

An assessment of environmental taxation in France to identify priority areas for reform

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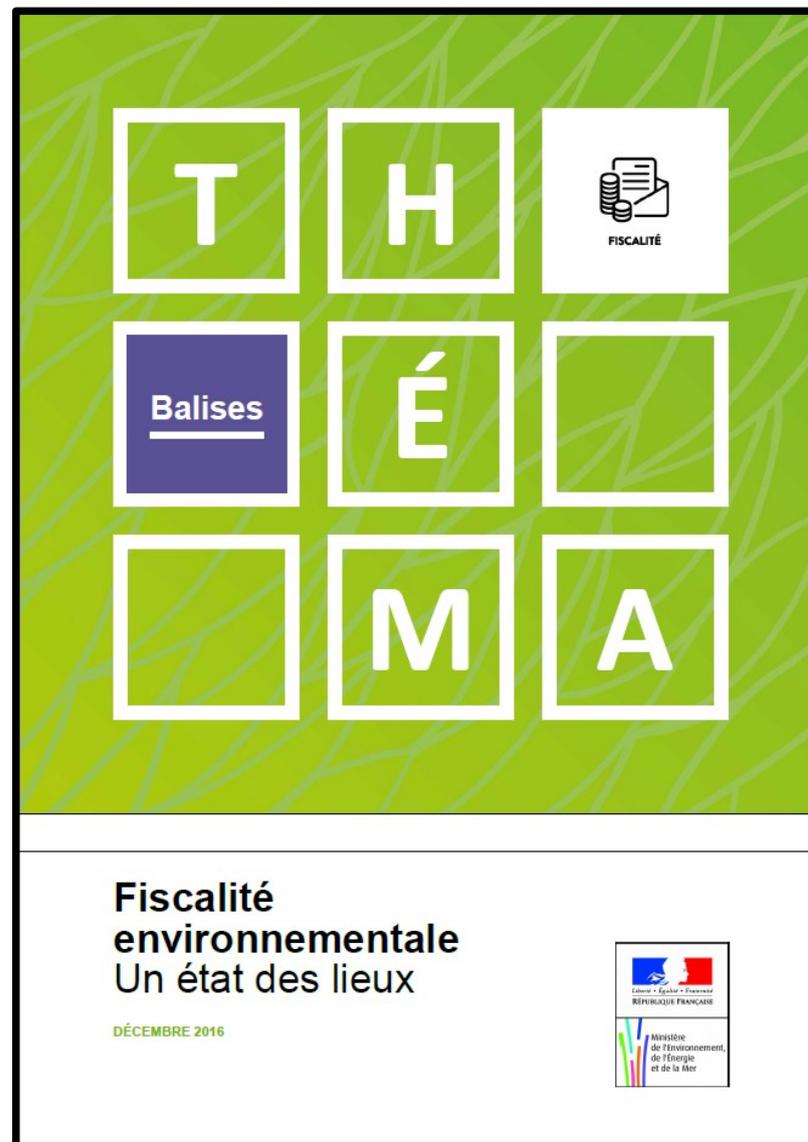
A report on environmental taxes

- **An inventory of environmental taxation and its recent evolutions:**

- Paris Agreement, Energy Transition towards Green Growth Act and « carbon pricing »
- But also : pay-as-you-throw schemes, equal taxation for gasoline and diesel, etc.

- **A summary for all stakeholders:**

- Main figures
- How taxes work, and do they work?
- International benchmark



Outline

1. Green Taxation in France: where do we stand now?

2. Some options for reform



A short definition of green taxes

- Taxes based on the polluter pays principle
- Statistical international definition (OECD and Eurostat, since the end of the 90’):

« A tax whose tax base is a physical unit (or a proxy of it) that has a proven specific negative impact on the environment »

=> tax base criterium, but no reference to tax rates

- In economics (pigouvian tax), the definition is more stringent:

The tax rate should also be high enough to compensate for the damages implied by the pollution, and/or to really change behaviour

