

# The Refining Sector in Greece

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**5<sup>th</sup> EU Refining Forum  
15 June 2015, Brussels**

**Ministry for  
Reconstruction of  
Production, Environment,  
and Energy-Greece**

# The Refining Industry in Greece

*The refining sector in Greece: Contribution to the Economy and Prospects*  
(IOBE Danchev, Maniatis, 2014)

Company	Refinery	Refining capacity		Nelson complexity factor	Type
		Million tones per year	Thousand barrels per day		
Hellenic Petroleum	Aspropyrgos	7.5	145	11.0	Cracking (FCC)
	Elefsina	5.0	100	8.1	Hydrocracking
	Thessaloniki	3.5	70	7.3	Hydroskimming
Motor Oil	Korinthos	9	180	10.4	Cracking (FCC)
<b>Total</b>		<b>25</b>	<b>495</b>	<b>9.6 (EU: 7.6)</b>	

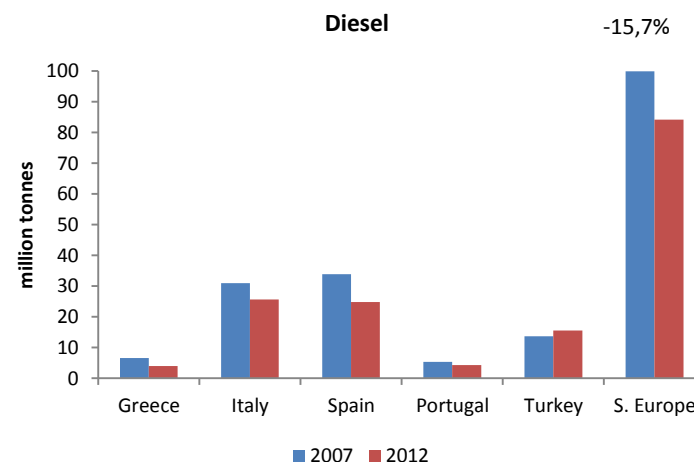
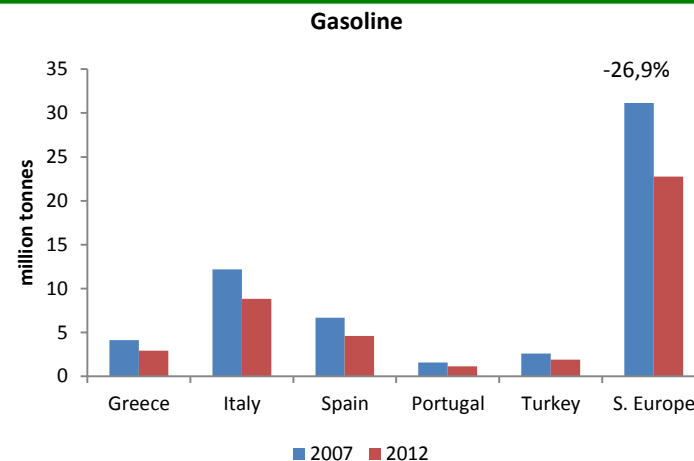
Source: Ministry/IOBE

# The demand for oil products has fallen sharply in Greece and in the wider region since the start of the economic crisis

	2008	2012	2013	2013/12	2013/08
<b>Domestic market</b>					
				(%) Change	
Other products	3214	1748	1717	-2%	-47%
Heating oil	2457	1863	908	-51%	-63%
Diesel oil	2976	1925	2009	4%	-32%
Gasoline	4059	2943	2670	-9%	-34%
<b>Subtotal</b>	<b>12706</b>	<b>8479</b>	<b>7304</b>	<b>-14%</b>	<b>-43%</b>
<b>International market</b>					
Marine heavy fuel oil	2815	2064	1912	-7%	-32%
Marine Diesel	339	264	281	6%	-17%
Jet fuel oil	965	641	656	2%	-32%
<b>Subtotal</b>	<b>4119</b>	<b>2969</b>	<b>2849</b>	<b>-4%</b>	<b>-31%</b>
<b>Total</b>	<b>16825</b>	<b>11448</b>	<b>10153</b>	<b>-11%</b>	<b>-40%</b>

