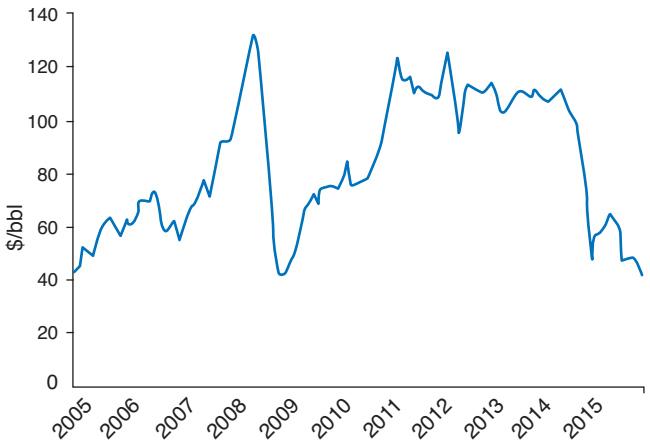
Oil situation in 2015 and trends

In 2015, the price of Brent stood at approximately $52/bbl on average, down nearly 50% compared to the previous year. Surplus oil on the market is the reason behind this downward correction, resulting from significant production of US shale oil (LTO). OPEC's failure to cut supply, part of its strategy established in November 2014, continues to exacerbate the pressure on prices. OPEC strategy and the potential of LTO will be decisive when identifying future trends.

Brent down by nearly 50% in 2015

The price of Brent stood at approximately $52/bbl, down nearly 50% compared with the previous year. Its monthly average has remained below $50/bbl since August ($38-48/bbl), close to the quoted price in early 2005 and the lowest points of 2008-2009 ($41-43/bbl) at the time of greatest uncertainty during the economic crisis (Fig. 1).

Fig. 1 – Monthly price of Brent between 2005 and 2015



Source: Reuters

Throughout 2015, Brent experienced jarring price fluctuations that can be summarized by three major periods:

- collapse in January to $47/bbl, final phase of the decline that began in June 2014 ($112/bbl);
- gradual price increase to $64 in May, impacted by geopolitical risk related to Saudi Arabia's intervention in Yemen that began on March 25;
- subsequent ongoing decline, with Brent reaching $50/bbl in August due to swelling oil inventories in the market and the rising dollar.

An uncertain economic climate that weighs on demand for oil adds to this perception. It was also fostered by the signing of the nuclear deal with Iran on July 1, 2015, which should lead to a gradual lifting of the embargo against the country.

Price adjustment in an effort to eliminate excess inventory

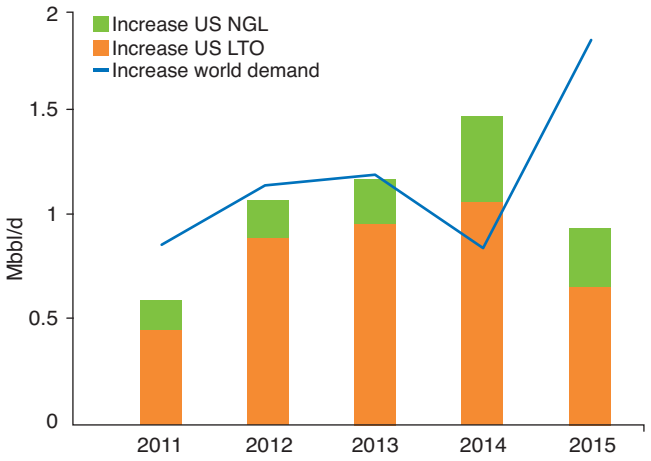
The 2015 market downturn resulted from extremely rapid growth in shale oil production (LTO and associated NGL[1]) and a slowdown in rising demand, following a period of extremely high prices (exceeding $100/bbl for four years). Over the past eight years, the increase totaled 6 Mbbl/d (4.5 for LTO + 1.5 Mbbl/d for NGL), volume equivalent to one-half of Saudi Arabian production. Starting in 2012, annual growth was equal to or exceeded global demand for oil (Fig. 2).

Since 2007, the international market has been impacted by a reduction in US imported oil and petroleum products, totaling 3 and 4 Mbbl/d respectively. The United States remains a net oil importing country (6.8 Mbbl/d versus 10 Mbbl/d in 2007), but since 2011 has become an exporter of petroleum products (1.7 Mbbl/d exported). The removal of crude oil export restrictions decided in December 2015 should increase fluidity of the US domestic market and eventually encourage greater use of LTO.