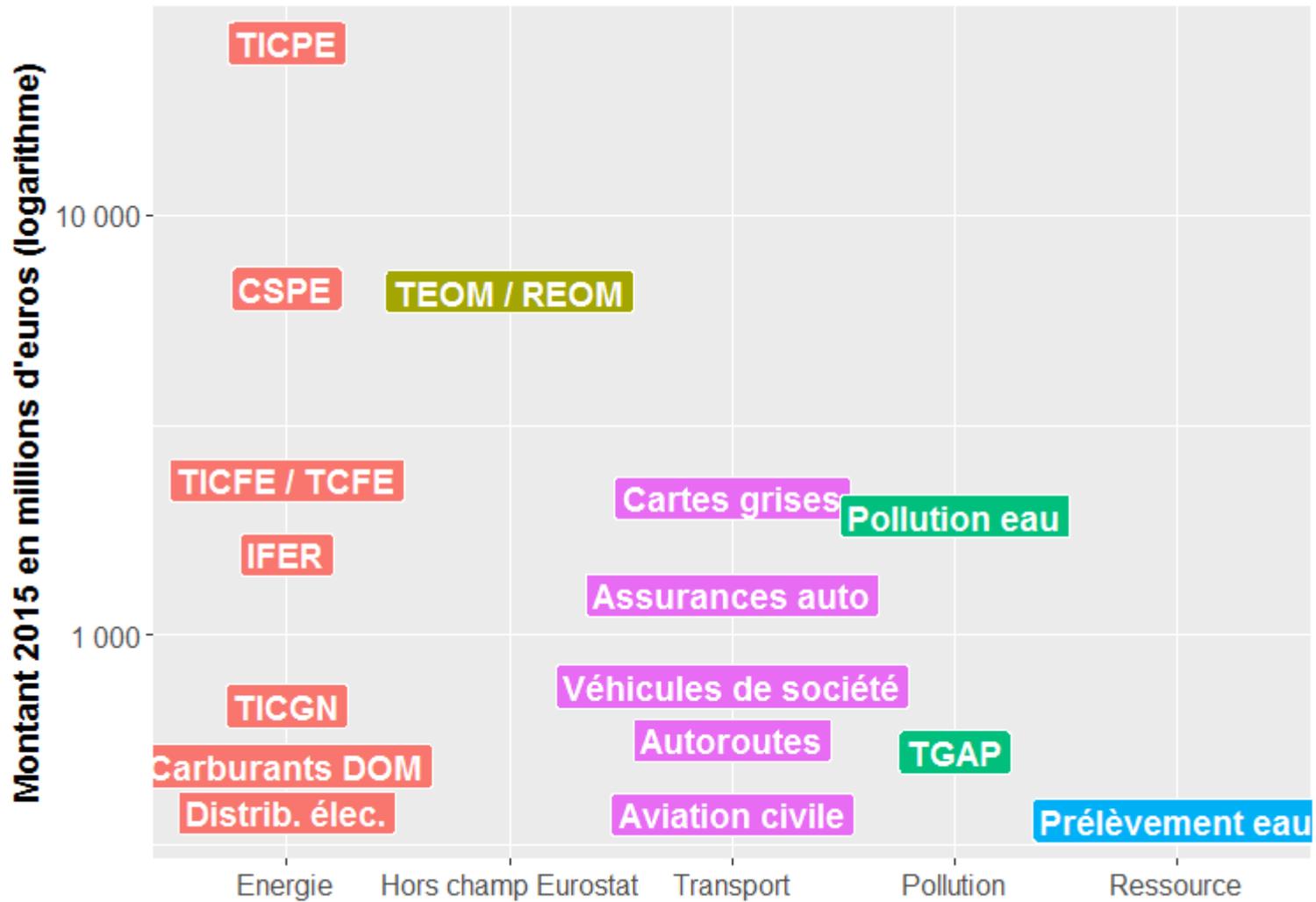
Revenue from env. taxes

Eurostat's Definition

	Revenue 2015 in M€	Nb of instruments
Energy	38 522	11
Transport	6 128	18
Pollution	2 452	4
Resources	376	7
Total	47 478	40

Source : CGDD, d'après les annexes au PLF, Evaluation des voies et moyens, Tome 1, Evaluation de recettes, DGDDI

