

# Lower taxation on business but higher on households

By [Mathieu Plane](#) and Raul Sampognaro

Following the delivery of the Gallois Report in November 2012, the government decided at the beginning of Francois Hollande's five-year term to give priority to reducing the tax burden on business. But since 2015, the President of the Republic seems to have entered a new phase of his term by pursuing the objective of reducing the tax burden on households. This was seen in the elimination of the lowest income tax bracket and the development of a new allowance mechanism that mitigates tax progressivity at the lower levels of income tax. But more broadly, what can be said about the evolution of the compulsory tax burden on households and businesses in 2015 and 2016, as well as over the longer term?

Based on data provided by the INSEE, we have broken down trends in the tax burden since 2001, distinguishing between levies on companies and those on households (Figure). While this is purely an accounting analysis and is not based on the final fiscal impact, it nonetheless gives a view of the breakdown of the tax burden [\[1\]](#). In particular, this exercise seeks to identify the tax burden by the nature of the direct payer, assuming constant wages and prices (excluding tax). This accounting breakdown does not therefore take into account macroeconomic feedback and does not address the distributional and intergenerational impacts [\[2\]](#) of taxation.

For the period from 2001 to 2014, the data is known and recorded. They are *ex post* and incorporate both the effects of the discretionary measures passed but also the impact of fiscal gains and shortfalls that are sensitive to the business cycle. However, for 2015 and 2016, the changes in the tax burden for households and businesses are *ex ante*, that is to

say, they are based solely on the discretionary measures that have an impact in 2015 and 2016 and calculated in the Social, Economic and Financial Report of the 2016 Finance Bill for 2016 [[Rapport économique social et financier du Projet de loi de finances pour 2016](#)]. They therefore do not, for both years, include [potential effects related to variations in tax elasticities that could modify the apparent tax burden rates](#). Furthermore, under the new accounting standards of the European System of Accounts (ESA) tax credits, such as the CICE, are considered here as reductions in the tax burden, and not as a public expenditure. Furthermore, the CICE tax credit is recognized at the tax burden level in terms of actual payments and not on an accrual basis.

Several major points emerge from this analysis of the recent period. First, tax rates rose sharply in the period 2010-2013, representing an increase of 3.7 percentage points of GDP, [with 2.4 points borne by consumers and 1.3 by business](#). Over this period, fiscal austerity was relatively balanced between households and business, with the two experiencing a tax increase that was more or less proportional to their respective weights in the tax burden [\[3\]](#).

However, from 2014 a decoupling arose between the trends in the tax burdens for households and for business, which is continuing in 2015 and 2016. Indeed, in 2014, due to the impact of the CICE tax credit (6.4 billion euros, or 0.3 percent of GDP), the tax burden on business began to decline (by 0.2 GDP point), while the burden on households continued to rise (by 0.4 GDP point), mainly because of the hike in VAT (5.4 billion), the increase in environmental taxes (0.3 billion with the introduction of the carbon tax) and the increase in the contribution to the public electricity service (CSPE) (1.1 billion), together with the increase in social contributions for households (2.4 billion), mainly due to the rise in contribution rates to the general and complementary social security scheme and the gradual alignment of rates for

civil servant with those for private-sector employees.

In 2015, the tax burden on business will fall by 9.7 billion euros (0.5 GDP point) with the implementation of the CICE tax credit (6 billion), the first Responsibility Pact measures (5.9 billion related to the first tranche of reductions in employer social security contributions, an allowance on the C3S tax base and a "*suramortissement*", an additional tax reduction, on investment), while other measures, such as those related to pension reform, are increasing corporate taxation (1.7 billion in total). Conversely, the tax burden on households should increase in 2015 by 4.5 billion (0.2 GDP point), despite the elimination of the lowest income tax bracket (-2.8 billion) and the reduction in self-employed contributions (-1 billion). The hike in the ecological tax (carbon tax and TICPE energy tax) and the CSPE together with the non-renewal in 2015 of the exceptional income tax reductions of 2014 represent an increase in taxation on households of, respectively, 3.7 and 1.3 billion. Other measures, such as those affecting the rates of contributions to general, supplemental and civil servant pension schemes (1.2 billion), along with local taxation (1.2 billion), including the modification of the DMT0 tax ceiling and measures affecting tourist and parking taxes, are also raising taxes on households.

