



Ministry of economic development

Directorate general for security supply and energy infrastructures

**The impact of possible new EU legislation on the refining
sector in Italy:
A future high risk situation for competitiveness and jobs**

Mostly based on the  2014 report for Unione Petrolifera

Third meeting of EU Refining Forum - Bruxelles 22 May 2014

Italian refining industry: general context

- The Italian refining industry makes a substantial contribution to the Italian economy. It employs almost 7000 people with approximately another 7600 people working on the refinery sites as contractors.
- In 2012 these personnel were paid almost 900 million euro, generating 293 million euro income tax.
- In 2012 the refineries spent approximately €2.9 billion on intermediate goods and services (i.e. cash operating costs - chemicals, supplies, other opex, sustaining capex, etc.), exclusive of crude oil purchases.
- The total contribution of the main fuels refining industry in terms of money provided into the Italian economy in 2012 is €3.3 billion.
- The Italian refining industry provides significantly more production of all main fuels except jet than Italy consumes. As a result refined product security of supply for Italy is currently secure.

THE ITALIAN REFINING INDUSTRY IN 2013

- A summary of Italian refining capacity at end 2013 is shown in the table below.
- Italy has a total potential distillation capacity of about 95 million tonnes per year (1.9 million bbl/d), however current operating fuels production capacity is around 86 million tonnes (1.7 million bbl/d).
- The Italian refining industry includes a mix of refineries, ranging from very large and complex export refineries on the islands of Sardinia and Sicily to some simple and small refineries.
- However those that are less competitive by their technical configuration are mostly located near large areas of consumption and they derive a competitive advantage from their location.

THE ITALIAN REFINING INDUSTRY IN May 2014

Summary of Italy Refining Capacity 2014

Refinery	Owner	Status	Primary Distillation Capacity		Nelson Complexity Factor
			(MT/A)	(KB/D)	
Gela	Eni	Fuels Operation	5.3	105	13.9
Livorno	Eni	Fuels Operations	4.2	84	9.7
Porto Marghera	Eni	Conversion to Green Refinery	0.0	0	6.0
Sannazzaro, Pavia	Eni	Fuels Operations	11.9	237	10.3
Taranto	Eni	Fuels Operations	4.2	84	9.9
Falconara, Marittima	API	Fuels Operations	4.1	83	10.9
Ravenna*	Alma	Operating	0.5	11	1.1
Augusta, Siracusa	ExxonMobil	Fuels Operations	9.9	198	10.0
Frassinò, Mantova	MOL	Conversion to Storage	3.5	69	7.4
Busalla	Iplom	Fuels Operations	2.0	40	5.4
Priolo	ISAB	Fuels Operations	18.4	368	9.1
Milazzo	Raffineria di Milazzo	Fuels Operations	10.3	206	8.4
Rome	Raffineria di Roma	Conversion to Storage	0.0	0	5.3
Sarroch	Saras	Fuels Operations	15.0	300	10.3
Trecate	Sarpom	Fuels Operations	6.3	126	6.9
Total			95.5	1910	

