

POLICY BRIEF

THE 2018 FINANCE BILL: TOWARDS A SWEDISH-STYLE CARBON TAX?

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The 2018 Finance Bill includes an important energy component: speeding up the increase in CO₂ taxation and aligning the taxation of diesel with that of petrol.

The ramping up of this energy tax will no longer take place in a context where the fall in pre-tax fossil fuel prices makes the measure painless, as was the case between 2014 and 2017. This Policy Brief analyses the scope of these measures and examines the conditions to be met for CO₂ pricing to be in line with the 2050 carbon neutrality targets.

Key points

- **Voluntarism on the rate of the carbon tax.** At €44.6 €/tonne of CO₂ in 2018, France joins the small group of countries pricing CO₂ above €40/T. The target of €86.2/T in 2022 will involve a trajectory higher than “Quinet” shadow price and will match the current level of the Swedish carbon tax if it is continued over the next five-year period.
- **Inertia on the tax base.** To become fully effective, the carbon price-signal will have to be extended to all actors emitting fossil-fuel CO₂. This entails putting an end to national derogations and establishing a strong linkage with the CO₂ allowance price in the EU emissions trading system.
- **A strategy that departs from the logic of the “double dividend”.** The earmarking of the proceeds from the tax towards the financing of the energy transition and supporting households meets expectations on the part of civil society. But it reduces the potential for easing other taxes on labour and capital advocated by the “double dividend” approach.
- **The energy cheque: a step in the right direction.** The finance act provides for the introduction of a support system for households through the “energy cheque”. This method is an improvement on the social tariffs it replaces. Its effectiveness would be increased, however, if it were integrated into a more general system of combatting precariousness through lump sum cash transfers.
- **Maximization of impact on emissions.** Studies of other countries’ experience suggest that CO₂ emitters react strongly when they anticipate a carbon price that is stable over time. This finding argues for CO₂ pricing that is accepted politically and clearly explained to the public, who ultimately will pay the bill.

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The 2018 Finance Bill: Towards a Swedish-style carbon tax?

The French carbon tax came into being with the 2014 Finance Act.ⁱ The Energy Transition legislation adopted by Parliament in 2015 then set an indicative trajectory for this tax up to 2030. However, the introduction of the tax remained confidential, with the fall in the price of fossil fuels prior to the tax making it painless for taxpayersⁱⁱ. In addition, the governments of the preceding five years preferred not to make known a fiscal measure sometimes described as “punitive” by some of their members.

The first finance bill of the current five-year term speeds up the increase in the carbon tax, which will no longer go unnoticed. This voluntarist option has been accompanied by considerable caution regarding derogations and by lack of progress on the floor price of CO₂ allowances in the European market. There is also a degree of ambiguity regarding the uses of the tax. Lastly, the support measures for households lie within a sectoral approach that is probably not the most effective in combatting energy poverty.

The rising tax rate: France is heading in the direction of the Scandinavian countries

Often referred to as the “climate and energy contribution”, the carbon tax has been incorporated into energy excise dutiesⁱⁱⁱ (“Domestic taxes on energy consumption”), in line with a pattern already established in Sweden and Ireland. The amount of tax levied is obtained by applying a single CO₂ price (the rate of tax) to the carbon content of the different energies used (the tax base).^{iv} This “carbon component” is collected by Customs, but without the revenue obtained being clearly identified in the budget documents, just like in Sweden.