**Table. Measures affecting household and corporate tax burdens - 2015 and 2016**

In billion euros

	2015	2016
<b>HOUSEHOLDS</b>		
Income tax cut for low-income households	-2,8	-2,0
Ecology taxes + TICPE + CSPE	3,7	2,7
Change in VAT	0,5	-0,2
Local taxes	1,3	1,1
Elimination of PPE working tax credit		2,0
Old-age and CSA community autonomy tax	0,5	0,8
Other changes to social security contributions	0,8	0,1
Other measures	1,9	0,2
Reduction in self-employed contributions (Responsibility Pact)	-1,0	
Fight against tax fraud and avoidance	-0,4	-0,6
<b>Total of measures affecting household tax burden</b>	<b>4,5</b>	<b>4,1</b>
<b>Total excluding fight against tax fraud and avoidance</b>	<b>4,9</b>	<b>4,7</b>
<b>BUSINESS</b>		
CICE tax credit	-6,0	-0,3
C3S allowance (Responsibility Pact)	-1,0	-1,0
Elimination of exceptional IS corporate income tax (Responsibility Pact)		-2,3
Tax reduction on investments	-4,5	-3,5
Other measures affecting social security contributions	-0,4	-0,2
Other social contributions measures	1,1	1,0
Other measures	0,9	0,9
Fight against tax fraud and avoidance	0,2	-0,5
<b>Total of measures affecting corporate tax burden</b>	<b>-9,7</b>	<b>-5,9</b>
<b>Total excluding fight against tax fraud and avoidance</b>	<b>-9,9</b>	<b>-5,4</b>

Sources: PLF (Finance Act) 2016; OFCE calculations.

In 2016, the tax burden on business will fall by 5.9 billion (0.3 GDP point), mainly due to the second phase of the Responsibility Pact. Reductions in employer social security contributions on wages lying between 1.6 and 3.5 times the SMIC minimum wage (3.1 billion), the elimination of the corporate income tax (IS) surcharge (2.3 billion), the second allowance on the C3S tax base (1 billion), the implementation of the CICE tax credit (0.3 billion) and the additional tax reduction on investment (0.2 billion) have been only partially offset by tax increases on business, mainly with the hike on pension contribution rates (0.6 billion). However, as in previous years, the tax burden on households will increase in 2016 by 4.1 billion (0.2 GDP point), despite a further reduction in income tax (2 billion). The main measures increasing household taxation are similar to those in 2015, including environmental taxation, with the hike in the carbon

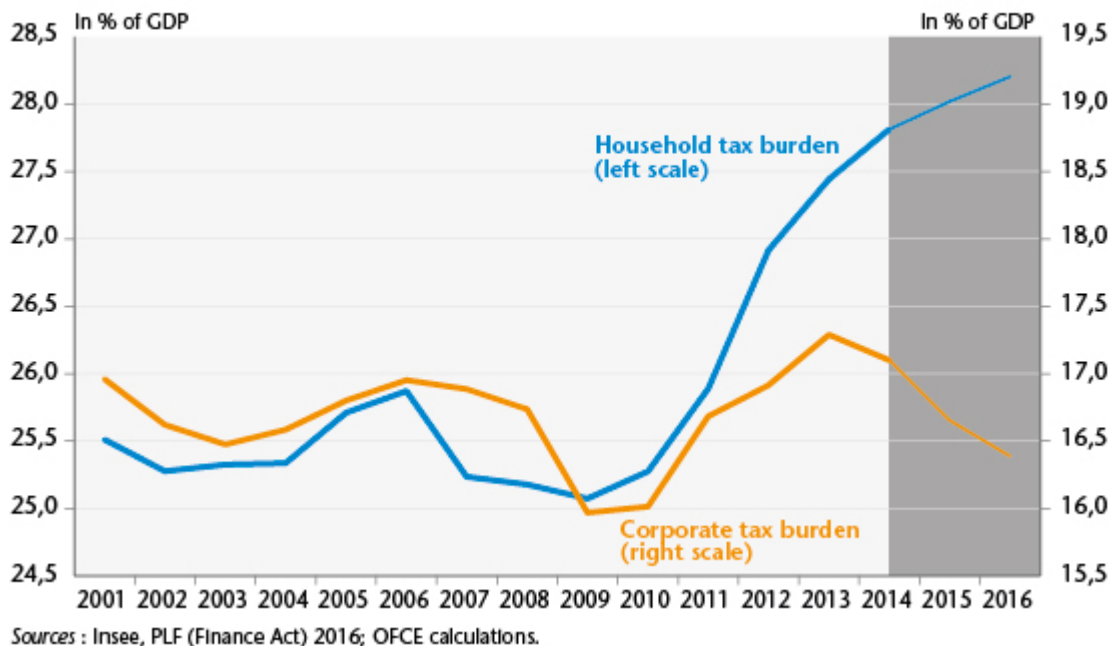
tax (1.7 billion) and the CSPE tax (1.1 billion), measures on financing pensions (0.8 billion), and the expected increase in local taxation (1.1 billion). Note that the elimination of the PPE working tax credit in 2016 will mechanically lead to an increase in the household tax burden of 2 billion<sup>[4]</sup>, but this will be offset by an equivalent amount for the new Prime d'activité working tax credit.