Source: Ministry

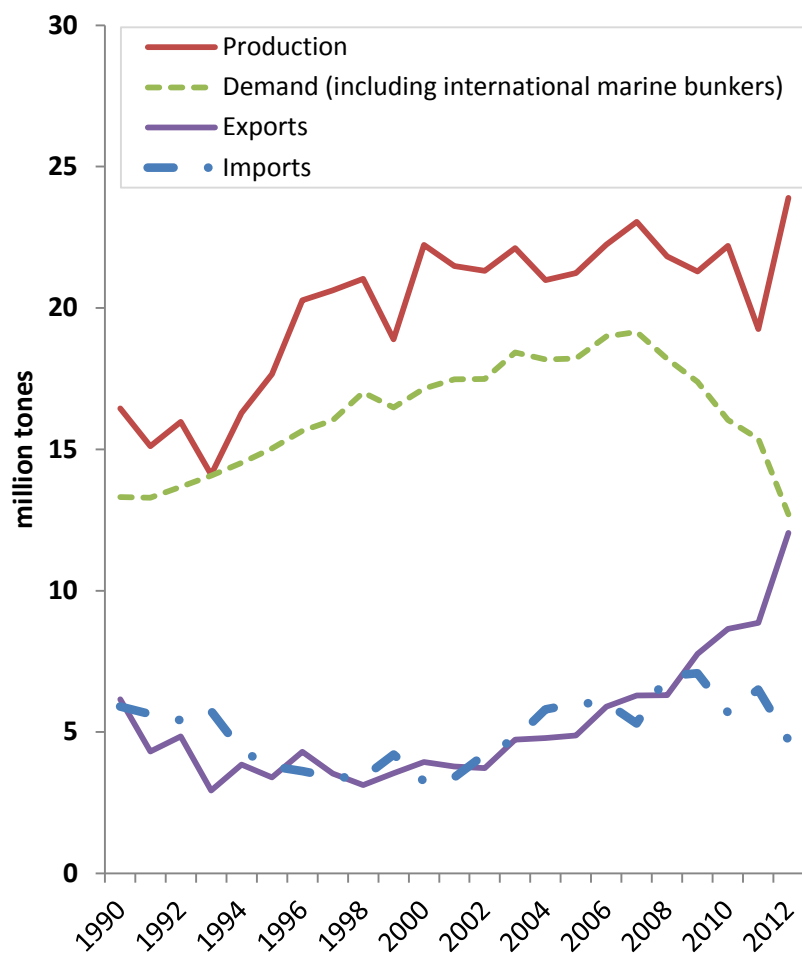
- **Key drivers of the demand contraction**
  - **Economic recession**
  - **Tax hikes on oil products**
  - **Weather conditions**



