



## THE PERSPECTIVE OF OIL MARKET

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**Abstract** *The oil market can not be defined as a single market and the outcomes in terms of pricing can not be viewed through the prism of supply-demand. Oil resources still play a decisive role in determining energy resources, changing this ratio being determined mainly by the volume of investments, changes in investor's sentiment and in policy of emerging countries, determinants of energy demand. 20 years ago, experts were warning that by the end of the third millennium production will start to fall and the price will reach 20-90 USD / barrel, and now at the beginning of the third millennium, it seems that the experts were wrong once again because the production still does not give signs of decline. Intensifying the exploitation of shale oil gives new dimensions to oil production, with effects on prices, creating structural changes and changes in economic and geopolitical power poles worldwide.*

**Key words:**

Economic resources,  
oil market,  
energy demand

**JEL Codes:**

Q01  
Q35  
Q40

### 1. INTRODUCTION

In the last decade, energy demand of the non-OECD countries such as China and India, has expanded into an unprecedented rate, which led to the extension of energy demand, with effects in terms of oil prices as the main supporter of the offer. Fears of oil shortages and an impending energetic resources crisis led to rising oil prices and a pressure on OPEC countries to increase extraction and production in order to boost demand. The reaction of OECD countries has been intensifying efforts to produce energy from non-conventional sources of energy, developing energy production from hydrocarbons, bringing more resources to the market: liquefied natural gas and oil, shale oil, Canadian tar sands, Venezuelan extra hard oil, oil obtained from unconventional hydrocarbons in Brazil. Technological advances in horizontal drilling and hydraulic fracturing have led to a significant increase in US oil production. US Department of Energy estimates that the production of crude oil and other liquid hydrocarbons will be averaging around 11.4 million barrels per day (BPD), and if the

pace is maintained, this production level would place the US on top of countries producing oil.

### 2. LITERATURE REVIEW

Alternating balance between supply and demand - influenced by economics, politics, technology, consumer tastes disasters or accidents, will continue to alter prices. The economic recovery, inhibition of demand, converting the oil into a financial good and combinations of these factors, could again increase the price, even with the current overflow on the market.

### 3. METHODOLOGY OF RESEARCH

The method of research is based on the logical method, the abstraction of some phenomena and economic processes in order to formulate conclusions that can generate changes at the level of the society.

#### 4. RESULTS THE ANALYTIC ANALYSE OF OIL MARKET

According to the International Energy Agency, IEA, the US can replace Saudi Arabia, which is currently in first place among the countries producing oil, under a context of favorable factors: global demand for oil, evolution of oil prices positioning Oil Importing Countries to an exporter or another, maintaining and increasing exploitation of hydrocarbons, production of petroleum from shale and hydrocarbons on long term, as a way of adjusting supply to demand.

Estimates of hydrocarbon resources in this type of basins worldwide, especially in shale rocks are abundant, though they vary due to different assumptions on the potential of recovery using the available technology. Conservative estimates of oil and gas resources from shale basins exceed 2 billion barrels of oil equivalent (see Figure 1 below). There is a high degree of uncertainty about the hydrocarbon cuts that can be extracted in liquid form (see Figure 2 below natural liquefied petroleum or gas).