Introduced at a rate of €7 per tonne of CO₂, the carbon tax has since increased at an annual rate of about €8 per tonne to reach €30.5 in 2017. The 2018 Finance Bill accelerates this rise of increase, as shown in the data presented in Appendix 1. Three comments on this are called for.

a/ In 2019 the carbon tax is expected to be higher than the CO₂ shadow price set some years ago by the Quinet Commission.^v Is the government going too far in this respect? Such a suggestion would be unjustified. The Quinet price was set within a now out-dated public policy framework, where the goal was to reduce greenhouse gas emissions by a factor of four by 2050. The climate plan has raised the bar by aiming to achieve carbon neutrality in 2050. It is therefore likely that updating the Quinet price would lead to an upward revision of its trajectory, which would match that of the carbon tax.

b/ Internationally, the level of the carbon tax from 2018 places France within the very small group of countries pricing CO₂ above €40 per tonne. An extension after 2022 in the annual rate of increase aimed at between 2017 and 2022 would mean that France exceeds the current level of the Swedish tax, the highest in the world, during the next five-year term of office.

c/ The revaluation of the carbon tax will result in higher prices for fossil fuels, which vary according to their respective CO₂ content, as well as the weight of the other components of energy taxation. Petrol and diesel, which will lose their wholly unjustified historical tax advantage,^{vi} will rise by 3.9 and 7.6 centimes of a euro in 2018 respectively, that is, increases of 2.8% and 6.2% per litre in pump prices. For domestic natural gas and heating oil, the increases due to the carbon tax are 7.1%

and 6.1% respectively. These are more sensitive than petrol and diesel because the impact of the carbon component is not cushioned by other taxes (Appendix 2). Furthermore, households have to pay VAT on energy excise duties, whereas it is deductible for businesses.

The carbon tax base: holes still to be filled

Though proactive on the rate of the carbon tax, the government project is timorous regarding its base. The overall logic of the scheme, identical to those adopted in Sweden and Ireland, aims to make the carbon tax a tool for pricing diffuse CO₂ emissions, complementary to the pricing of emissions from large industrial and energy installations under the EU emissions trading system. This implies that all fossil CO₂ emissions not covered by the cap-and-trade system, and only these emissions, are subject to the tax. A good tax base is characterized by the absence of “holes” and “overlaps”. To achieve this, there are three issues that need to be addressed.

The first concerns derogation regimes that existed prior to the introduction of the carbon tax and that have been quietly extended to the carbon component of energy taxation. The most important derogations apply to road transportation of goods, air transport, public works and agriculture, some of which result from the implementation of international conventions or community law and cannot be disputed unilaterally. In Sweden, derogations relate to agricultural and mining vehicles. Economic efficiency as the basic rule of equality with regard to taxation means that these derogations need to be thoroughly overhauled, in consultation with the professions concerned. If public support is justified, it should use levers other than subsidy for the use of fossil fuels, such as lowering the cost of labour or capital.

The second problem concerns the special regime applied to certain industrial installations subject to the risk of carbon leakage as defined by the European directive on the emissions trading system, but which are not in fact subject to this regime. In particular, fuels in sectors outside the EU ETS for other purposes than as motor fuels or heating fuels. The solution here is straightforward: the installations concerned should enter one or other of the two systems, but not both.

The third area of uncertainty regarding the base lies in the treatment reserved for bioenergies. These also receive substantial public support, the amounts of which should be adjusted whenever the carbon tax is modified. Some of these bioenergies are subject to the carbon tax, in the same way as fossil fuels. This anomaly should be ended, since only fossil carbon is supposed to be subject to the tax. If, on the other hand, these bioenergies have negative indirect effects on the environment, they should of course be addressed, but by complementary instruments.

Linkage with the European emissions trading system: a balancing act

Assuming that all the holes in the carbon tax base are filled, there remains an increasingly difficult problem: the linkage of the domestic carbon tax with the European CO₂ emissions trading system. How does one justify the self-employed craft worker or small industrial firm paying €45 for each tonne of CO₂ emitted, when large industrial facilities are required only to return allowances trading for less than €10, which moreover might have been allocated to them free of charge? This discrepancy not only contradicts basic economic reasoning favouring a single price, but also runs counter to common sense.