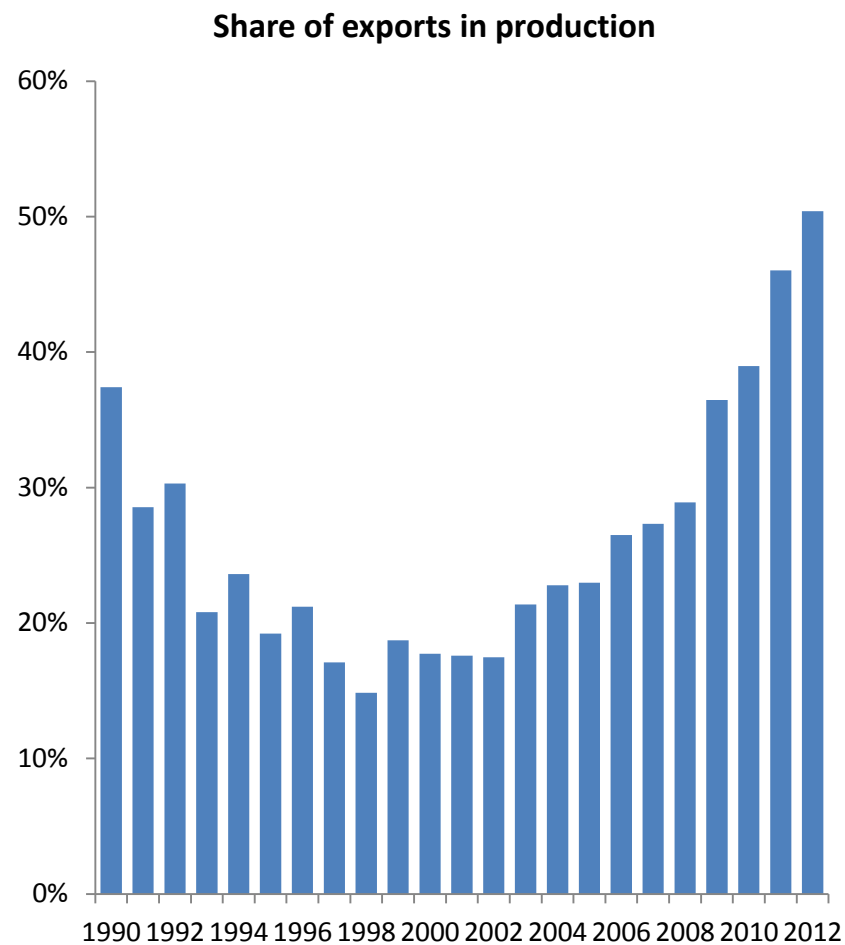
Source: Eurostat/Petder

\*South Europe here includes Greece, Italy, Spain, Portugal, Turkey, Cyprus, Malta, Bulgaria, Romania, Slovenia and Croatia.