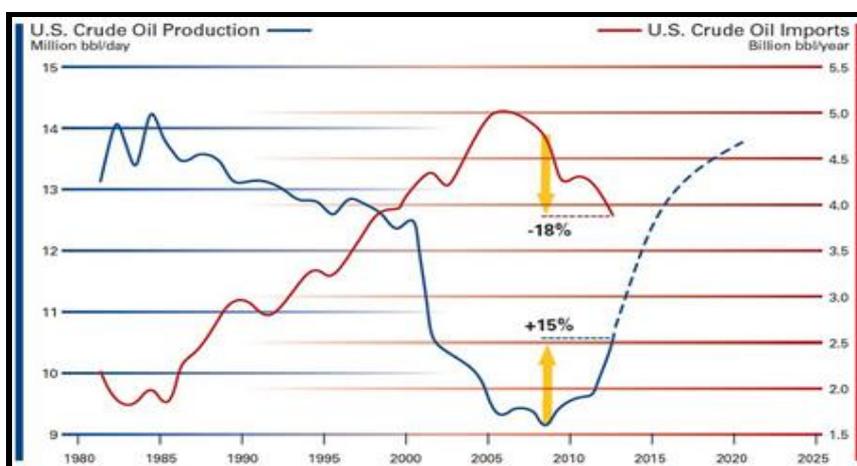
Schlumberger Business Consulting (SBC) recently completed a comprehensive model for shale oil (LTOs include crude oil and condensates from all tight formations) to review and analyze data on all major shale basins around the world. The assessed key factors such as organic content, thermal maturity and depth, permeability, porosity,

thickness of basins and topography in order to estimate the potential shale oil resources in the current state of technology.

Based on this model, it is estimated that the technically recoverable part from shale oil worldwide is about 10-15% of global of hydrocarbons resources and schists, a greater share of hydrocarbons and shale is gaseous. A significant amount of shale oil resources - about two thirds - is concentrated in North America and South America. Russia has one of the largest deposits of hydrocarbons and schists outside America; India and China possess recoverable shale gas resources compared to shale oil due to higher thermal maturity of their basins, Australia and parts of South Asia, Europe and Africa, which are also facing constraints of infrastructure that are likely affecting recovery.

The analysis of data on oil stocks show that a quarter are represented by shale oil- LTOs and half come from deep water resources. Withdrawal and exploitation capacity varies depending on the technology used, the incorporation of high technology in production, infrastructure and logistic adapted to processes of extraction, exploitation and distribution, favorable tax regime to maintain prices at a level that is competitive with the market of conventional oil, collaborations extended between manufacturing companies and service companies in the oil industry.

**Figure 1: Evolution of oil production in the US compared with oil imports in the US**



Source: EIA; Schlumberger Business Consulting (SBC) ANALYSIS, Energy perspectives, [www.sbc.slb.com](http://www.sbc.slb.com)

Figure 2: The total resources of hydrocarbons, schists



Source: Energy Map; IEA; EIA; SLB; SBC ANALYSIS, Energy perspectives, [www.sbc.slb.com](http://www.sbc.slb.com)

The uncertainty of the exploitation and extraction processes can be grouped as follows (Figure 3):

- Uncertainties derived from the capacity of extraction and capitalization of existing reserves due to high cost related to technology within countries with reserves such as Argentina, Colombia, Russia;
- Uncertainties regarding the use of shale oil and hydrocarbons by world economies as a result of consumer's education and awareness in relation to this product;
- Uncertainties about fiscal and legal regulations on the exploitation, distribution and consumption of shale oil to be adopted by countries with reserves and exploitation potential;
- Uncertainties regarding competitiveness of the product on the oil market due to high costs of production in countries that have reserves in relation to the price the US obtain (US CAN obtain a production cost of 50 USD / bbl while other countries obtain 100 USD / bbl, which may be improved by investing in production infrastructure).

Shale oil production will grow at a fast pace in North America, according to estimates, the production will triple compared to current levels by 2020 and will quadruple by 2030 (Figure 4). Other regions, significantly influenced by the level of

energy demand will attach increasingly greater importance to shale oil and hydrocarbons, particularly those that have reserves, Russia which will hold 10% of total global production by 2020 and more than 50% by 2035. Along with Argentina, Colombia, Venezuela, Canada, Russia, the US will open a new era in consumption and energy production, focusing on the potential of hydrocarbons, investments in infrastructure, technology, distribution facilities and logistics, know-how.