Ultimately, over the period 2010-2016, the household tax burden will increase by 66 billion euros (3.1 GDP points) and the burden on business by 8 billion (0.4 GDP point). The household tax burden will reach a historic high in 2016, at 28.2% of GDP. Conversely, the corporate tax burden in 2016 will amount to 16.4% of GDP, less than before the 2008 crisis. And in 2017, the last phase of the Responsibility Pact (with the complete elimination of the C3S tax and the reduction of IS corporate tax rates) and the expected CICE-related reimbursements should lead to cutting corporate taxation by about 10 billion euros, bringing the corporate tax burden down to the lowest point since the early 2000s.

The need to finance measures both to enhance corporate competitiveness and to reduce the structural deficit is placing the entire burden of the fiscal adjustment on households. Thus, the reduction in income tax in 2015 and 2016 will not offset the rise in other tax measures, most of which were approved in Finance Acts prior to 2015, and seems low in relation to the tax shock that has hit households since 2010. However, how these recent tax changes affect growth and the consequent impact on inequality will depend on the way business makes use of the new resources generated by the massive decline in its tax burden since 2014. These funds could lead to a rise in wages, employment, investment or lower prices or to higher dividends and a reduction in debt. Depending on the way business allocates these, the impact to be expected on the standard of living in France and on inequality will not of course be the same. An evaluation of

the impact of these changes on the tax burden will surely lead to future studies and debate.

**Figure: Changes in the tax burden on households and business**



[\[1\]](#) The tax burden on households includes direct taxes (CSG, CRDS, IRPP, housing tax, etc.), indirect taxes (VAT, TICPE, CSPE, excise taxes, etc.), tax on capital (ISF, DMTG, property tax, DMT0, etc.), and salaried and self-employed social security contributions. The corporate tax burden includes the various taxes on production (value-added tax and corporate property tax (ex-TP), property tax, C3S tax, etc.), taxes on wages and labour, corporate income tax and employer social security contributions.

[\[2\]](#) For example, employer social contributions for pensions are analyzed here as a tax burden on business and not as deferred wages for households or a transfer of income from assets to retirees.

[\[3\]](#) In 2013, 61% of the tax burden was on households and 39% on business. However, over the 2010-2013 period, tax increases

were borne 64% by households and 36% by business, which was more or less their respective weights in taxation.

[\[4\]](#) The PPE credit will be replaced by the Prime d'activité working tax credit, in an equivalent amount, which also encompasses the RSA activité tax credit; for accounting purposes the PPE is considered as a public expenditure. However, this new measure should not change household income macroeconomically, but only the nature of the transfer. Thus, excluding the elimination of the PPE, the tax burden on households would increase by 2.1 billion in 2016.