## The domestic production has rocketed due to stronger exports

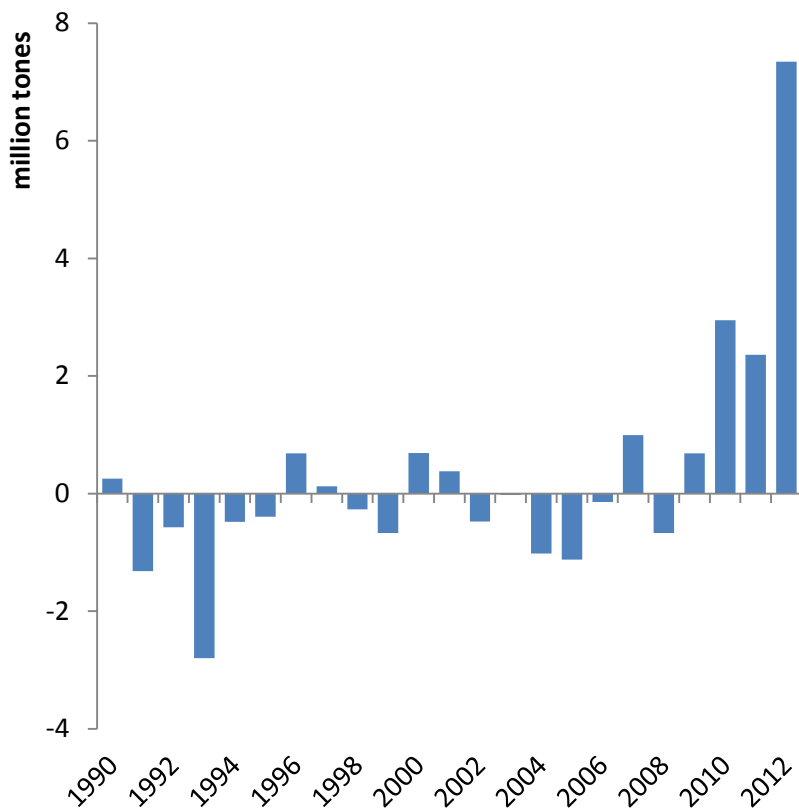


Source: Eurostat

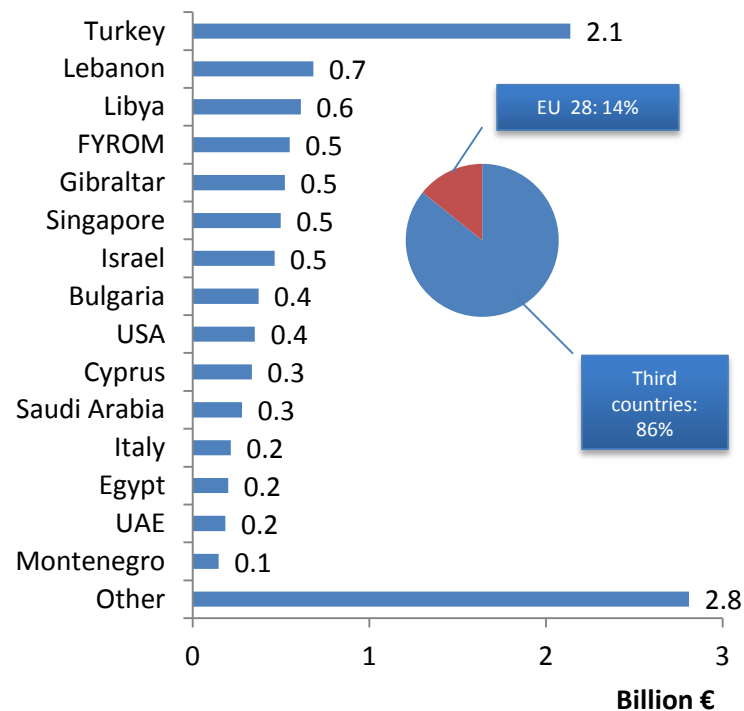


## Trade surplus of petroleum products since 2009, with 86% of the exports going to non-EU markets

Trade balance of petroleum products