The search for better coordination between national climate policy instruments and those deployed at the European level has in this respect become a balancing act. If we want to avoid dubious ad hoc solutions such as the introduction of a unilateral CO₂ allowance floor price for the electricity sector alone,^{vii} it is essential to complete the reform of the European system, so that it can be linked to

credible CO₂ price trajectories in the future. Sweden has decided to impose a part of the carbon tax on non-industrial heating plant covered by the EU ETS to compensate the low permit prices. The position of the French government in favour of the introduction of a floor price is relevant in this respect, though the first attempts to make it take shape on the basis of a Franco-German political agreement have so far failed.

Use of the tax: a logic that departs from the “double dividend” principle

In its early stages, the implementation of the carbon tax drew on the logic of a so-called “double dividend”, whereby two-thirds of the proceeds of the tax were used to reduce the cost of labour through the Competitiveness and Employment Tax Credit system (CICE), with the balance being earmarked for households. It is this logic that has prevailed in British Columbia, in contrast to Ireland’s decision to transfer the entire proceeds of the carbon tax into the general budget so as to reduce the public deficit and avoid increasing other taxes burdening production. Sweden has chosen a mixed strategy: the tax product is not earmarked but its usage remains at the government’s discretion, financing the energy transition or income tax cuts.

The French government has implicitly decided to depart from this double dividend logic after 2017 by paying into the special Energy Transition fund a fraction of the domestic Tax on Energy Products (TICPE) and of the tax on coal. The 2018 Finance Bill incorporates these provisions by increasing the TICPE contribution to €7.2 billion, without specifying the proportion of this transfer based on the carbon component.

Though still in need of greater transparency, the underlying logic seems to be that some of the carbon tax will be used to help finance the energy transition and the fight against fuel poverty. This strategy conforms to the aspirations of much of civil society.^{viii} By the same token it reduces the potential for lightening other burdens weighing on production costs, which the economic sphere is more concerned about.

The replacement of social tariffs by the energy cheque: a very questionable gain

Over the next five years, the amendments to the finance bill will mean price increases for households of 11% for gasoline, 24% for domestic fuel and diesel and 28% for natural gas. However, how tax-free rates will change is a major unknown, and depends largely on crude oil prices. The impact on people’s wallets will be greater, especially if fossil fuels become more expensive in the international markets.

The increase in the carbon tax (and of the tax on diesel in its capacity as fuel) raises a problem of equity, because the tax is regressive: it weighs more heavily on low-income households. They consume less energy than high-income households, but their energy outlays account for a significantly higher proportion of their budget.^{ix} Furthermore, the Finance Bill provides for or reinforces a number of support schemes targeting households in precarious situations, which are most exposed to the rising price of energy.

In the medium term, the aim should be to facilitate these households’ access to better insulated housing and to less energy-intensive forms of transport. With this in mind, the Finance Bill is increasing subsidies for the purchase of less polluting new cars and relatively new second-hand vehicles in order to facilitate the withdrawal of older diesel vehicles. Presented as a social measure, the risk is that the subsidy will be largely captured by sellers, who will take advantage of it to increase prices.^x The Finance Bill also plans on revising the Tax Credit for the Energy Transition (CITE) in 2019

to better target low-income households, though the details have not been specified. Neither of these announcements provides a short-term safety net for households in precarious situations.^{xi}

The main support measure is the general introduction of the “energy cheque”, which replaces “social tariffs”, for a comparable average amount: €150 per household in 2018 and €200 in 2019, according to government estimates. The energy cheque provides incentives that are preferable to social tariffs, which did not cover households using heating oil and encouraged recipients to remain trapped in excessive energy consumption. The advance is nevertheless limited, in that the energy cheque is not a real cheque, but a kind of voucher reserved for energy uses or thermal improvement work for housing. It adds a sectoral window to the already complex tangle of support targeted at low-income households.

A lump sum monetary payment, incorporated into a more general safety net system, would be a simpler and more effective option. The approach is similar to Sweden’s to address very low income households. The vast majority of people in situations of energy poverty are also likely to have difficulty satisfying other basic needs, such as food, housing and clothing. However, it must be pointed out that the Swedish energy expenses are relatively low. Almost all accommodations have district heating, and the poorest generally rely extensively on common transportation.