* Note Bitumen refinery, no main fuels production

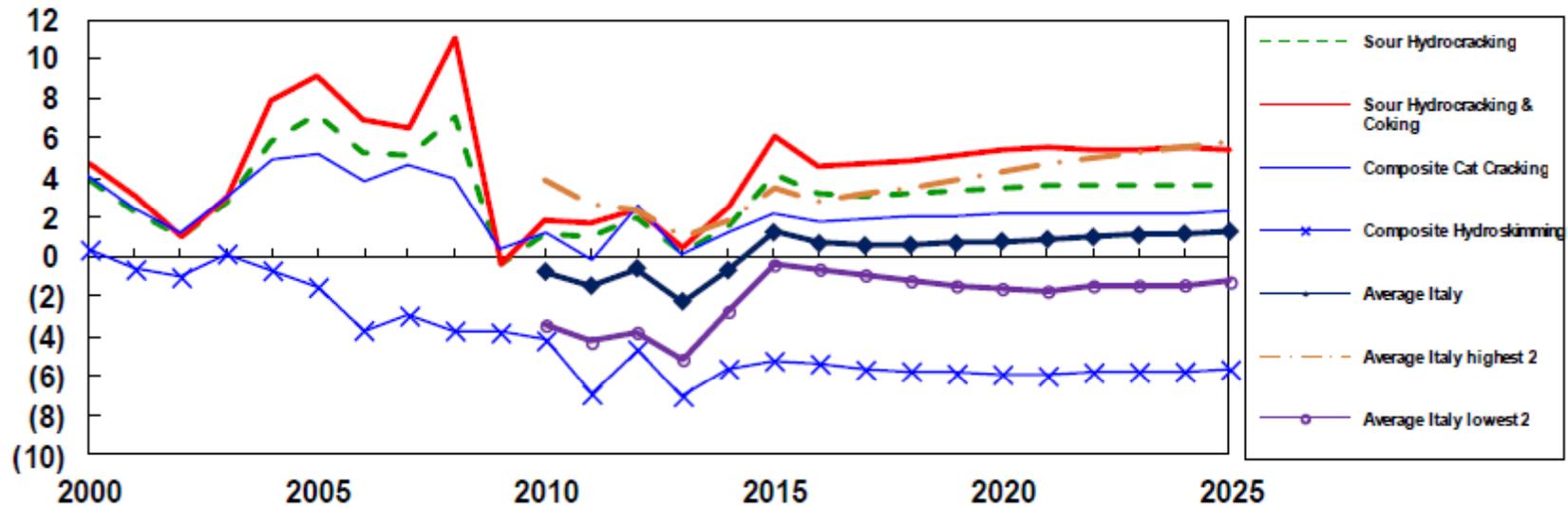
HYSTORICAL ITALIAN PROJECTED REFINING ACTIVITY

A historical and projected supply demand balance for Italy for each of the major refined products is summarized in the table below.

ITALY REFINING ACTIVITY SUMMARY BASED ON ASW											
(Thousand Tonnes per Annum)											
	2000	2005	2010	2011	2012	2013	2014	2015	2020	2025	2030
Refinery Throughput	96,208	100,988	89,800	85,614	81,551	72,794	67,662	65,288	64,393	63,828	63,122
Refinery Capacity	124,020	109,646	110,461	105,761	103,361	94,906	91,435	91,435	91,435	91,435	91,435
Refinery Utilisation %	77.6	92.1	81.3	81.0	78.9	76.7	74.0	71.4	70.4	69.8	69.0
Production											
Gasoline	19,190	21,195	18,774	18,704	18,335	16,176	14,985	14,334	13,516	12,782	12,031
Jet/Kerosene	4,477	3,943	3,340	3,624	3,097	2,732	2,587	2,530	2,658	2,797	2,927
Diesel/Gasoil	36,487	39,844	36,664	35,631	34,165	30,140	29,681	29,654	29,587	29,665	29,670
Fuel Oil	19,455	17,460	10,548	9,180	8,732	7,703	5,562	4,294	4,164	4,058	3,944
Naphtha	2,998	3,117	3,582	3,803	3,539	3,122	2,960	2,897	3,060	3,234	3,397
Lubes	1,264	1,286	1,222	1,283	1,220	1,077	998	956	907	863	818
Bitumen	2,705	3,423	4,114	3,305	3,144	2,773	2,586	2,489	2,428	2,380	2,327
Petcoke	1,909	1,684	1,568	1,733	1,207	1,065	1,015	998	1,078	1,162	1,241
Other	3,675	5,456	7,119	5,257	4,341	3,897	3,650	3,528	3,498	3,485	3,465
Total	92,160	97,408	86,931	82,520	77,780	68,684	64,024	61,679	60,897	60,426	59,819

ITALIAN REFINERY MARGIN FORECAST

COMPARISON OF ITALIAN REFINERY AND IHS BENCHMARK CIF NET CASH MARGINS
(Forecast in Constant 2013 Dollars Per Barrel)