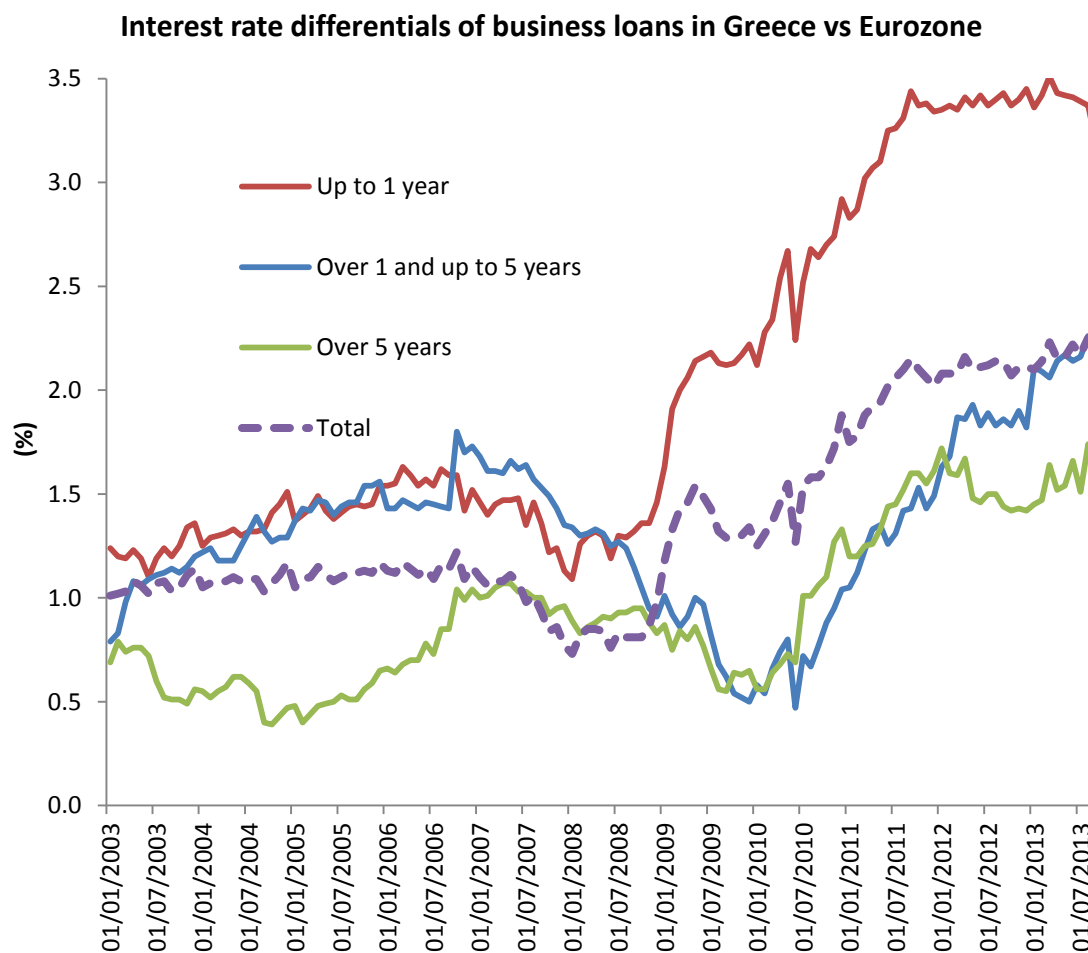


Main export destinations for petroleum products



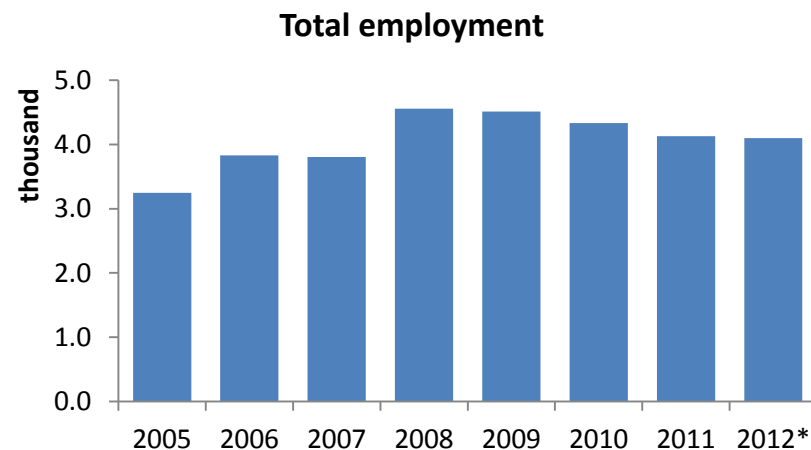
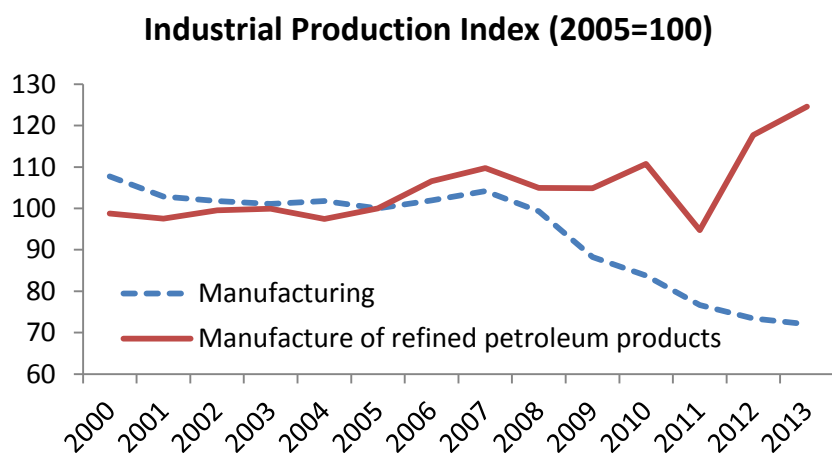
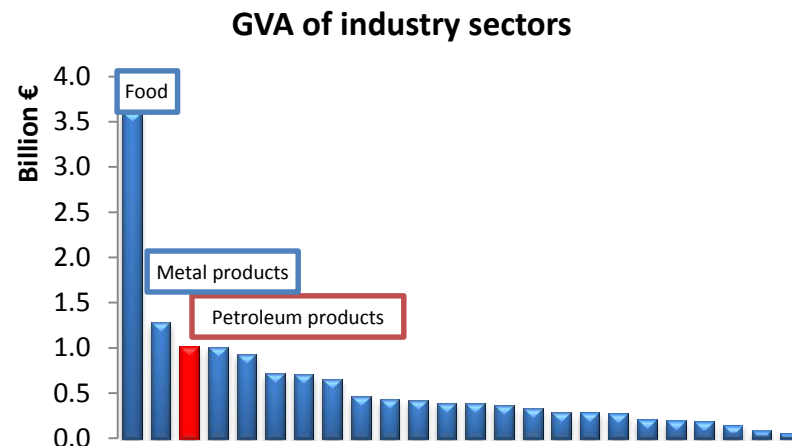
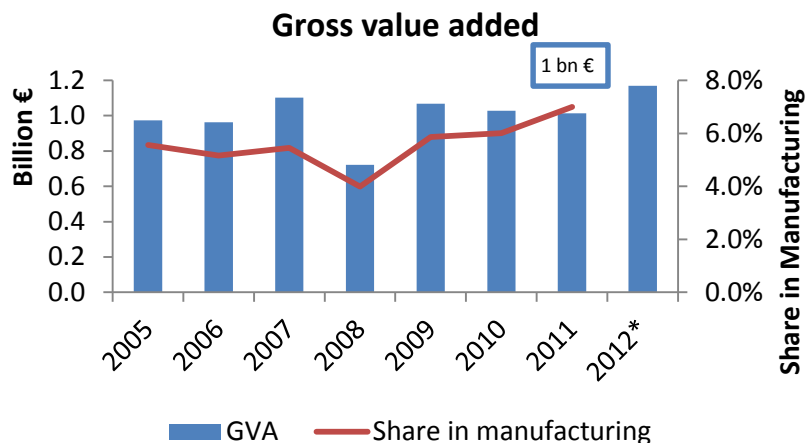
Source: Eurostat