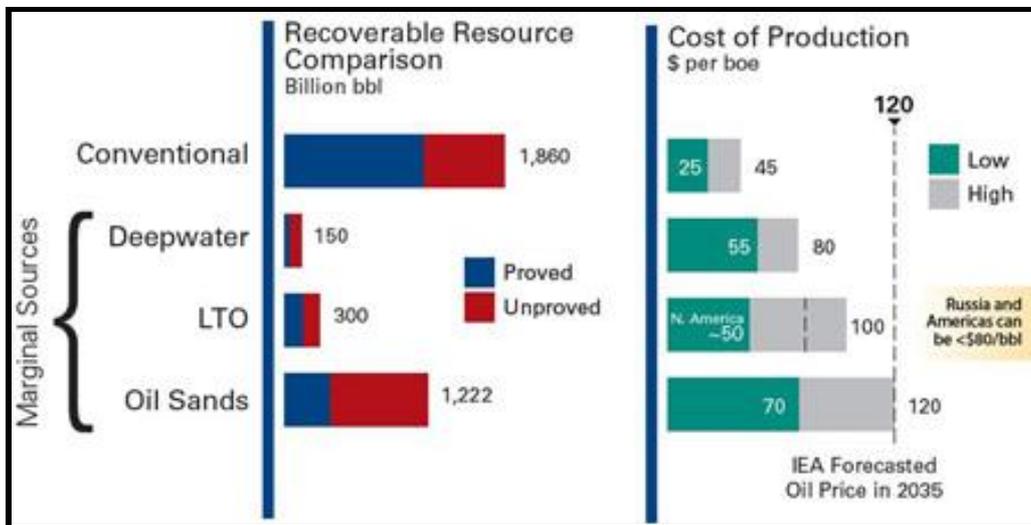
Despite significant economic and technical challenges, the oil and gas industry outside of North America will continue to pay particular attention to developing shale oil and hydrocarbons. Energy demand will increase in the long term, derived from the increased demand for economic goods as an effect of development, and if you use the the attribute of resource nationalism, it will be limited the international access to sources of economically viable supply. Operators in the new economy of resources will be have to have the ability to influence states, governments, markets, to increase investment in infrastructure and logistics of service companies related to the shale oil industry, aimed at reducing costs and sustaining demand for sustainable energy (Figure 5).

Figure 3: Potential resources of shale oil



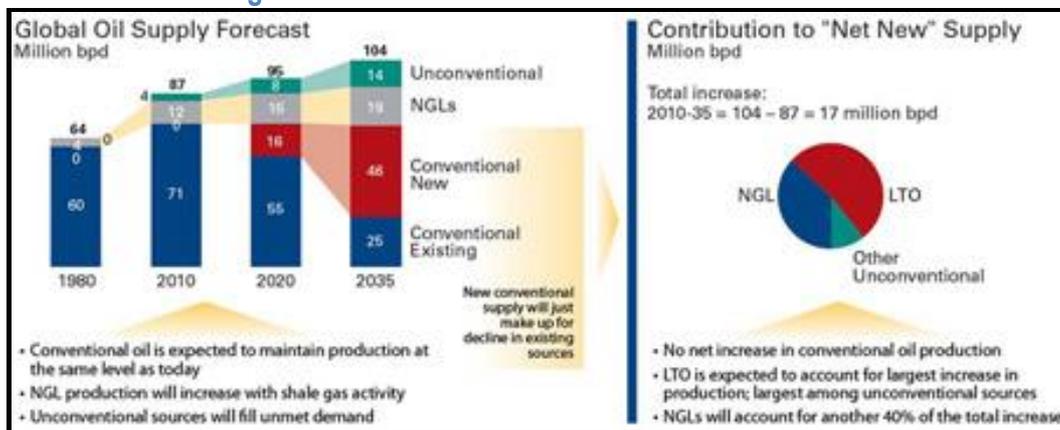
Note: LTOs include crude oil and condensate from all tight formations