The effect on emissions: lessons from other countries’ experience

In theory, the carbon tax price signal should bring about all emission reductions that are less costly to implement than paying the tax. In practice, it is difficult to link CO₂ emissions reduction levels to different amounts of the carbon tax. The retrospective evaluation of the impact of a tax on emissions presupposes knowing the counterfactual scenario, i.e., the emissions trajectory in the absence of public policy. In the French case, constructing the counterfactual scenario comes up against the fact that the system is relatively new and that it was introduced on the quiet at a time when the price of fossil fuels was in sharp decline.

However, lessons can be learned from studies on the experience of other countries. In Sweden, where the carbon tax was introduced in 1991, the Ministry of Finance estimates that GDP growth (75% since 1990) has been decoupled from greenhouse gas emissions (down 25% since 1990).^{xii} The comparison of British Columbia, which introduced a carbon tax in 2008, with other Canadian provinces that do not have a carbon tax, shows that introduction of the tax led to a 4% decline in the consumption of petroleum products after five years.

In addition, the demand for petroleum products falls more as a result of a price increase due to CO₂ taxation than it does in response to an equivalent price rise in the market, as shown by academic studies both on the impact of the Swedish tax on the transport sector^{xiii} and on the consumption of petroleum products in Canada.^{xiv} This difference is attributable to actors’ expectations regarding the long-term price of carbon, linked to the greater visibility afforded by the tax measure. Credibility and transparency are therefore two essential elements for decarbonising the medium-term economy in the most efficient and therefore least painful way for consumers.

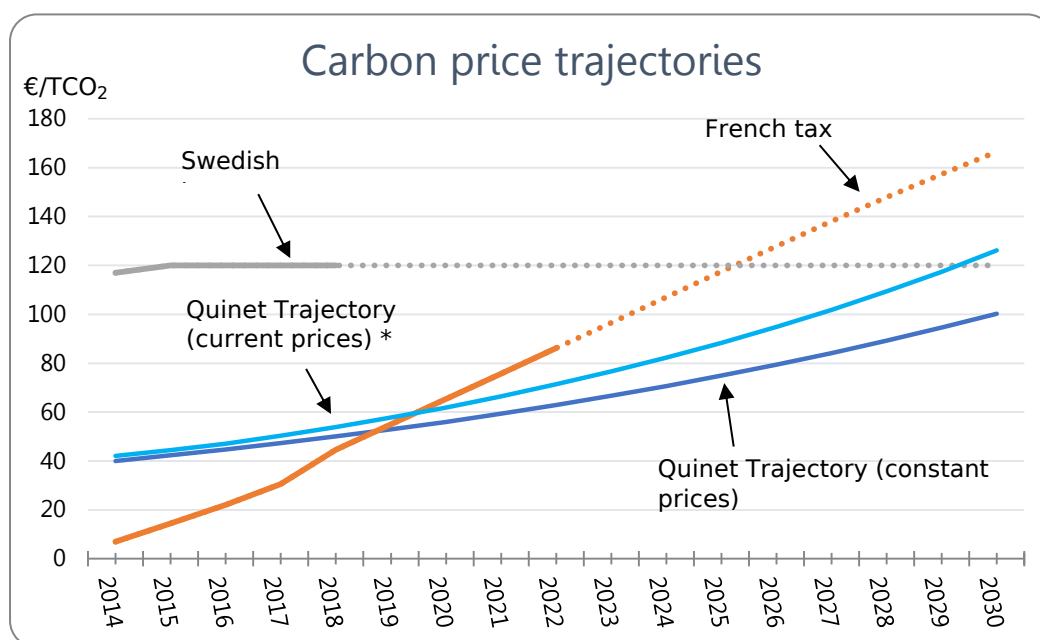
Conclusion : a Swedish-style carbon tax?