## The cost of capital has increased, with a negative impact on the profitability of the sector



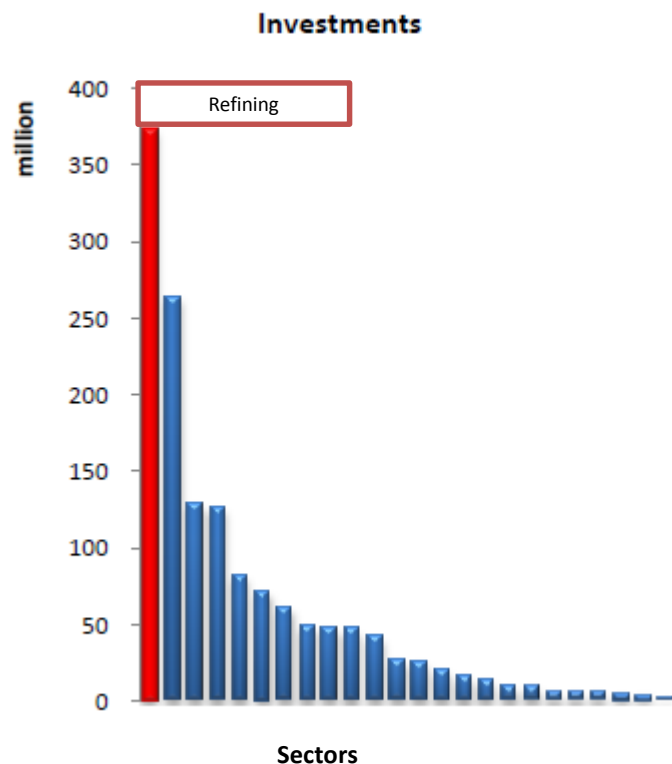
Source: ECB

## The Gross value added approached 1 bn € with significant impact on employment



Source: EL.STAT.