(1) LTO: Light Tight Oil, i.e. shale oils. NGL: Natural Gas Liquids

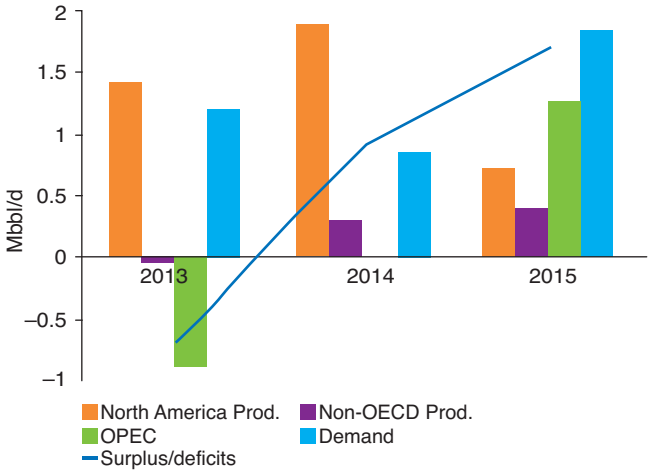
Oil situation in 2015 and trends

Fig. 2 – Annual growth of US supply (LTO and NGL) and global demand for oil from 2011 to 2015



Sources: IEA & EIA

Fig. 3 – Annual increase in production and global demand for oil and supply/demand discrepancy from 2013 to 2015



Source: IEA

The tremendous potential of LTO and weak demand led to a change in Saudi Arabia's strategy. OPEC's traditional price defense policy would have favored its development and implied further downward adjustment in the cartel's production. Saudi Arabia therefore decided to allow the market to set the equilibrium price.

In 2015, the market equilibrium requires the reduction of surpluses and thus a significant decline in prices to encourage demand and reduce supply. Demand has actually experienced a particularly strong growth of 1.8 Mbbl/d (approx. 1 Mbbl/d in 2013 and 2012, Fig. 3).

On the production side, the growth in US oil production slowed significantly, rising "only" 0.9 Mbbl/d compared with 1.5 Mbbl/d in 2014. This resulted from a massive decline of approximately 50% in drilling activity in 2014, in response to declining prices.

Yet at the same time, as part of its new strategy to defend market share, OPEC increased production by 1.1 Mbbl/d. Saudi Arabia and Iraq each produced one-half of this amount. This helped maintain a significant surplus equal to an average of 1.7 Mbbl/d during 2015 (Fig. 3), i.e. nearly 2% of global demand.

The start of market stabilization in 2016?

A number of factors are likely to impact the oil markets during 2016, such as fluctuations in the financial and currency markets and the level of global economic growth. Rising demand for oil will largely depend on these factors (+1.2 Mbbl/d expected by the IEA in 2016 versus 1.8 Mbbl/d in 2015).

With regard to supply, the main uncertainty for non-OPEC countries concerns the impact that the 20% decline in upstream investment in 2015 will have on future production. Given the estimated five year lag between investment and implementation, the impact should be modest in the near term.

Shale oils produced in the United States, however, are more responsive to price. The EIA[2] anticipates a decline of 0.5 Mbbl/d starting in 2016, offset in part by NGLs in the amount of 0.3 Mbbl/d (Fig. 4). IFPEN simulations predict a more marked decline of 1.1 Mbbl/d for LTO, i.e. 0.8 Mbbl/d taking into account the effect of NGL.

With regard to OPEC, various factors are likely to impact production: continuation of the market share defense strategy, growth potential of member states (Iraq in particular, Libya if circumstances permit) and the geopolitical climate. It is also important to consider the impact of lifting the embargo against Iran, with the potential for an additional 0.5 Mbbl/d over the short term, and likely more over the medium term[3].

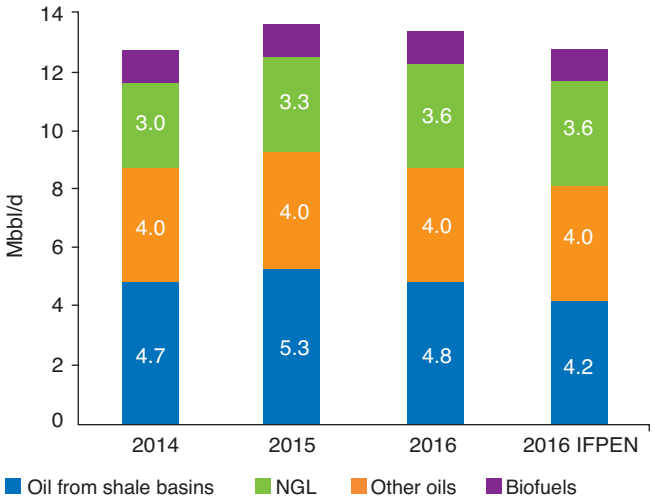
Relying on the latest IEA forecasts and assuming OPEC supply at November 2015 levels, it appears that market stabilization may solidify from the second half of 2016 (Fig. 5). This means, if the surpluses are absorbed effectively, less downward pressure on the price.