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## 2015-2017 forecasts for the French economy

By [Mathieu Plane](#), [Bruno Ducoudré](#), [Pierre Madec](#), Hervé Péléraux and Raul Sampognaro

This text summarizes the [OFCE's economic forecast for the French economy for 2015-2017](#)

After a hesitant upturn in the first half of 2015 (with growth rates of 0.7% and 0% respectively in the first and second quarter), the French economy grew slowly in the second half year, with GDP rising by an average of 1.1% for the year as a whole. With a GDP growth rate of 0.3% in the third quarter of 2015 and 0.4% in the fourth quarter, which was equal to the pace of potential growth, the unemployment rate stabilized at 10% at year end. Household consumption (+1.7% in 2015) was boosted by the recovery in purchasing power due in particular to lower oil prices, which will prop up growth in 2015, but

the situation of investment by households (-3.6%) and the public administration (-2.6%) will continue to hold back activity. In a context of sluggish growth and moderate fiscal consolidation, the government deficit will continue to fall slowly, to 3.7% of GDP in 2015.

With GDP growth in 2016 of 1.8%, the year will be marked by a recovery, in particular by rising corporate investment rates. Indeed, all the factors for a renewal of investment are coming together: first, a spectacular turnaround in margin rates since mid-2014 due to a fall in the cost of energy supplies and the impact of the CICE tax credit and France's Responsibility Pact; next, the historically low cost of capital, which has been helped by the ECB's unconventional monetary policy; and finally, an improvement in the economic outlook. These factors will lead to an acceleration of business investment in 2016, which will increase by 4% on average over the year. Household consumption should remain strong in 2016 (+1.6%), driven by job creation in the market sector and by a slight fall in the savings rate. Fuelled by the rise in housing starts and building permits, housing investment will pick up (+3%), after shrinking for four years in a row. Foreign trade will be boosted by the impact of the euro's depreciation and the government's competitiveness policies, and will make a positive contribution to growth (+0.2 GDP point in 2016, the same as in 2015). Once the impact of the downturn in oil prices has fed through, inflation should be positive in 2016, but still low (1% on an annual average, after two years of virtual stagnation), a rate that is close to underlying inflation. The pace of quarterly GDP growth in 2016 will be between 0.5% and 0.6%: this will trigger a gradual closing of the output gap and a slow fall in the unemployment rate, which will end the year at 9.8%. The public deficit will be cut by 0.5 GDP point, due to savings in public spending, notably through the contraction of public investment (-2.6%), low growth in government spending (+0.9%), and the impact of the rise in tax revenues as the economy



recovers.

Assuming that the macroeconomic environment remains favourable, the output gap is expected to continue to close in 2017. With GDP growth of 2%, the government deficit will fall further to 2.7% of GDP, passing below the 3% bar for the first time in 10 years. Under the impact of the government's employment policies and the absorption of the overstaffing by companies, the unemployment rate will continue to fall, to 9.4% of the active population by the end of 2017.

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# **The COP 21 conference: the necessity of compromise**

By [Aurélien Saussay](#)

On Tuesday, 6 October 2015, the United Nations Framework Convention on Climate Change (UNFCCC) released a preliminary version of the draft agreement that will form the basis for negotiations at the Paris Conference in December. Six years after the Copenhagen agreement, widely described as a failure, the French Secretariat is making every effort to ensure the success of COP 21 – at the cost of a certain number of compromises. Although the text's ambitiousness has been cut down, the strategy of taking “small steps” is what can make an agreement possible.

The project has renounced a binding approach, where each country's contributions were negotiated simultaneously, and replaced that with a call for voluntary contributions, where each country makes its commitments separately. This step was

essential: the Kyoto Protocol, though ambitious, was never ratified by the United States, the world's principal emitter of carbon at the time – and it was the attempt to build a successor on that same model which resulted in the lack of agreement at Copenhagen.

The countries' commitments, called Intended Nationally Determined Contributions (INDC), fall into three broad categories: a reduction in emissions from the level of a given base year – generally used by the developed countries; a reduction in the intensity of emissions relative to GDP (the amount of GHGs emitted per unit of GDP produced); and finally, the relative reduction in emissions compared to a baseline scenario, called “business-as-usual”, which represents the projected trajectory of emissions in the absence of specific measures.

Most emerging countries have chosen to express their targets in terms of intensity (China and India in particular) or relative to a baseline trajectory (Brazil, Mexico and Indonesia). This type of definition has the advantage of not penalizing their economic development – at the price, of course, of uncertainty about the level of the target: if economic growth exceeds the projections used, the target could be met even while the reduction in emissions achieved would be lower than expected. Moreover, part of the target is often indexed on the availability of financing and of technology transfers from developed countries – once again, a perfectly legitimate condition. Due to the contribution that having a plurality of targets makes to a fair distribution of efforts between developed, long-standing emitters and countries that have been developing recently, this represents an essential source of compromise.