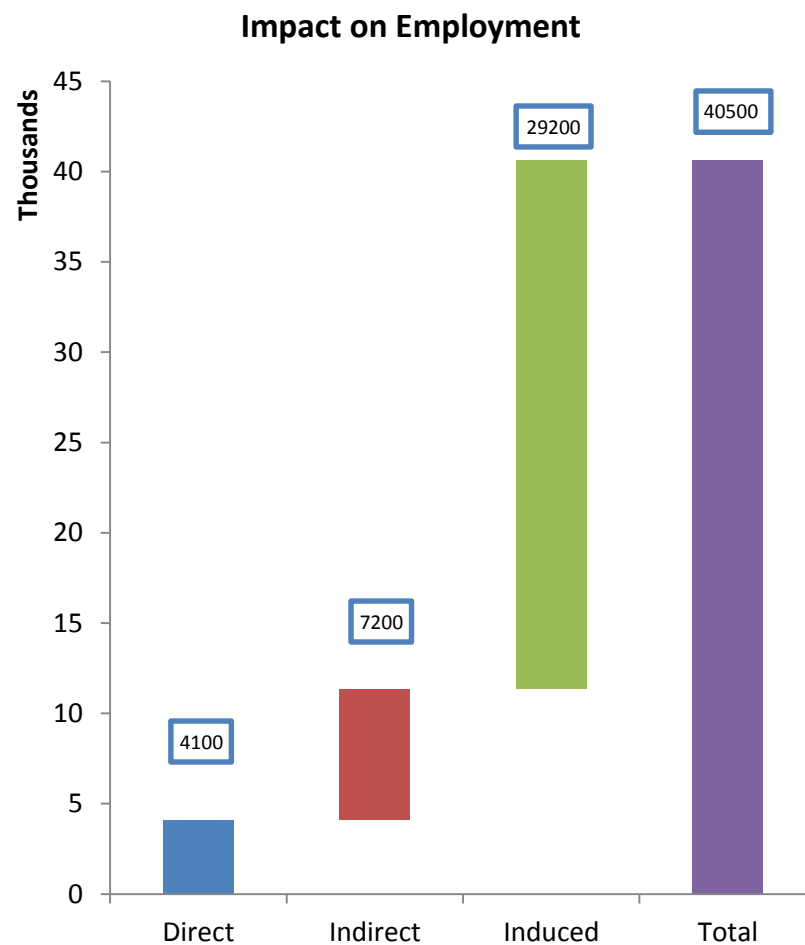
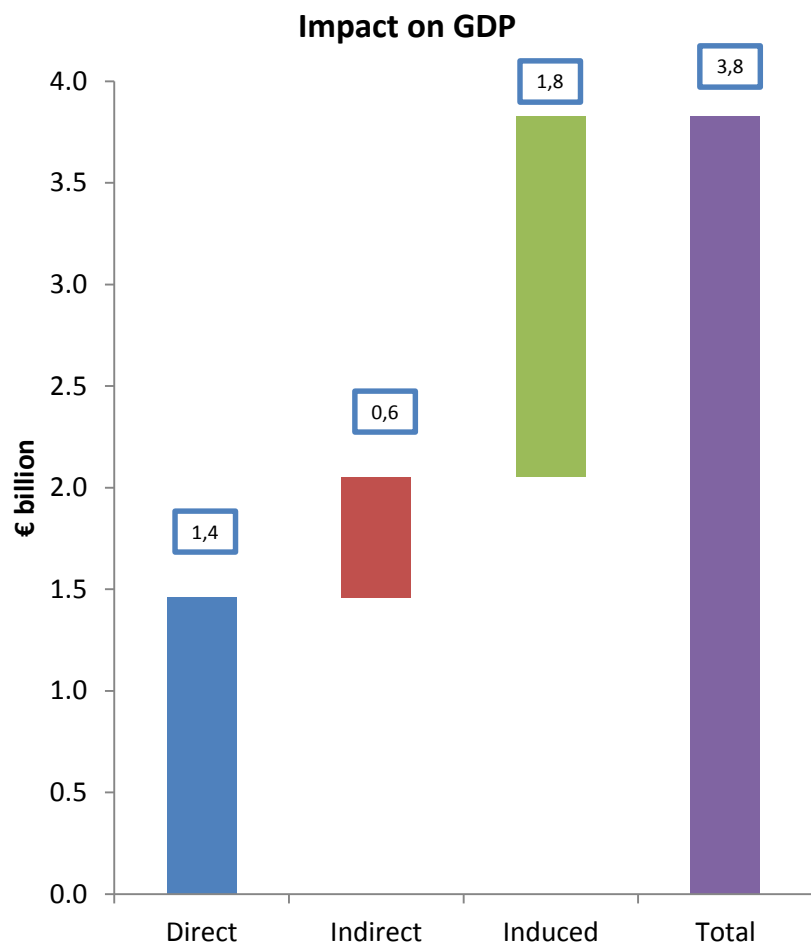
## Investments totaling 2,7 billion € in 2009-2012 when GDP contracted by more than 20%