Source: [www.sbc.slb.com](http://www.sbc.slb.com)



Source: SBC ANALYSIS, Energy perspectives, [www.sbc.slb.com](http://www.sbc.slb.com), International Energy Agency's 2012 World Energy Outlook

Figure 5: The contribution of shale oil in total oil demand



Source: IEA; SBC ANALYSIS, Energy Intelligence, Oct. 18, 2012: "Tax Breaks Pose a Balancing Act for Russia's Bazhenov Shale," [www.energyintel.com](http://www.energyintel.com)

## THE QUANTITATIVE ANALYSE OF OIL MARKET

We propose a Cluster analyse for identification the concentration of oil market, form oligopolist perspective.

CLUSTER Method: Consumption of oil on the spot, oil production, oil reserves, export of oil and import of oil. We use:

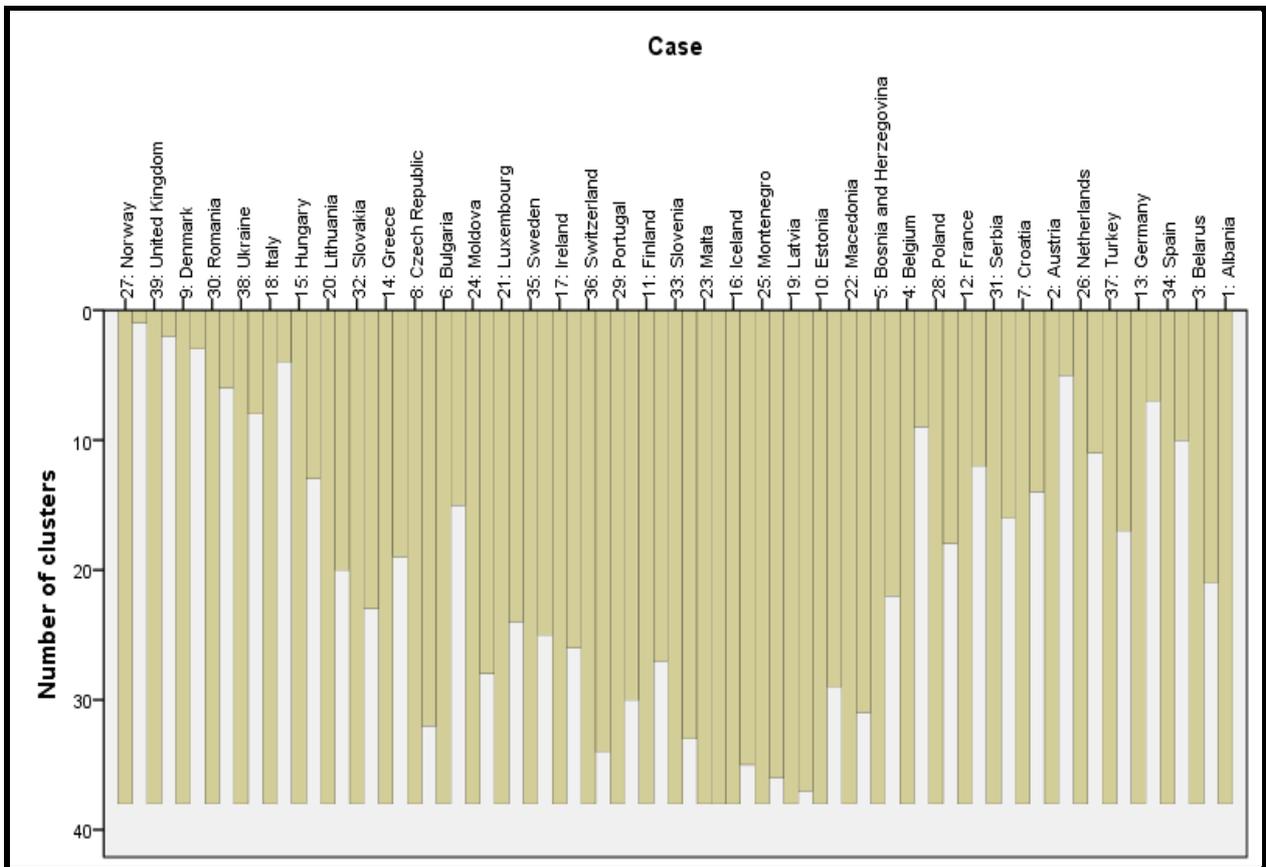
- METHOD BAVERAGE
- MEASURE=SEUCLID
- ID=European state