The change in gear envisaged in the Finance Bill calls for comparison of the French domestic CO₂ taxation project with the Swedish experience, with its track record of more than twenty years. The stated French ambition regarding the rate brings the two countries closer together. The tax base targeted is comparable, and Sweden has also maintained differentiated rates depending on the sector in order to take account of specific situations. Like in Sweden, energy taxes are progressively

becoming more “carbon-heavy” to make them more politically acceptable. On the other hand, the tax treatment of bioenergy in Sweden is much more consistent and incentivising for its development (no energy excise duties nor carbon tax), and the option chosen for the use of the tax has favoured the double dividend within an overall context of tax reform aiming at a decrease in mandatory levies.

Sweden has demonstrated that ambitious CO₂ taxation can be introduced in an economy open to international competition by generating large-scale emissions reduction without compromising competitiveness. Impacts on emissions and feedback effects on the functioning of the economy are the two criteria on the basis of which the French carbon tax will need to be evaluated.

APPENDIX 1 : Carbon price trajectories



Source: Climate Economics Chair

* Inflation before 2016 is computed from the Consumer Price Index without tobacco (INSEE); for projections we assume a 1,1% rate in 2017 and 1,3% afterwards.

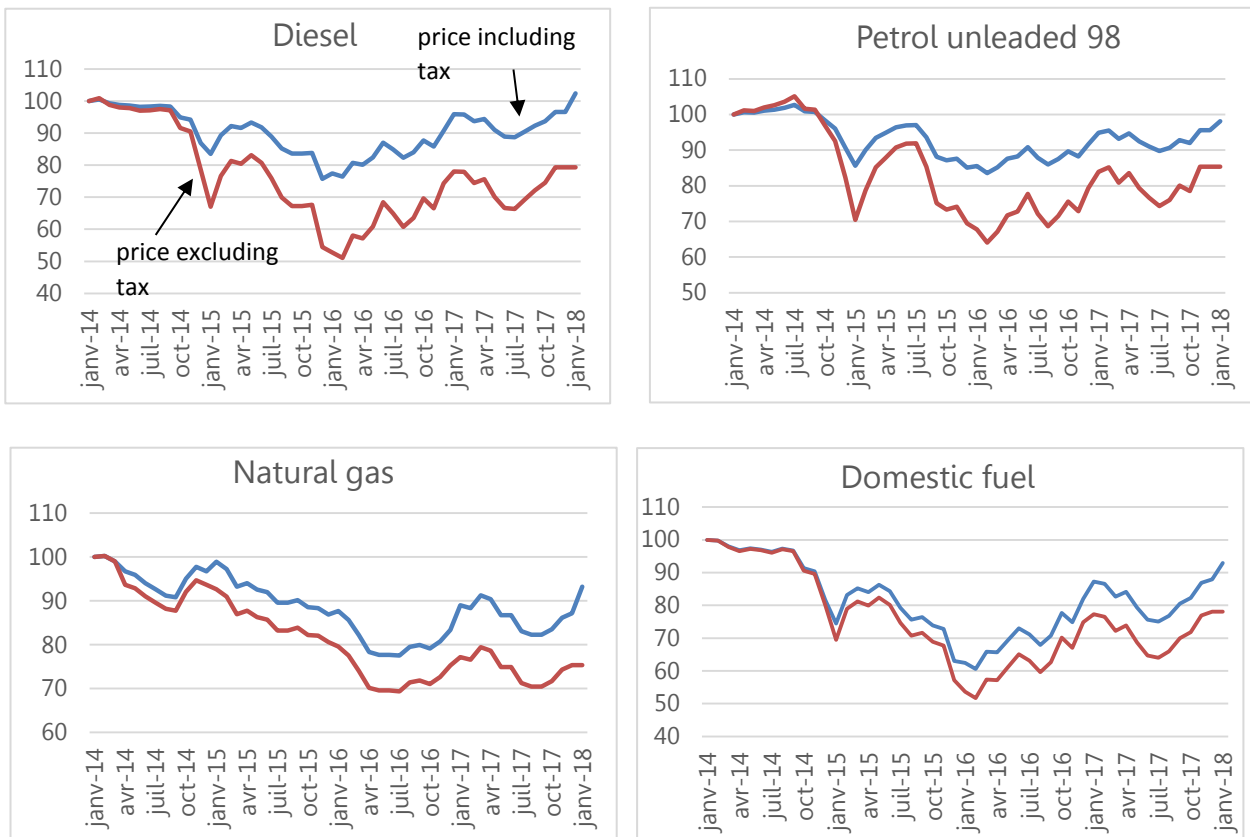
Guide to Figure:

The shadow price is taken from the work of the Quinet Commission. It represents the implicit carbon price corresponding to the so-called “factor 4” (a reduction by a factor of four in greenhouse gas emissions by 2050), which has since been replaced by the carbon neutrality target in 2050 .

The Swedish carbon tax is paid on emissions from the diffuse sector (full rate). From 2018, this rate will also apply to industrial installations not covered by the European emissions trading system, which previously benefitted from a reduced rate.

The climate and energy component represented by the solid red line has been applied since 2014 and is included in the Finance Bill project for 2018. The dashed red line extends the 2017-2022 trend up to 2030.

APPENDIX 2: Evolution of energy prices with and without tax*



* Charts base 100 January 2014.

ⁱNatural gas: full price of 100Kwh PCI at tariff B1 - standard consumption of a large apartment with heating, hot water and gas cooking. Conversion factor used: 10 KWh/m³

Sources : Calculations by the Climate Economics Chair based on prices from the Pegase database (MTES) and TIC tariffs (Article 265 of the Customs Code). December prices excluding tax were estimated from weekly data for the first three weeks. The January point is the December market price at which the 2018 tax rates are applied.

Guide to Figure:

Due to the sharp drop in prices of petroleum products and natural gas during 2014 and 2015, the introduction of the carbon component was painless for households. At the end of 2017, the tax-included price of diesel and petrol returned to the level prevailing at the beginning of the period. In December 2017, natural gas and heating oil prices were still about 10% lower than in January 2014, despite the increase in the carbon tax during the period.

**APPENDIX 2bis: Prices of energy products of fossil origin consumed by households:
Changes from 2014 to 2017 and impact of the 2018 Finance Bill measures**

	2014	2017	Change as (%)	Impacts of the 2018 tax measures			
				Over 1 year (2018)		Over five years (2022) *	
				Centimes	Change as (%)	Centimes	Change as (%)
DIESEL (€/L)							
Price including taxes:	1,29	1,23	-4,1%	7,6	6,2%	30,2	24,5%
- Taxes	0,64	0,74	14,5%	7,6	10,3%	30,2	41,0%
- Price excluding taxes	0,64	0,5	-22,8%	-	-	-	-
PETROL UN. 95 (€/L)							
Price including taxes:	1,48	1,38	-7,0%	3,9	2,8%	15,3	11,1%
- Taxes	0,85	0,88	3,1%	3,9	4,40%	15,3	17,3%
- Price excluding taxes	0,63	0,5	-20,8%	-	-	-	-
DOMESTIC FUEL (€/L)							
Price including taxes:	0,86	0,74	-13,9%	4,5	6,1%	17,8	24,1%
- Taxes	0,2	0,24	21,2%	4,5	18,5%	17,8	73,5%
- Price excluding taxes	0,66	0,5	-24,5%	-	-	-	-
NATURAL GAS (€/100m3)							
Price including taxes:	56,46	50,9	-9,9%	3,6	7,1%	14,2	28,0%
- Taxes	10,9	14,28	31,0%	3,6	25,2%	14,2	99,6%
- Price excluding taxes	45,56	36,61	-19,6%	-	-	-	-

Sources : Table constructed by the Climate Economics Chair from prices from the Pegase database (MTES) and tariffs from Article 265 of the Customs Code.