- Large part of the operating surplus is reinvested
- Investment intensity index exceeded 28% on average for the period 2005-2011



## Refineries' activity contributed about 3,8 bn € in 2012 (2% GDP)



Source: IOBE

## The key EU legislation that has a real or potential impact on the competitiveness of the refining sector

### Emission Trading System (ETS)

- Estimated cost of direct emissions 2013-2020 and current protection (Refining finally included in carbon leakage list till 2020, but still risk for post 2020) :
  - 5€/tCO<sub>2</sub> : €108 million
  - 30 €/tCO<sub>2</sub> : €648 million
- Higher carbon leakage risk from indirect emissions in Greece:
  - High cost of indirect emissions (electricity prod. Mix),(own produced products instead of gas)
  - High trade intensity i.e. >50% (significantly higher than EU - 38%)

### Industrial Emissions Directive (IED)

- The recently adopted BREFs for refineries (Oct14)
  - Impose compliance with stricter BAT-ELVs
- Provide tools for a cost-effective reduction for air emissions, i.e. bubble concept for SO<sub>2</sub> and NO<sub>x</sub>
- Compliance cost estimated at €70-300 million per refinery (Europa 2013)

### Fuel Quality Directive (FQD)

- Reduction of the carbon footprint, increased use of bio fuels and specification changes (e.g. sulphur, aromatics etc)
- Adjustment cost for the refineries:
  - Additional processing requirements
- Substitution of fossil-based fuels with bio fuels
- Potentially higher CO<sub>2</sub> emissions during the production process

## Measures that could be taken to safeguard the competitiveness of the refining sector

### EU level

- ETS – Carbon leakage:
  - Allocation of allowances to the refining sector after 2019 as well
- Balanced approach in the implementation of policy measures on climate, energy and the environment
  - Take into account impact on competitiveness
  - Take into account the fitness check' conclusions before deciding on changes in the legislation that affect the refining sector
- Avoid unilateral EU measures
- Push for global agreement in COP Paris 2015 on greenhouse gas reduction

### Domestic level

- Measures for Energy cost reductions:
  - Excise duty on electricity (2,5 €/Mwh) and natural gas (5,4 €/Mwh)
  - Contribution to RES (ETMEAR) ( 2,23 €/Mwh),
  - Indirect CO<sub>2</sub> emissions cost (electricity) 4,44 €/Mwh
  - Public Service Obligations (YKO) (4,14 €/Mwh )
- Fully implement the adopted measures for the elimination of the illicit fuel trade (trade oil product sector)

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# Thank you for your attention

Ministry for Reconstruction of Production,  
Environment and Energy  
Greece

[www.ypeka.gr](http://www.ypeka.gr)

Directorate for Hydrocarbons  
CHRYSOCHOOU Tasos  
ChrysochoouA@eka.ypeka.gr