

# Investing in the zero carbon economy in order to escape secular stagnation

By [Xavier Timbeau](#)

What the downward revisions of various forecasts ([IMF](#), [OECD](#), [OFCE](#)) presented in early autumn 2015 tell us about the euro zone is not very comforting. A recovery is underway, but it is both sluggish and fragile (see: "[A very fragile recovery](#)"). The unemployment rate in the euro zone is still very high (almost 11% of the labour force in the second quarter), and a sluggish recovery means such a slow fall (0.6 point per year) that it will take more than seven years to return to the 2007 level. Meanwhile, the European Central Bank's unconventional monetary policy is having difficulty re-anchoring inflation expectations. The announcement of quantitative easing in early 2015 pushed up the 5-year/5-year forward inflation rate [\[1\]](#), but since July 2015 the soufflé has collapsed once again and medium-term expectations are 0.8% per year, below the ECB target (2% per year). Underlying inflation has settled in at a low level ([0.9% per year](#)), and there is a high risk that the euro zone will be frozen in a state of low inflation or deflation, strangely resembling what Japan has experienced from the mid-1990s to today. Low inflation is not good news because it is triggered by high unemployment and slowly rising nominal wages. The result is real wages growing more slowly than productivity. Little or no inflation means both real interest rates that remain high, which increases the burden of debt and paralyzes investment, but also an unconventional monetary policy that undermines the ability to measure risks and which gradually loses its credibility for maintaining price stability, i.e. to keep inflation within declared targets. At the [Jackson Hole Symposium](#) in August 2014, Mario Draghi announced that, in the

face of persistent unemployment, monetary policy cannot do everything. Structural reforms are necessary (what else could a central banker say?). But a demand policy is also needed. Not having one means [running the risk of secular stagnation](#), as was formulated by Hansen in the late 1930s and recently brought up to date by Larry Summers.

Europe does not, however, lack investment opportunities. The [COP21 commitments](#), though timid, assume a reduction in CO2 emissions (equivalent) per capita from 9 tons to 6 tons within 15 years, and investment will need to pick up pace in a big way if the change in global temperature is not to exceed 2°C. This means aiming to put an end to the use of petroleum and coal (or the large-scale development of carbon capture and storage) within 35 years. Achieving this will require investment on a massive scale, which is estimated in the [European Commission's Energy Road Map](#) at over 260 billion euros (nearly 2% of GDP) per year by 2050. The social profitability of such investments is substantial (since it helps to avoid climate catastrophe and makes it possible to meet the EU's commitments to the world's other countries), but – and this is the problem posed by our sluggish recovery – their private profitability is low, and uncertainty about future demand together with poor coordination could give pause to the “animal spirits” of our entrepreneurs. Secular stagnation results from the very low profitability of investments, particularly after taking into account the real rates anticipated and the risk of a more serious depression. To avoid this trap, the social returns on investment in a zero carbon economy need to become evident to all, and in particular they need to coincide with private returns. There are numerous tools that can do this. We can use carbon pricing and markets for trading in emission rights; we can use a carbon tax; we can develop certificates for new investments (assuming we know how to ensure that they reduce CO2 emissions compared to an opposing counterfactual) or impose standards (if these are followed!). The difficulties of the transition

and the acceptance of a relatively painful change in prices can be eased by compensatory measures (which have a budgetary cost, [see Chapter 4 of the IAGS 2015 report](#), but are part of the stimulation package). It might also be desirable to draw on monetary policy to amplify the stimulus (see [this proposal by Michel Aglietta and Etienne Spain](#)). The implementation of artillery like this to reduce emissions and boost the European economy is not straightforward and would require wrenching the institutional framework. But that's the price to pay in order to avoid sinking into a long period of stagnation which, with the inequalities and impoverishment that it would generate, would certainly break up the European project.

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## Oil: carbon for growth

By [Céline Antonin](#), [Bruno Ducoudré](#), Hervé Péléraux, Christine Rifflart, [Aurélien Saussay](#)

*This text is based on the [special study of the same name](#) [Pétrole : du carbone pour la croissance, in French] that accompanies the OFCE's 2015-2016 Forecast for the euro zone and the rest of the world.*

The 50% fall in the price of Brent between summer 2014 and January 2015 and its continuing low level over the following months is good news for oil-importing economies. In a context of weak growth, this has resulted in a transfer of wealth to the benefit of the net importing countries through the trade balance, which is stimulating growth and fuelling a recovery. Lower oil prices are boosting household purchasing power and driving a rise in consumption and investment in a context where companies' production costs are down. This has

stimulated exports, with the additional demand from other oil-importing economies more than offsetting the slowdown seen in the exporting economies.

That said, the fall in oil prices is not neutral for the environment. Indeed, the fall in oil prices is making low-carbon transportation and production systems less attractive and could well hold back the much-needed energy transition and the reduction of greenhouse gas emissions (GHG).

This oil counter-shock will have a favourable impact on growth in the net oil-importing countries only if it is sustained. By 2016, the excess supply in the oil market, which has fuelled by the past development of shale oil production in the United States and OPEC's laissez-faire policy, will taper off. Unconventional oil production in the United States, whose profitability is uncertain at prices of under 60 dollars per barrel, will have to adjust to lower prices, but the tapering off expected from the second half of 2015 will not be sufficient to bring prices down to their pre-shock level. Brent crude prices could stay at about 55 dollars a barrel before beginning towards end 2015 to rise to 65 dollars a year later. Prices should therefore remain below the levels of 2013 and early 2014, and despite the expected upward trend the short-term impact on growth will remain positive.