With regards to the level of emissions targets set for 2030, while some are trivial – note the case of Australia, which is proposing *to increase* its emissions over 1990 levels – many involve accelerating existing efforts. To meet its

commitments, Europe must reduce its emissions twice as rapidly from 2020 to 2030 as it does in the previous decade, and the United States one-and-a-half times; China will need to reduce its carbon intensity three times faster than it has in the last five years, and India two-and-a-half times faster.

As a guide, if the INDCs made public to date were fully realized, then according to the research consortium Climate Action Tracker [\[1\]](#), global temperatures would rise 2.7 °C above pre-industrial levels by the end of the century. This simple calculation must, however, be qualified, since the plan is for commitments to be revised every five years, and they can only be tightened. This system of iterative negotiations should make it possible to move steadily closer to the goal of 2°C that is still being upheld officially.

To be effective, it is necessary to check on whether these commitments are actually met, which requires independent monitoring. In this respect, while guidelines have been highlighted in the current version of the draft agreement, the final negotiations will need to clarify the mechanisms actually used. In the absence of an effective verification procedure, successive revaluations of commitments could turn into a global game of liar's poker, and ultimately undermine the fight against climate change.

Moreover, the existence of relatively ambitious commitments should certainly not delay the implementation of the necessary adaptation measures, which are at present the subject of a single article in the provisional draft, with no reference to the funding that will be devoted to this. This is one of the project's main weaknesses, as the question of funding is barely mentioned – the Green Climate Fund, which was to be endowed with 100 billion dollars by 2010, has received only 10.2 billion to date.

In turning the page on Copenhagen, the draft agreement for Paris could constitute a real step forward for climate

protection. It is the result of a change in method and a series of compromises which, though scaling down ambitions, are absolutely necessary to the very existence of an agreement. Demanding greater requirements for the proposal's targets could lead to the failure of the negotiations, which would be far more damaging. In its current version, the draft agreement provides a robust foundation for the future coordination of efforts against climate change.

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[\[1\]](#) The Consortium of the following research organizations: Climate Analytics, Ecofys, NewClimate Institute, and Potsdam Institute for Climate Impact Research.

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## Slowing growth: due to the supply side?

By [Jérôme Creel](#) and [Xavier Ragot](#)

The weakness of the recovery in 2014 and 2015 raises the need for a structural re-examination of the state of France's productive fabric. Indeed, an analysis of investment dynamics, the trade balance, productivity gains and business margins, and to a lesser extent companies' access to credit, indicates the existence of some disturbing trends since the early noughties. In addition, the persistence of the crisis inevitably poses the question of the unravelling of France's productive fabric since 2007 due to a combination of low growth, weak investment and numerous bankruptcies.

The contributions gathered in [Revue de l'OFCE no.142](#) have a double ambition: first, to put France's businesses and economic sectors at the heart of reflection about the ins and outs of the current slowdown in growth, and second, to question the basis for theoretical analyses of future growth in light of the situation of France and Europe. Based on the various contributions, nine conclusions emerge:

1) Growth potential, a concept that aims to measure an economy's medium-term productive capacity, has fallen in France since the crisis. While the level of potential growth is high over the long term, on the order of 1.8%, it has fallen since the crisis by about 0.4 point, according to the new measurement provided by Eric Heyer and Xavier Timbeau.

2) The main point is to figure out whether this slowdown is temporary or permanent. This is important for growth forecasts but also with respect to France's European commitments, which depend on its growth potential. One important conclusion is that a very large portion of the current slowdown is transitory and linked to France's economic policy. As Bruno Ducoudré and Mathieu Plane demonstrate, the low level of investment and employment can be explained by the macroeconomic environment and in particular by the current sluggish economy. Business behaviour does not seem to have changed during the crisis. The analysis by Ducoudré and Plane also shows that the determinants of investment differ in the short term and the long term. A 1% increase in economic activity increases investment by 1.4% after one quarter, whereas a 1% increase in the margin rate has very little impact in that same period. However, over the long term (10 years), a 1% increase in activity boosts investment by about 1%, while a 1% increase in the margin rate boosts investment by 2%. So promoting investment means supporting economic activity in the short term, while boosting margins will have an impact over the longer term.