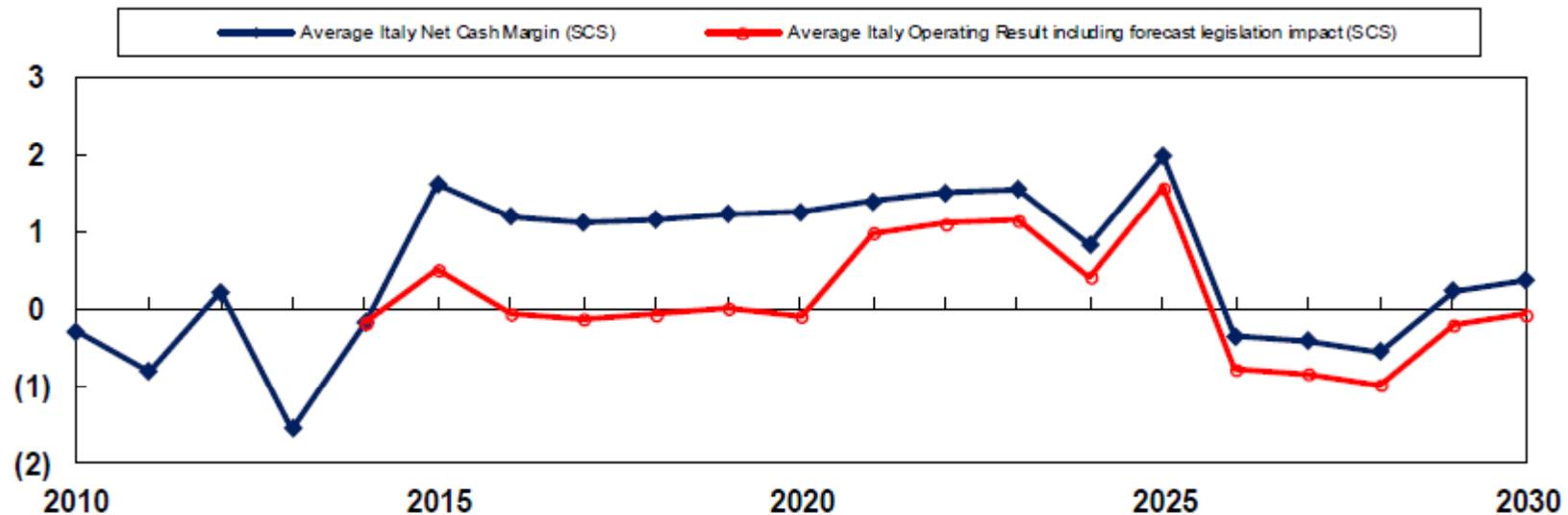


The sustainability of some of the existing Italian refineries remains in doubt, with **long term projected net margins already close to or below zero.**

The average performance of the Italian refineries is expected to be cash positive going forward, albeit with modest margins. There is a range of performance that means that **some of these refineries are very competitive,** whereas **some of the least competitive would be expected to come under pressure to close.**

Future operating result for the IT refining industry

FORECAST IMPACT OF SCS LEGISLATION COMPLIANCE ON ITALIAN REFINERY OPERATING RESULT
(Forecast in Constant 2013 Dollars Per Barrel)



The capital expenditure and additional operating costs would eliminate the projected refining margin in Italian refineries over 2014 to 2035.

Our estimate of **the average for the Italian refining industry operating result** over this period when including legislative costs **is only \$0.13 per barrel.**

In addition over 2014 to 2020 the **average operating result would be expected to be zero.**