- PRINT SCHEDULE
- PLOT DENDROGRAM VICICLE

Case Processing Summary<sup>a,b</sup>

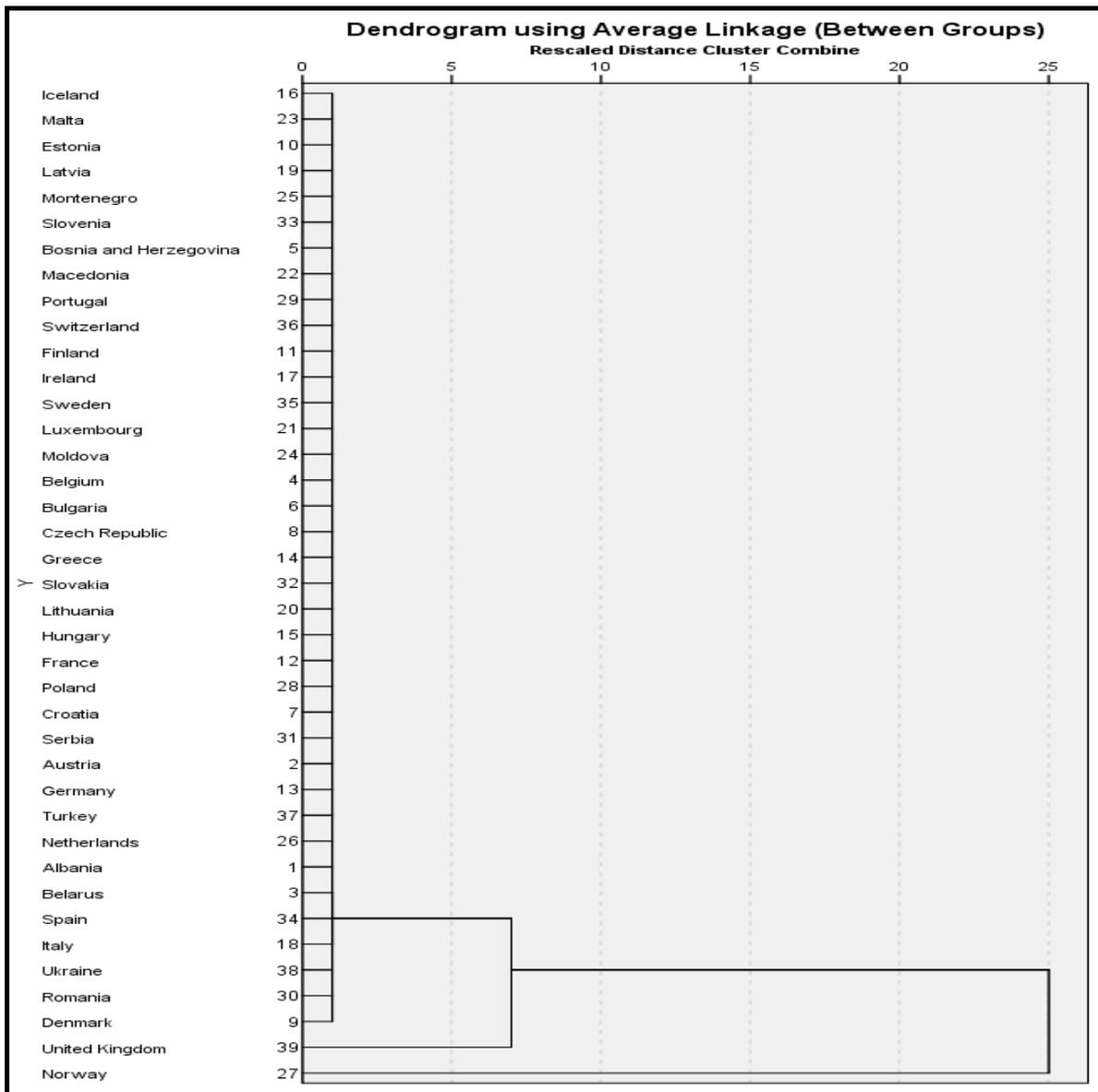
Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
39	90.7	4	9.3	43	100.0