(2) EIA: US Energy Information Administration

(3) In its long-term report, the IEA predicts production of 4.4 Mbbl/d in 2020 and 5.4 Mbbl/d in 2040, compared with 3.5 Mbbl/d in 2015. Potential could be even greater in Iraq: 4.6 and 8.2 Mbbl/d respectively, compared with 4 Mbbl/d in 2015

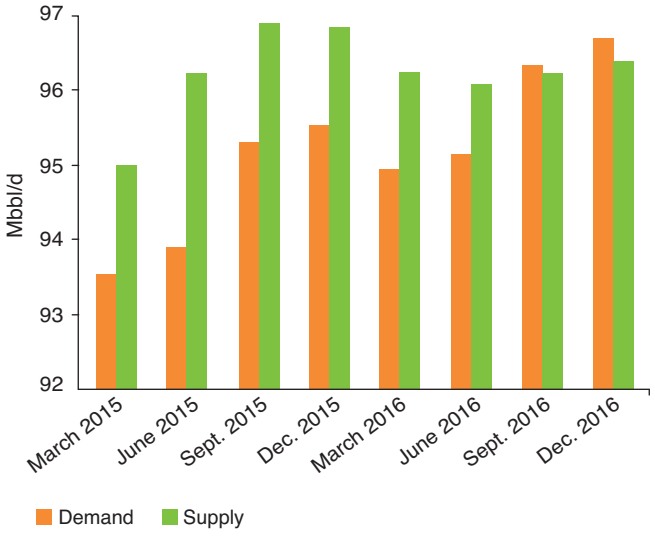
Oil situation in 2015 and trends

Fig. 4 – US production of petroleum liquids and biofuels from 2014 to 2016



Source: EIA

Fig. 5 – Supply/demand assessment per quarter in 2015 and 2016



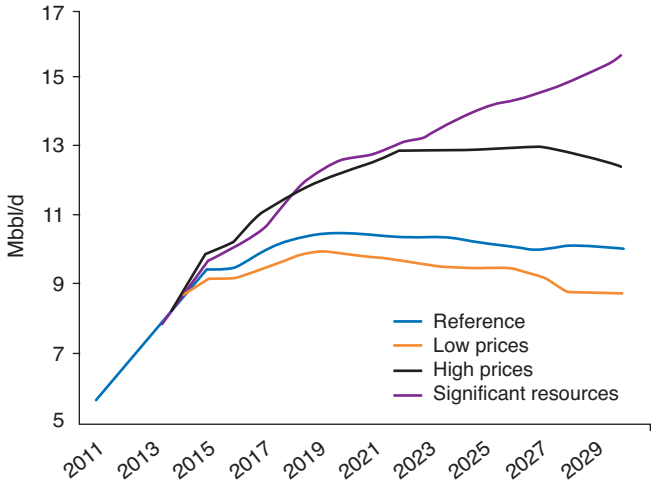
Source: IEA

LTO and OPEC strategy: future outlook?

Aside from the traditional reasons for market uncertainty, LTO and OPEC policies lie at the center of current developments.

With respect to LTO, the long term outlook for the United States published by the EIA in 2015 confirms that oil production is extremely sensitive to price levels (Fig. 6). However, even with low oil prices, the EIA expects production to rise until at least 2020, though at moderate levels.

Fig. 6 – US oil production forecasts based on four scenarios



Source: EIA

This shows the importance of both potential resources and the resilience of these oils, given the significant cost reductions in the sector, which result from technical advancement as well as renegotiation of service contracts[4]. Production costs now range from $30-60/bbl, compared with $50-80 in the past.

This situation is clearly unfavorable to OPEC, since any significant increase in oil prices would result in increased drilling activity in the United States, with greater production of LTO.