COST IMPACT OF FUTURE LEGISLATION

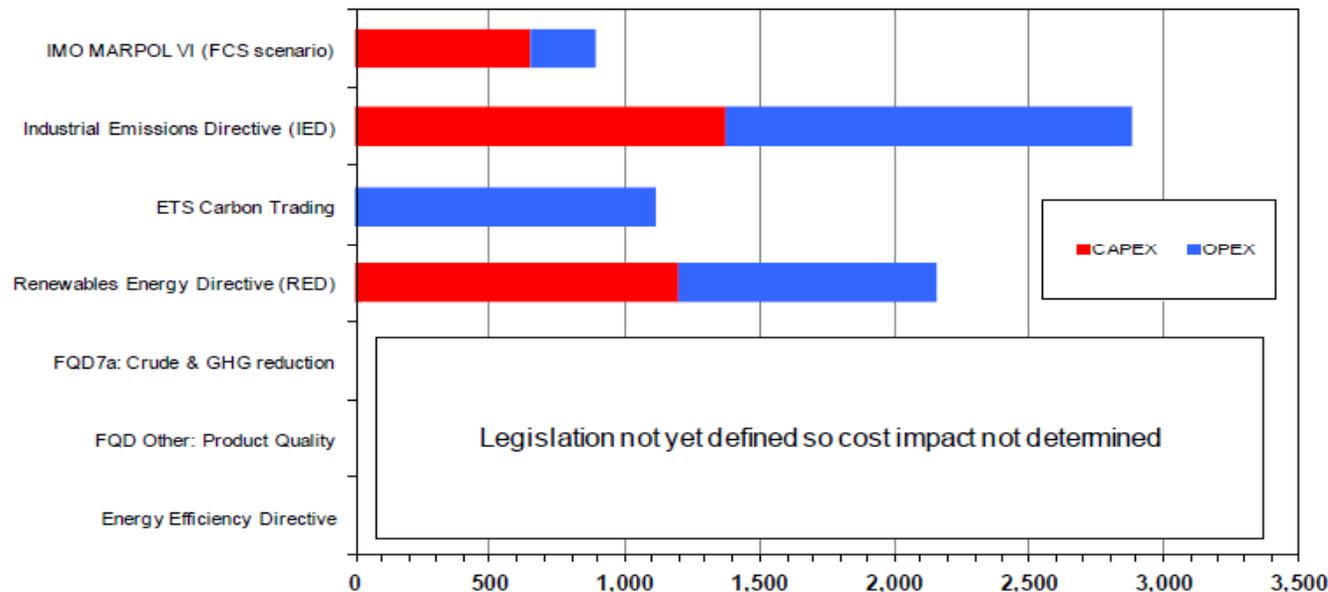
Italy's intentional obligations and legislative requirements arising from EU Directives and Italian Government policies may have the potential to significantly impact costs in the Italian refining sector. These are listed below.

- International
 - MARPOL Annex VI / IMO (low sulphur shipping fuel)
 - Compulsory oil stocking obligations (CSO)
- EU
 - EU Emission Trading System (ETS) Directive – Phase III
 - Fuel Quality Directive – Article 7a
 - Industrial Emissions (IPPC) Directive
 - Fuel Quality Directive – product quality/vapour pressure specifications
 - Renewable Energy Directive
 - Energy Efficiency Directive

COST IMPACT OF FUTURE LEGISLATION



ESTIMATED COST IMPACT OF LEGISLATIVE REQUIREMENTS ON ITALIAN REFINERIES (2013 - 2035)
(Thousand of €, undiscounted and excludes financing costs)



- In the period 2014 - 2035 the Italian refining industry may have to invest around €3 billion in new emission abatement equipment and new processing capacity to maintain and enhance the existing refinery capability in order to stay competitive.
- In the same period, additional operational costs are projected to amount to almost €4 billion. This is partly attributed to the cost of operating new equipment, but over €1 billion of the additional costs are related to payments for additional EUAs (i.e. CO₂ costs).
- **The additional €7 billion (\$9 billion) of capital (CAPEX) and operating (OPEX) costs are very significant.**

IMPACT ON ITALIAN ECONOMY: the shutdown

- The analysis of the refinery margin data combined with the expected additional operating cost suggests that **only five out of the current twelve operating refineries in Italy would have a positive operating result in the long term.** In terms of refining capacity it would be expected that around **60% of current operating capacity would close, with only 40% of current capacity continuing to operate.**
- This would mean the loss of around 4200 skilled jobs in the refineries themselves with a further loss of around 4500 jobs in contracting services.
- The remaining 40% of current operating capacity although retaining a positive operating result would most likely only generate a low return on investment, and so would also be at risk of closure.** The impact on the Italian economy would be the loss of up to 14,700 jobs in the industry with reduction in taxes and INPS contributions paid by employees of up to 374 million euro.
- The analysis suggests that all of this contribution to the economy would be at risk.