- a. Squared Euclidean Distance used  
 b. Average Linkage (between groups)



**Agglomeration Schedule**

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	16	23	109.814	0	0	4
2	10	19	212.170	0	0	3
3	10	25	1025.955	2	0	4
4	10	16	1630.140	3	1	6
5	29	36	2090.091	0	0	9
6	10	33	2197.304	4	0	10
7	6	8	2681.428	0	0	20
8	5	22	11194.178	0	0	10
9	11	29	12671.578	0	5	12
10	5	10	13690.092	8	6	12
11	21	24	17404.840	0	0	15
12	5	11	80602.730	10	9	13
13	5	17	192974.370	12	0	14
14	5	35	272718.664	13	0	15
15	5	21	511798.704	14	11	17
16	14	32	100000138634.948	0	0	19
17	4	5	1013796119743.085	0	15	24
18	1	3	1210000297397.171	0	0	29
19	14	20	6500000055755.837	16	0	20
20	6	14	23333333370254.234	7	19	24
21	12	28	27488541504445.360	0	0	27
22	13	37	38491137805973.625	0	0	28
23	7	31	132250000002399.620	0	0	25
24	4	6	155063347250973.940	17	20	26
25	2	7	506125000056849.100	0	23	27
26	4	15	588558885972149.400	24	0	30
27	2	12	1005816237755386.000	25	21	30
28	13	26	1365403385550296.000	22	0	32
29	1	34	2359913273203493.500	18	0	32
30	2	4	5570356538773338.000	27	26	34
31	18	38	6645488913428648.000	0	0	33
32	1	13	11463361109682276.000	29	28	34
33	18	30	28640244706728696.000	31	0	35
34	1	2	50850568259581464.000	32	30	35
35	1	18	203504845534532544.000	34	33	36
36	1	9	1169808494962912260.000	35	0	37
37	1	39	7538669242127259600.000	36	0	38
38	1	27	30230840842104316000.000	37	0	0



From the data analysis it can be seen that a cluster can be formed at the level of Europe that will focus the players on the oil market, depending on the transactions and the resources held, only between the following countries: Spain, Italy, Ukraine, Romania, Denmark and England.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Entering this new era of perpetual and often hallucinating fluctuation in oil prices shows that the oil market gains new dimensions without the

question of an oil peak, an oil crisis, but rather creates a symbolic link between oil market and financial market between political and economic, between strategic and geopolitical, with repercussions on the consumer, in the position of receiving the price. The consumer, even if the price reaches the lowest threshold, does not benefit from lowering the price of a barrel of oil, an unlimited number of conventional risks and obstacles restricting the price paid by consumers for fuel: government policies, tax systems, civil strife,

geopolitics, increasement in costs of production and exploitation, uncertainties regarding demand.

Essentially, oil prices influence governments, companies, markets of raw materials markets of finite economic goods, markets of conventional and unconventional energy and an assumed oil crisis would lead to stronger inflections on the market, with repercussions on the overall level of prices, the oil price being generally regarded as decisive for the other prices in the economy.

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