3) France's productive fabric will take time to recover from

the effects of the crisis because of three major obstacles: the weakness of investment, of course, but also the decline in the quality of investment and finally the disruption of production following on from the poor allocation of capital during the crisis, including its territorial dimension. Sarah Guillou and Lionel Nesta show that the low level of investment makes it impossible to go upmarket, which has meant less technical progress since the crisis. Jean-Luc Gaffard and Lionel Nesta then show that regional convergence has slowed since the crisis, and that economic activity has tended to decline in the most productive areas.

4) The concept of growth potential as a tool for macroeconomic management has emerged from the crisis in a profoundly weakened state. Whatever the methods used, ongoing revisions of growth potential make the idea of a system of rules-based European guidance dangerous, according to Henri Sterdyniak. There is a need to rediscover European economic policy that is discretionary in character. In addition, fiscal policy that is more contingent on macroeconomic and financial conditions needs to be better coordinated with the climate issue, as Jérôme Creel and Eloi Laurent argue.

5) The notion of secular stagnation, that is to say, a lasting weakening of growth, has led to intense debate. Two visions of secular stagnation are discussed. The first vision, associated with Robert Gordon, insists that technological progress has been exhausted. The second flows from the analysis of Larry Summers and stresses the possibility of a permanent demand deficit. Jérôme Creel and Eloi Laurent show the limitations of the analysis of Robert Gordon for France; in particular, French demographics are more an advantage for French growth than a hindrance. Gilles Le Garrec and Vincent Touzé show the possibility of a long-term demand deficit that would hinder capital accumulation, due to the central bank's inability to make further interest rate reductions. In this kind of environment, support for demand is necessary to get out of an

unfavourable equilibrium between low inflation and high unemployment, which leads to a negative perception of growth potential. Changing expectations may require large-scale policies to stimulate economic activity, along with an acceptance of high inflation over the long term.

6) The analyses presented here therefore recognize the profound difficulties with France's productive fabric and recommend better coordination of public policy. Support for demand is needed rapidly in order to restore investment, followed by an ongoing progressive policy to boost the margins of companies exposed to international competition – so, according to Jean-Luc Gaffard and Francesco Saraceno, not a competitive shock, but rather support for business that takes into account the time profile of productive investment.

7) In the longer term, part of what can be characterized as the French supply-side problem is the result of poor European adjustments, including the discrepancy in wages between Europe's major economies. The divergence between France and Germany since the mid-1990s has been impressive. Mathilde Le Moigne and Xavier Ragot show that German wage restraint is a singularity among European countries. They offer a quantification of the impact of this wage moderation on France's foreign trade and economic activity, and conclude that German wage restraint has contributed to an increase of more than 2 points in France's unemployment rate. A supply policy could also go by the name of a policy for European re-convergence.

8) The deep-going modernization of the productive fabric will depend on spaces for cooperation, collective learning and collaboration so as to nourish the creativity made possible by new technologies. These spaces need to recognize the importance of difficult-to-value intangible assets. In economies with an ageing workforce, advances in robotics and artificial intelligence should lead to enhancing potential productivity, according to Sandrine Levasseur. Cooperation

also needs to be strengthened in two areas: the company and the territory. Within companies, partnership governance should help limit short-termist financial tendencies. With respect to territory, the definition of regional innovation systems should be the focus of a modern industrial policy, according to Michel Aglietta and Xavier Ragot.

9) Guillaume Allègre concludes that it is not so much the level of production that is disturbing as the inequitable distribution of the fruits of growth, however small these may be. The emerging consensus on the negative impact of inequality on economic growth should not obscure the real debate, which does not concern just the income gap, but also what that income makes it possible to consume, i.e. equal access to goods and services of equal quality. The key question is thus the content of production, more than simply growth.