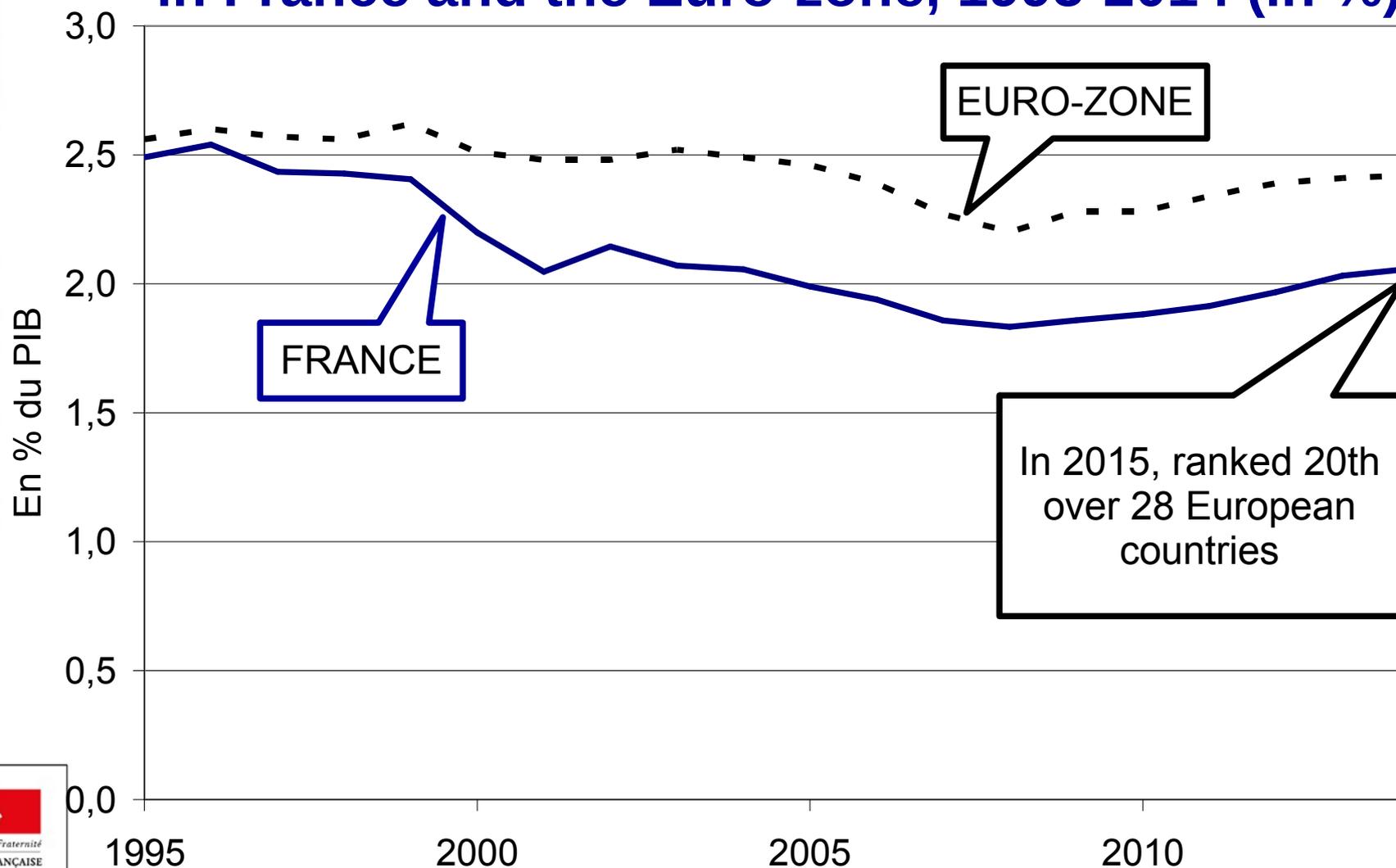
The main environmental taxes



Source : CGDD, d'après les annexes au PLF, Evaluation des voies et moyens, Tome 1, Evaluation de recettes, DGDDI

France within Europe

Environmental taxes as a share of GDP, in France and the Euro-zone, 1995-2014 (in %)