Thus, the cartel has very little room to maneuver. It is limited to avoiding a potential price collapse, subject to its ability to maintain a coordinated policy. However, this requires discipline that is always difficult to achieve.

Nevertheless, in late November, Saudi Arabia indicated a desire to stabilize prices by through cooperation between OPEC and non-OPEC countries. While an OPEC agreement is difficult to envision, it seems all the more illusory among all producing countries, which has never been the case in the past.

In November 2015, Saudi Arabia also emphasized its ability to finance its deficit through borrowing if need be. It was a reminder that, without sharing the burden, nothing will happen and that its nation could withstand low prices. This is not the case for numerous producing countries subject to extremely high budgetary pressures (Iraq, Iran, Algeria, Nigeria, Venezuela, etc.).

Between the established limits fixed by LTO, individual oil production ambitions and geopolitical opposition, it is unlikely that OPEC's current strategy will be challenged.

(4) Progress since 2013 amounted to tens of % either for the cost and duration of boreholes or wells indicators, lateral length, number of fractures or volumes recovered

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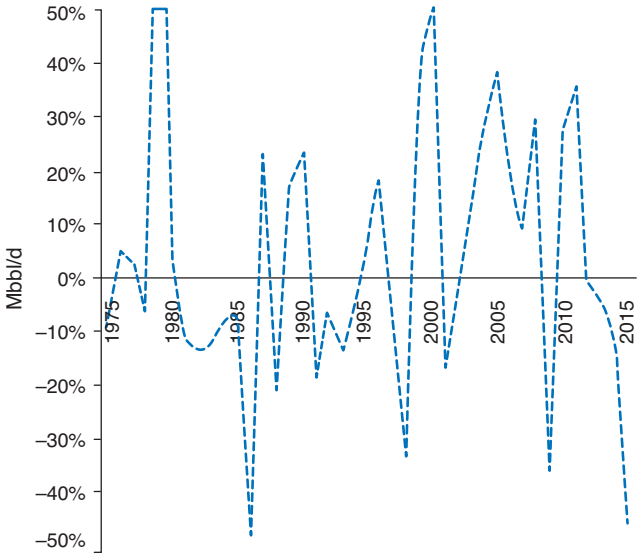
However, the tight budgetary situation of its member states may lead these countries to reach a basic agreement in an effort to avoid a potential price collapse.

Perspectives from the past: fluctuations in the price of Brent

Past changes in the price of Brent highlight reveal major price corrections from one year to the next. In relative value (Fig. 7), the collapse that took place in 2015 (–47%) is close to what occurred in 1986 following the reverse oil shock (–49%), or in 1998 (–34%) and 2009 (–36%) following economic crises. However, in absolute value, there has never been a greater one-year decline than in 2015.

Fig. 7 – Annual changes in Brent price since 1975

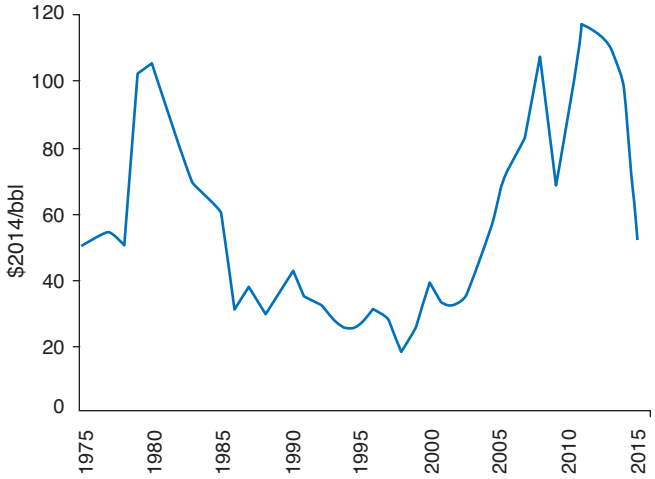


Source: EIA

The similarities between 1980-1986 and the current period should be noted. In neither case did OPEC successfully contain the consequences of several years of very high prices, specifically rising non-OPEC supply and the slowdown in demand. In 1986, as in 2014, Saudi Arabia refused to play its role as swing producer, to check the erosion of its market share.

After 1986, oil prices consistently declined over the next decade (Fig. 8). The possibility that prices may remain low over a similar lengthy period can not be ruled out. If LTO costs remain at $30-60/bbl with sufficient volume to address future market requirements, the "sustainable low price" scenario becomes feasible.

