sharply but is still modest,
- Accounted for only 0.5% of total plastic production in 2012 (290 Mt),
- Could reach 1.7% in 2035 with a annual growth rate of 10% between 2019 and 2035.



# PETROCHEMICAL PRODUCTS ARE AT THE HEART OF A COMPLEX CHAIN, WHOSE PROFITABILITY DEPENDS ON ...

RESPONSIBLE  
OIL AND GAS

## ● Raw material's costs

- Production costs strongly depend on raw material prices, i.e. energy prices: the petrochemical industry uses only ~10% of total fossil fuel supply

## ● Commodity and specialty markets

- Connected more to economic health and GDP than to oil and gas markets

## ● Margin / price differential

- Ability of petrochemical companies to pass on the cost increase downstream to their immediate and end-use customers

## ● Environmental cost and legislation

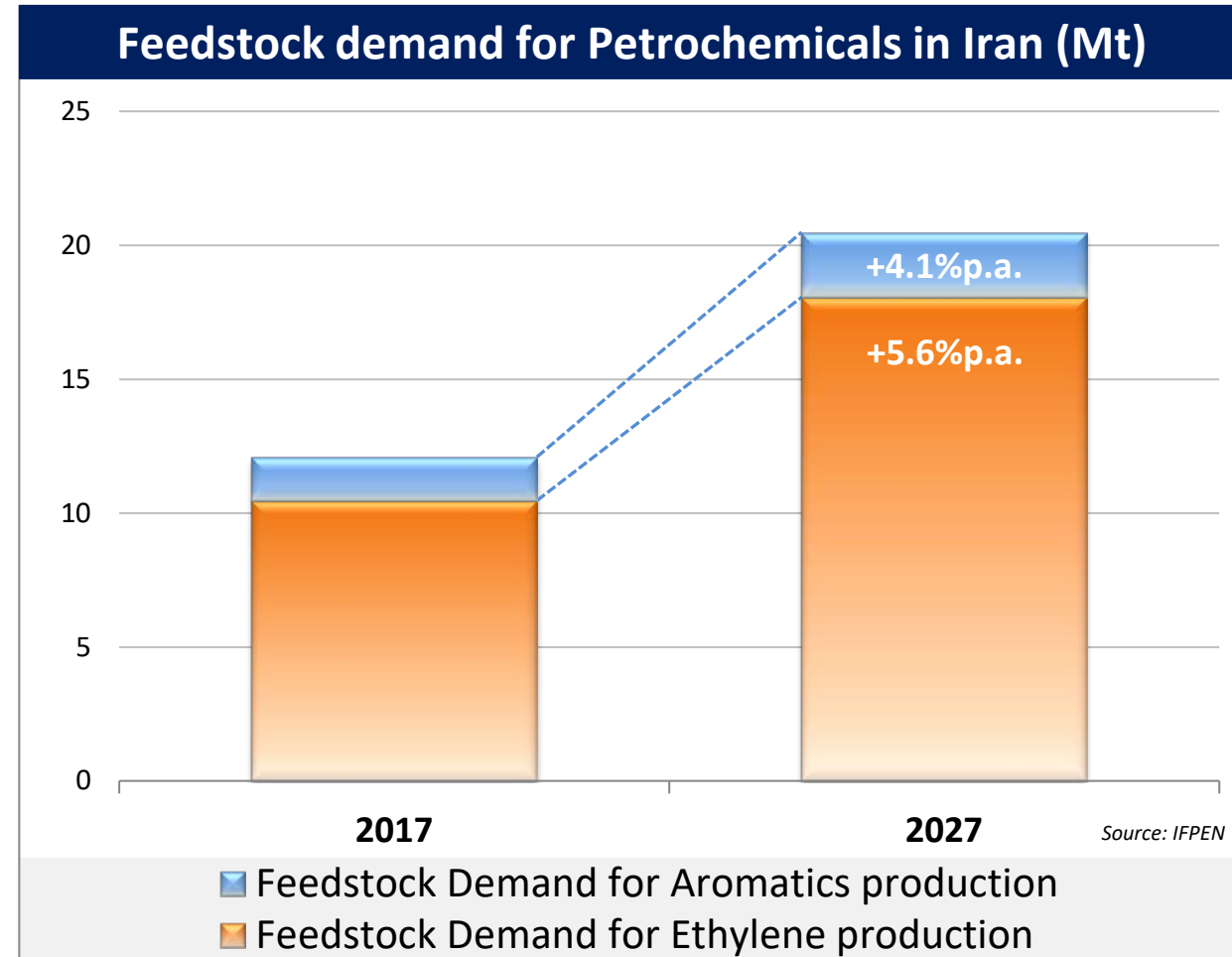
- Climate change, Recycling of plastics and Chemical Safety (e.g. REACH in Europe)



# CONCLUSION FOR IRAN PETROCHEMICALS : A STRONG GROWTH PROJECTED FOR THE NEXT 10 YEARS

RESPONSIBLE  
OIL AND GAS

- Iran
  - Today and future : #1 gas producer in the Middle-East
- Feedstock demand for petrochemicals for the next 10 years
  - Ethylene : +5.6%pa.
  - Aromatics : +4.1%pa.



*Thank you for your attention*

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