IMPACT ON ITALIAN ECONOMY: the internal oil products demand will be not yet covered

If the majority of the Italian refining industry were to close, then Italy would become a net importer of all refinery fuels, becoming very dependent on the international (outside of the EU) market for refined product supply. With 40% of current capacity in operation, refined product cover for main fuels would be as shown in the table below (2016 onwards).

ITALY REFINING COVER (percent of demand supplied by Italian refineries)															
	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Legislation Shutdown Scenario (post 2016)															
Gasoline	111	150	181	177	197	184	180	182	76	79	81	84	87	97	101
Jet	114	103	82	77	71	62	59	57	23	23	23	23	23	24	25
Diesel/Gasoil	132	125	121	119	125	116	115	115	46	46	46	46	47	49	52
Fuel Oil	75	111	129	138	145	133	97	76	30	30	30	30	30	28	26
Kerosene	84	10	39	74	116	101	93	89	35	34	34	34	33	31	29

IMPACT ON ITALIAN ENERGY SECURITY OF SUPPLY

- In the closure scenario, refined product of Jet, kerosene, diesel/gasoil and fuel oil would all be defined as **high risk**, with only gasoline in the low risk following the category of the IEA “MOSES model”.
- Italy would need to import very large volumes of middle distillates from other world regions, primarily the Middle East, and CIS with additional material likely to be sourced from Asia and North America.
- **Therefore Italy (and in fact much of Europe) would be reliant on refined product supply from regions that have a history of political instability,** and would also be competing for refined product supply with the emerging economies in India and Asia where demand is projected to increase.
- **The legislation closure scenario represents a serious loss to the Italian economy and results in the security of supply for refined products moving from the current low risk situation to a future high risk situation.**

General impact on the environmental and climate change

As consequences of the closure scenario:

1. **the refining activity**, required to produce the Italian refined product demand, would still **take place elsewhere in the world, emitting similar levels of CO2** and other industrial emissions **as (or worst) if the refining capacity had remained in Italy.**
2. **Italy would simply have exported the environmental and climate change issues associated with its refined product demand to other countries, while losing the benefits of having an indigenous industry.**

CONCLUSION

Given the importance of a secure supply of refined products to a modern economy and the significant impact disruption to supply would have on economic output, **quality of life and even national security**, we believe **such a situation would be unacceptable to Italy and EU governments and should most certainly be avoided.**

Consequently we propone 6 proposals to your attention:

Six concrete proposals 1/3

1. Industrial Emission Directive (IED) and Refinery BREF:
 - **IED – REF BREF (1):** the “bubble approach” should be included as an allowed alternative to the emission limits imposed on the individual processing units without exclusions of processes or emissions and with no arbitrary correction factor. Any conditions foreseen for the bubble – if imposed – should not lead to the deterioration of its cost effectiveness
 - **IED – REF BREF (2):** the BAT (best available techniques) should be subject to the condition of economic applicability. This condition has been included in the BREF of all other sectors, but for unclear reasons it was removed from the Refinery BREF.

Six concrete proposals

2/3

2. **Fuel Quality Directive / Art 7a:** the methodology for implementation of art. 7A should be based on the “EU average default value” approach. One EU average default value for gasoline and one for diesel (periodically updated by an independent scientific body to reflect the actual variation in the EU feedstock diet); This is the most accurate assessment which can possibly be done of the carbon intensity of the EU fuels; it requires the least complex administrative scheme, the burden of control for MS is minimal, there are no or minimal negative impacts on security of supply, trade discrimination and competitiveness of the EU reeving industry.

Six concrete proposals

3/3

3. **REFINING FORUM:** should be formalized as a structured process e.g by a publication in the Official Journal, (similar to the CARS21 / CARS 2020 process for the automotive industry). Its recommendations should be followed up, and a monitoring system on the their implementation should be set up.
4. **EU-wide GHG reduction target, for ETS** in the refinery sector the carbon leakage protection have to be extended after the 2020;
5. **REACH and ETS** should be taken out from the OMNIBUS process and analysed individually for conversion to the post-Lisbon system.
6. To bring forward the timetable for “EU Fitness Check” to ensure the process delivers clear and decisive actions to remove unnecessary burdens of EU legislation on the refinery sector; **Before Fitness Check is completed, no decision on new pieces of legislation (FQD /7a, REF BREF, ...)**