Fig. 8 – Price of Brent in constant 2014 $ since 1975



Source: BP

Potential price trend scenarios

The first scenario, discussed previously, depends on the ability of OPEC and LTOs to address growth in future demand. If this occurs, the ceiling price will be defined by the maximum cost of mobilized LTOs.

In the second scenario, if supply is insufficient at low cost, reliance on more costly oils would ensue. This would result from sustained demand, a change in OPEC strategy or a limited supply due to geopolitical reasons. The current pullback in upstream investment could also result in such tensions.

Upward volatility in the event of a significant shortage (as in 2008) or a decline in surplus (as in 2015) could shake up these two trajectories.

Will the energy transition shake up the oil market?

The reduction in the share of fossil fuels – including oil – in global energy consumption is key to efforts to limit future temperature increases to 2°C.

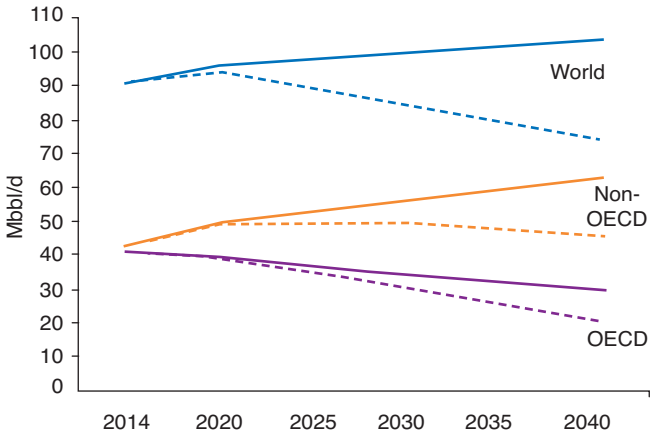
In terms of CO_2 emissions, oil represents approximately 34% of total energy sector emissions, compared with 45% for coal and 20% for natural gas. These emissions are in large part (65%) concentrated in the transport sector.

By 2040, they could rise by 10% whereas, to comply with the 2°C limit, they should be reduced by 29%[5].

(5) Source IEA, World Energy Outlook 2015, NPS trend scenario and 450 ppm scenario

Oil situation in 2015 and trends

Fig. 9 – Demand for oil by region and by scenario (trend scenario depicted with solid line and 450 ppm with dashed line) - 2014/2040



Source: IEA

This implies a reduction of 39 Mbbl/d in global consumption by 2040, including 17 Mbbl/d for emerging countries. For industrialized nations, where consumption has declined since 2005, efforts must be intensified to achieve a reduction of 10 Mbbl/d (Fig. 9).

Achieving such redirection will require both new technological solutions (biofuels, Natural Gas Vehicle (NGV), hybrids, electrification, etc.) and optimized transport options. An increased CO_2 tax on petroleum products would also likely reduce consumption. €30/tCO_2 represents 6.7 and 7.8 ct€/l respectively for gasoline and diesel.

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Final draft submitted in December 2015

Macroeconomic impact of falling oil prices

Exporting countries face extremely negative macroeconomic consequences when oil prices drop. For the Middle East as a whole, the amounts in question, approximately $360 billion, represent 12% of GDP (Fig. 10). Saudi Arabia has stated that it has sufficient borrowing resources to withstand the shock.

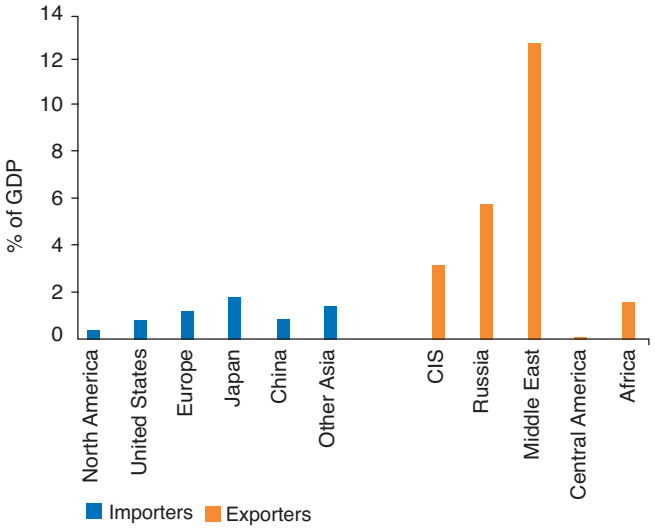
On the other hand, for other exporters in the Middle East and North Africa, the budgetary impacts are very difficult to manage, while the region is prone to escalating conflicts[6]. For Russia, a larger exporter of gasoline than gas, the impact equals approximately 6% of GDP.