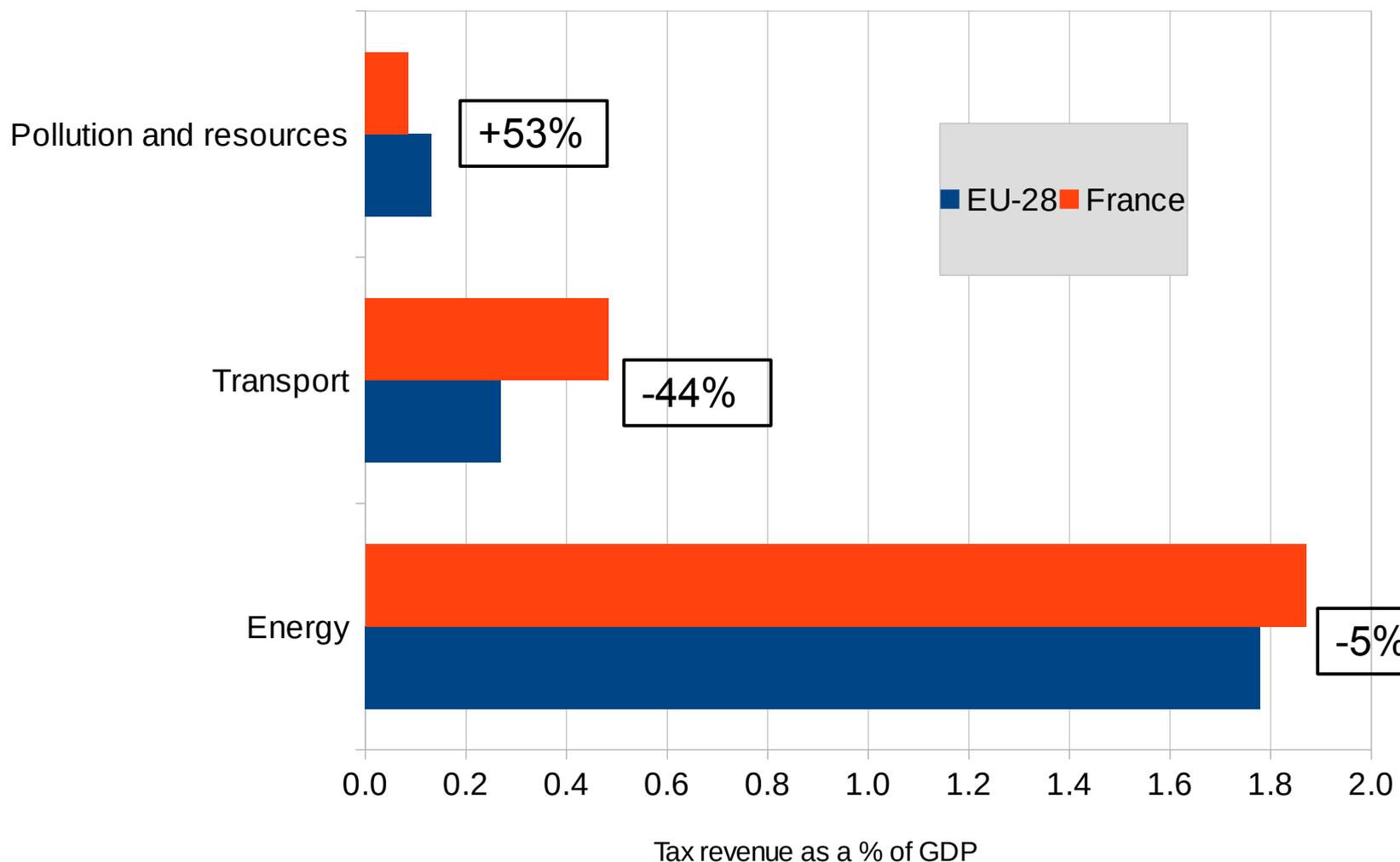


Champ : Eurostat, excluant notamment les taxes et redevances d'enlèvement des ordures ménagères (TEOM et REOM) et la taxe d'aménagement.

Source : Eurostat (les données de 2013 et 2014 sont semi-définitives ou provisoires).