** Predictions to five years with unchanged prices after 2018*

Guide to Table:

The left-hand side of the table shows the pre-tax prices and annual average VAT included in 2014 and 2017 for the four main energy products of fossil origin consumed by households. Since the VAT rate has been constant over the period, changes in the tax correspond to the introduction and then to the revaluation of the carbon component of taxes on energy consumption and to the convergence of taxation on petrol and diesel.

Between 2012 and 2017, the impact of the carbon tax was greater on the prices of natural gas and domestic fuel than on diesel and petrol, which are in any case heavily taxed. For the four products, the fall in the price excluding tax more than offset the impact of the introduction and then the revaluation of the carbon tax over the period.

The impact of the provisions of the 2018 Finance Bill can be seen in the two right-hand columns, which show the net effect that the tax measures introduced on January 1 would have if the pre-tax prices did not vary between 2017 and 2018.

Notes and References

- ⁱ For a detailed analysis of the introduction of the carbon tax, see: Marianne Ollivier-Trigalo, “Composante carbone, rapprochement diesel-essence, réforme de la TICPE: Transition énergétique ou fiscale?”, Université Paris-Est, Laboratoire Ville, Mobilité, Transport, September 2017.
Jeremy El Beze, “La réforme de la fiscalité de l’énergie: une extension de la tarification du carbone en France”, Climate Economics Chair, Policy Brief series, November 2014.
- ⁱⁱ Mathilde Clément & Annaïck Rolland, « La facture énergétique du logement a baissé depuis 2013 malgré la hausse de la fiscalité », Insee Références 2017, [les acteurs économique et l’environnement](#).
- ⁱⁱⁱ Energy excises are taxes on volumes consumed. The carbon component is integrated in the “Domestic consumption tax on energy products” (TICPE), the “Domestic consumption tax on natural gas” (TICGN), and the “Domestic consumption tax on coal, lignite and coke” (TICC).
- ^{iv} François-Xavier Pourquier & Augustin Vicard, “Fiscalité environnementale, un état des lieux”, Ministère de l’Ecologie, CGDD, February 2017.
- ^v “La valeur tutélaire du carbone”, Report of the Commission chaired by Alain Quinet, Documentation Française, CAS, 2009.
- ^{vi} See the opinion of the committee for ecological taxation on the gasoline-diesel tax gap of April 2013
- ^{vii} Christian de Perthuis, Boris Solier, Raphaël Trotignon, “Les impacts d’un prix-plancher du CO2 dans le secteur électrique”, Climate Economics Chair, Information & Débats series, June 2016
- ^{viii} See the joint proposal by the RAC, CFTC and UNAF: “Utilisation des recettes des outils de fiscalité “carbone” en faveur de la transition écologique juste”, September 2017.
- ^{ix} See the Climate Economics Chair website for two presentations to the FLM: Mathilde Clément, “L’impact social de la fiscalité énergétique”, Ministère de l’Ecologie, CGDD, session of 16 September 2015.
Audrey Berry, “Compensating households from carbon tax regressivity and fuel poverty: A micro-simulation study”, CIREN, session of 24 November 2017.
- ^x Such phenomena have, for example, been observed for subsidies for the purchase of biomass boilers and customized housing aids (APL).
- ^{xi} Nor the boost for targeted energy certificates, decided at the same time, but which is not part of the measures introduced under the finance law.
- ^{xii} See Suzanne Akerfeld, Green Fiscal Reform, [17 th Global Conference on Environmental Taxation Groningen, Netherlands, 22 September 2016](#).
- ^{xiii} Cars, carbon taxes and CO2 emissions, J.Andersson, Centre for Climate Change Economics and Policy, W.P. No.238 & Grantham research Institute on climate Change and the Environment, W.P. No.212, October 2015
- ^{xiv} British Columbia’s Revenue-Neutral Carbon Tax: A review of the Latest “Grand Experiment” in Environmental Policy, B.C.Murray and Nicholas Rivers, Duke Nicholas Institute W.P. 15-04, May 2015