For importing nations, the macroeconomic stakes are often significant, with impacts of approximately 1 to 2% of GDP. Economic impact is nonetheless uncertain, to the extent it depends on allocating these amounts between savings, shareholders and investments. In France, the oil bill declined by approximately €16 billion for 2015, i.e. nearly 0.8% of GDP. It's a welcome boost for growth...

Impact on energy prices

Consequences of falling oil prices include adjustments in the price of petroleum products. In terms of absolute value, their movements are consistent with the drop in oil prices expressed in the same currency (Fig. 11).

Fig. 10 – Impact of a price falling from $100 to 50/bbl on oil trading in % of GNP by region/country



Source: BP

In France, for example, the price of gasoline and diesel fell by approximately 12 to 13 ct€/l between 2014 and 2015. This is line with movements in the market, since the price of oil, expressed in euros, fell by 16 ct€/l. The falling euro (–16% between 2014 and 2015) can not account for the entire drop in oil prices, expressed in dollars, which reached 29 ct$/l (base 1 bbl = 159 l).

(6) See the IMF report, Regional economic outlook for the Middle East and Central Asia, October 2015

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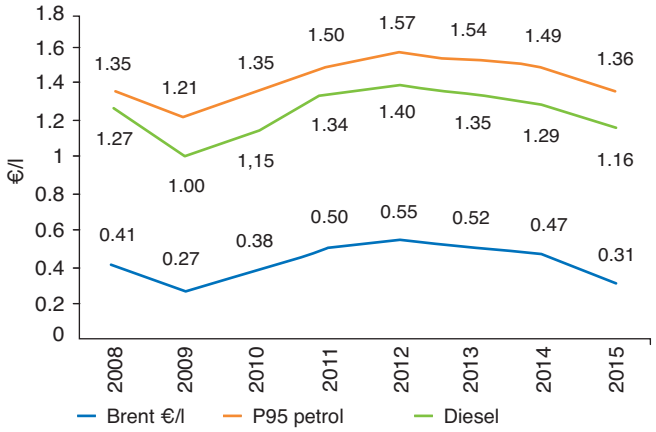
Calculation of relative value is affected by taxes and currency exchange effects, which explains the discrepancies in price movements. Thus, in France the price of gasoline and diesel, all tax included, fell by 8 to 9%, compared with 35% for Brent in euros and 47% for Brent in dollars.

The impact of oil prices is limited with regard to other energies. This is true for coal, and is more and more the case for gas prices (Fig. 12) which increasingly depend on the balance of supply and demand in the spot markets. As the only exception of note, the Asian liquefied natural gas (LNG) market continues to depend on the oil market.

In the electricity market, which relies on natural gas, coal, renewable energies and CO_2, falling oil prices have had practically no impact. Policies in support of renewable energies in this sector will not be significantly affected.

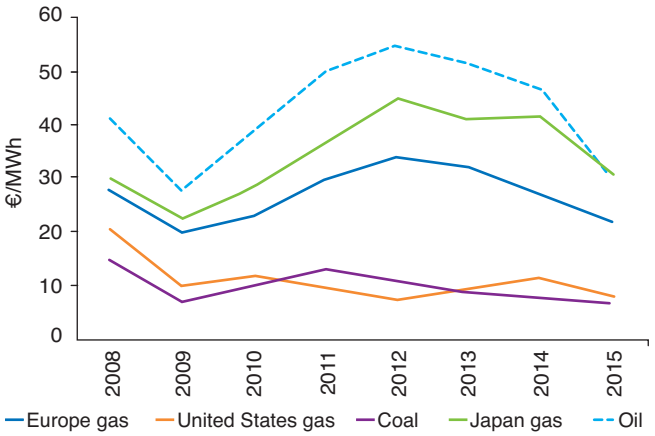
On the other hand, this could be an obstacle for options to replace gasoline: new energies (biofuels, etc.), engine systems or alternative transport solutions (public transport, car sharing, etc.). Everything depends on how long this period of low prices lasts, and the governments' determination to pursue their incentive policies.

Fig. 11 – Price of Brent (€/l) and petroleum products (€ all tax incl./l) in France since 2008



Sources: MEDDE, Reuters

Fig. 12 – Annual price of energies in €MWh - from 2008 to 2015



Sources: MEDDE, Reuters/BP

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