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## **Areva, Flamanville and Fessenheim: key players in France's nuclear turn**

By [Sarah Guillou](#)

The recent [law on "the energy transition to green growth"](#), promulgated on 17 August 2015, plans for a fall in nuclear energy's share of electricity production from 75% to 50% by 2025. It also caps the power of the country's nuclear plants at 63.2 GW. This limit corresponds to current capacity and implies that any new reactor start-up (Flamanville, for



example) must result in the closure of a reactor with equivalent power. The decision to postpone the expected closure of the Fessenheim plant comes under this and is now part of this energy equilibrium. The conditioning of the closure of Fessenheim is provoking discontent among all those who believed in the unconditional pledge of Francois Hollande during his presidential campaign.

This decision is coming in a new context for French nuclear power policy and in an international and technological situation that is leading the French state to abandon the country's "all nuclear" approach. Areva, Flamanville and Fessenheim are key players in this shift.

Act I began with the revelation of Areva's losses. In early 2015, the announcement of a loss of almost 5 billion euros for fiscal year 2014 relegated the company from first class status to a company in difficulty, alongside Alstom, whose energy branch is being sold to General Electric, with completion this autumn. The Areva group had a turnover of slightly more than 8 billion euros in 2014. The group's problems are due to the simultaneous emergence of difficulties in its environment, including market and regulatory trends, technological constraints and changes in the competition (see ["Areva, vaincue à la croisée des risques" \[Areva: defeated at the crossroads of risk\], Note de l'OFCE, no. 52, September 2015](#)). With private and public governance having proved incapable of taking timely decisions to deal with these adverse developments, the moment for restructuring has come. Areva now needs 7 billion in financing for the 2015-2017 period (to cover losses and debt maturities, without including any provisions for the TVO site). The proposed agreement with EDF presented in late July concerns Areva NP.

Areva NP is already a joint venture of Areva and EDF that handles the construction of reactors and the assembly of fuel and services for the installed base; it accounts for half of Areva's sales. In late July 2015, it was duly accepted that

EDF would increase its share of Areva NP's capital by injecting two billion euros, giving it between 52% and 75% of the capital, depending on the inputs of other investors, along with 400 million for the acquisition of other assets. It was also agreed that the additional costs related to the Finnish Olkiluoto OL3 reactor built by Areva would not be borne by EDF but by the State and Areva. There is still uncertainty about how to handle the risks related to the Flamanville reactor, and EDF is conditioning its commitments on lifting these risks.

Foreign capital could participate in replenishing the capital through the purchase of assets. The most likely candidates are Chinese firms, which are already partners of EDF (CNNC and CGNPC), and Mitsubishi, which has partnered with Areva (see above), alongside France's Engie (GDF Suez). The French government is prepared to bail out the company for at most 2 billion euros.

The integrated model of Areva is therefore on the rocks. Less than 15 years after its birth, Areva's industrial coherence is under question. The company has been forced to allow the entry of industry partners into its capital and into its vast range of expertise. Its activity is now concentrated on the fuel cycle (the extraction, enrichment and reprocessing of uranium), with nearly one-third of its workload ensured by its client EDF and by maintenance and decommissioning.

The refocusing strategy, market trends and the preferences incorporated in France's energy policies are mutually consistent. The nuclear market will be centred on the need to maintain plants in operating condition and on decommissioning. Just under 500 reactors are listed worldwide, so there is a vast market for maintenance and decommissioning. This is in fact the area where Areva has won contracts in recent years.

In Act II, Flamanville and Fessenheim found themselves bound by the new energy transition law, illustrating both the

technological difficulties involved as well as the budgetary constraints. The completion of the construction of the Flamanville plant is meeting significant technical hurdles from the Nuclear Safety Authority. Its opening is, for the moment, subject to strong conditions. At the same time, the postponement of its opening means that the expected output of electricity production will have to do without it. The closure of the Fessenheim plant, promised for 2016, must therefore be delayed so as to avoid a transition in terms of electrical power output that will have to be filled in one way or another.

Without the capacity in the short run to replace the missing nuclear KWh by KWh from renewable energy, the replacement will have to be done using coal plants – going against the current targets for reductions in CO2 emissions – or by importing electricity – which would hurt the trade balance and could push up electricity prices. Given the necessity of postponing the closure of Fessenheim, the government will not fail to seize the political opportunity of the shortfall between the announcement of the plant's closure and its actual implementation.