To measure the impact of this shock on the French economy, we have used two macroeconomic models, *e-mod.fr* and *ThreeMe*, to carry out a series of simulations. These models also allow us to assess the macroeconomic impact, the transfers in activity from one sector to another, and the environmental impact of the increased consumption of hydrocarbons. The results are presented in detail in the [special study](#). It turns out that for the French economy a 20 dollar fall in oil prices leads to additional growth of 0.2 GDP point in the first year and 0.1 point in the second, but this is accompanied by a significant environmental cost. After five years, the price fall would lead to additional GHG emissions of 2.94 MtCO<sub>2</sub>, or

nearly 1% of France's total emissions in 2013. This volume for France represents nearly 4% of [Europe's goal](#) of reducing emissions by 20% from 1990 levels.

The simulations using the French *e-mod.fr* model can be extended to the major developed economies (Germany, Italy, Spain, the USA and UK) by adapting it to suit characteristics for the consumption, import and production of oil. With the exception of the United States, the oil counter-shock has a substantial positive impact that is relatively similar for all the countries, with Spain benefitting just a little more because of its higher oil intensity. Ultimately, considering the past and projected changes in oil prices (at constant exchange rates), the additional growth expected on average in the major euro zone countries would be 0.6 GDP point in 2015 and 0.1 point in 2016. In the US, the positive impact would be partially offset by the crisis that is hitting the unconventional oil production business<sup>[1]</sup>. The impact on GDP would be positive in 2015 (+0.3 point) and negative in 2016 (-0.2 point). While lower oil prices are having a positive impact on global economic growth, this is unfortunately not the case for the environment ...

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<sup>[1]</sup> See the post, [The US economy at a standstill in Q1 2015 : the impact of shale oil](#), by Aurélien Saussay, from 29 April on the OFCE site.

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# Valuing energy savings fairly

By [Evans Salies \[1\]](#)

Following the first meeting of the *Commission mixte paritaire* (a joint commission of the two houses of the French Parliament) on the proposed legislation to “make the transition to a sound energy system”, it is important to examine the reasons that led the Senate to adopt a motion on 30 October 2012 to dismiss this bill. This rejection is based on errors of judgment that reflect the difficulty of defining a residential energy pricing that is efficient and fair in light of the government’s objectives to control energy demand. It also seems appropriate to seek clarification of whether the proportional pricing in force needs to be corrected in order to reward energy savings.

The opposition of the parliamentarians focuses on the following point: the bonus-malus system breaches the principle of equal treatment of citizens regarding access to energy.[\[2\]](#) This argument is reminiscent of the annulment by the Constitutional Council in 2009 of the carbon tax.[\[3\]](#) It is nevertheless surprising, since the principle of equal treatment is not fully respected by the current system of tariffs. In practice, each household pays two local taxes on their final consumption of electricity. However, the taxes differ from one town or department to another, for reasons that are difficult to explain. The Senators also criticized the progressivity of the bonus-malus system that is to be superposed on the current rates, treating it as a hidden tax. There seems to be little grounds for this criticism in that the social tariffs already introduce some progressivity.[\[4\]](#)

The innovative element of the bill concerns the compatibility between the proportional pricing in force and the valuation of energy savings. Between households of similar composition who are subscribers at the same rate, there is already a reduction

for the household that controls its usage. But is this reduction sufficient to compensate for the effort? In other words, should we consider that a kilowatt-hour of savings that costs an effort has the same economic value, in absolute terms, as a kilowatt-hour that is simply consumed? Everything depends on whether the savings in question is considered a gain or a loss. For households in the latter situation, the savings is seen as a cost. So the savings is not made, which is why the bonus-malus system would be effective. The others do not need an added incentive.

The bonus-malus system does not simply offer a discount (bonus) that is to be funded by the overages. [5] It also aims to inform individual households about their behaviour, *i.e.* whether it is virtuous or not, which is consistent with several recent observations in the literature: a household does not base its energy consumption on tiny marginal pricings, which are counted in centimes per kilowatt / hour and which people understand only imperfectly. Changes in the amount of the energy bill and announcements of price fluctuations play a greater role. Bonuses and penalties thus matter less as absolute values than as signals sent to households by their relative values on the invoice.

The superposition of the bonus-malus system on the rates in effect will of course initially simply amplify the gaps in spending between users. But the bonus that would apply on the bill of households whose behaviour benefits everyone is no less legitimate than the discounts enjoyed by households who changed suppliers once the retail energy markets were opened to competition.

Unfortunately, the rejection of the Brottes bill has ended any educational discussion about the relationship between energy efficiency and residential energy pricing. The lack of enthusiasm for the topic in the public debate is easy to perceive from reading the recent, voluminous report of the Commission of Inquiry on the actual cost of electricity. This

is not so surprising in a sector where innovation is encouraged more on the supply side. The *effacement diffus* scheme is the latest example.<sup>[6]</sup> But without innovation in the structure of energy tariffs too, will France be able to achieve its goal of reducing energy consumption?

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<sup>[2]</sup> This principle is ensured by tariff equalization: the schedule of tariffs is the same regardless of the place of residence.

<sup>[3]</sup> On the grounds that this tax violates the equality of taxpayers with respect to the public tax burden.

<sup>[4]</sup> Crampes, C., Lozachmeur, J.-M., 10 Sept 2012, “Les tarifs progressifs de l’électricité, une solution inefficace”, *Le Monde*.

<sup>[5]</sup> In the case where the sum of the penalties is not enough to cover the bonuses, the State will finance the deficit. And even in the absence of a deficit, as the distribution of virtuous consumers is not necessarily the same from one provider to another, an equalization of the bonus-malus balances should be applied so that everyone ends up with a zero balance.

<sup>[6]</sup> This consists of interrupting the power to a radiator or boiler for 10 or 15 minutes.