Add to these factors the potential compensation – estimated at 5 billion euros – that EDF will request for the early closure of Fessenheim, and it is quite logical that the government is procrastinating as much as possible before deciding on the closing date.

Even today we still do not know the extent to which the State will recapitalize Areva. The government has clearly indicated that it would minimize the amount as much as possible, but for the most part it seems ready to allow foreign players in. So, concomitantly, the law on the energy transition is requiring a decrease in the share of nuclear power and the State is announcing that it can no longer finance the sector in the way it used to. More generally, the globalization of the industry, the rising cost of technology and safety requirements as well

as the shift in the preferences of the average voter towards less nuclear power are all combining to redefine the State's commitment to nuclear energy.

The State is thus being politically and economically compelled to withdraw from its "all-nuclear" approach and to accept the end of everything "made in France". The final decisions that will be taken on Areva's future and on the fate of the plants in Fessenheim (which will undoubtedly close in the short term) and Flamanville (whose opening is compromised but financially necessary) will therefore mark a change in the era of nuclear policy, even if the recent energy transition law is subsequently amended by a new party in power.

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## **Climate justice – the “Open Sesame” of the COP 21 climate conference**

By [Eloi Laurent](#)

Climate negotiations cannot be limited to technical discussions between experts about the reliability of scientific data: they need to take the form of an open political dialogue that is nourished by ethical reflection involving the citizens. What should be the focus of this dialogue? With COP 21 opening in two months in Paris, it is becoming increasingly clear that the key to a possible agreement is not economic efficiency, but social justice. The “green growth” that was a goal in the past century has little mobilizing power in a world plagued by injustice. It is much

more important to highlight the potential that resolute action against climate change holds for equality at the national and global level.

Three issues indicate how social justice is at the heart of the climate negotiations. The first concerns the choice of the criteria for allocating the carbon budget between countries in order to mitigate climate change (the approximately 1200 billion tons of carbon that remains to be emitted over the next three to four decades so as to limit the rise of ground temperatures to around 2 degrees by the end of the 21st century). Various indicators can be used both to estimate the carbon budget and to distribute it equitably among countries; while these indicators need to be discussed, we cannot under any circumstances ignore this issue in Paris. It is demonstrable that [the application of hybrid but relatively simple criteria on climate justice](#) would lead to cutting global emissions almost in half over the next three decades, which would ensure meeting the goal of 2 degrees, and even targeting the increased rise in temperatures to 1.5 degrees, thereby enhancing the fairness of this common rule with respect to the most vulnerable countries and social groups.

The second issue concerns adaptation to climate change, that is to say, the exposure and sensitivity to extreme weather events and rising global temperatures that is differentiated between countries and social groups. Here too it is important to select relevant indicators of climate vulnerability to fairly allocate the available funding (which should increase to \$100 billion per year by 2020). But it will be very difficult to mobilize the necessary sums without [shifting the climate negotiations from the current quantitative logic to a price logic](#).

Finally, combatting inequality seems to be the most effective way to involve citizens in the climate dialogue. The fight against climate change must be understood not as a social threat or an opportunity for profit-making but as a lever for

achieving equality: a chance to reduce disparities in human development between countries and within countries.

The case of China shows how constraints on cutting CO2 emissions can turn into a tool for reducing inequality: the limitation on coal consumption simultaneously reduces the country's greenhouse gas emissions and the damage caused to the Chinese population's health by fine particles, which are distributed very unevenly around the territory and therefore within the population. The same applies to the much desired regulation of automobile traffic in France's urban areas, which represents both a gain for health and a reduction in emissions related to mobility. This dual climate-health dividend (reducing emissions to contain global warming has an indirect effect, i.e. improving health) must therefore be at the heart of the Paris negotiations. The fight against climate change offers a chance to reduce the inequalities that will be so devastating: by cross-checking the "social" map and the "climate" map, we can anticipate that the impact of heat waves will be felt strongest in regions where both climatic exposure and the share of elderly people living alone are at high levels. The climate risk is a [socio-ecological risk](#). Inequality associated with this risk is [environmental inequality](#) [article in French]. The goal of COP 21 should not be to "save the planet" or even less to "save growth" but rather to "save our health" by protecting the most vulnerable from the worst of the climate crisis.