France within Europe

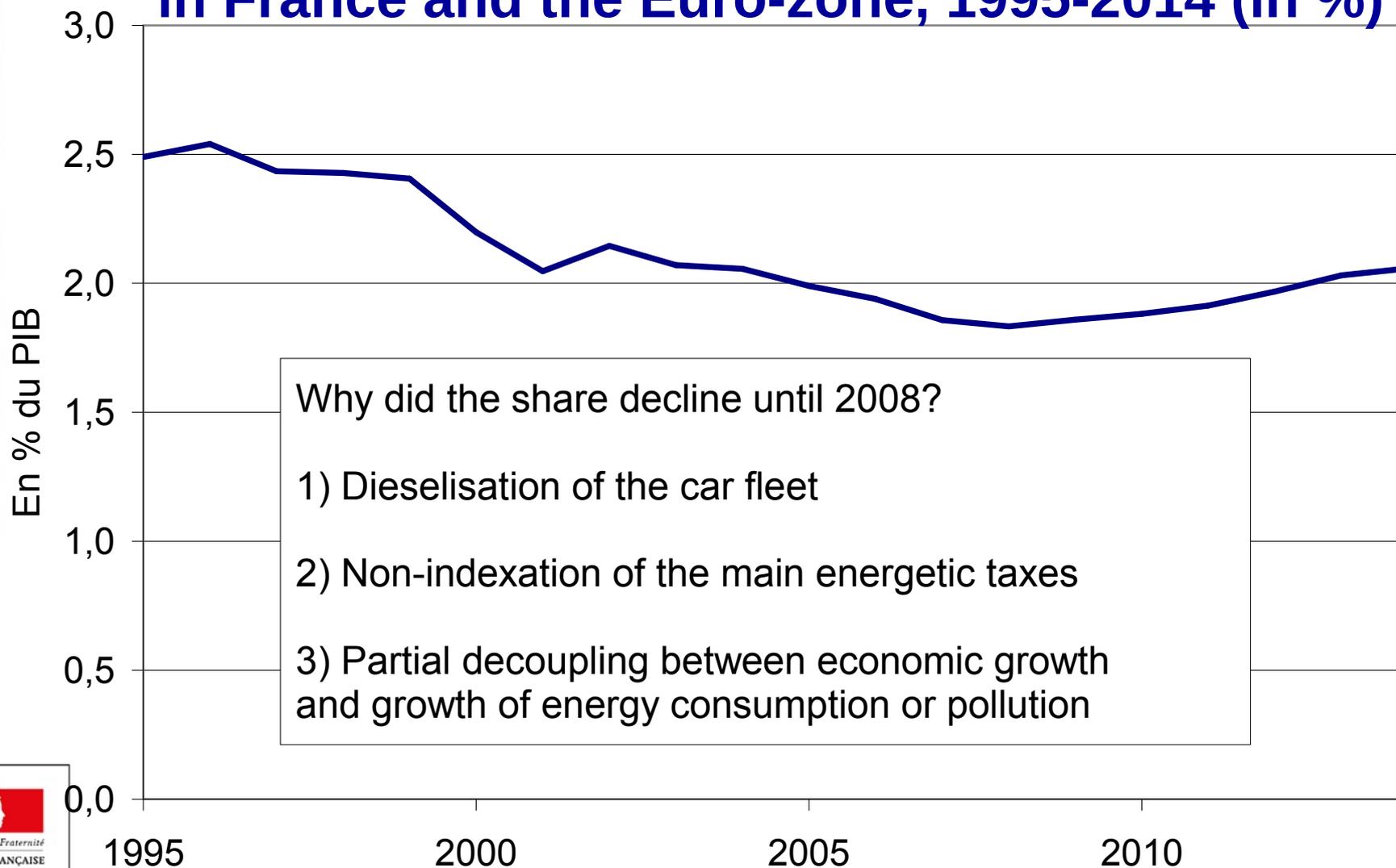
Environmental taxes as a share of GDP, in France and the European Union, 2015 (in %)



Champ : Eurostat, excluant notamment les taxes et redevances d'enlèvement des ordures ménagères (TEOM et REOM) et la taxe d'aménagement.
Source : Eurostat.

Tax revenue since 1995

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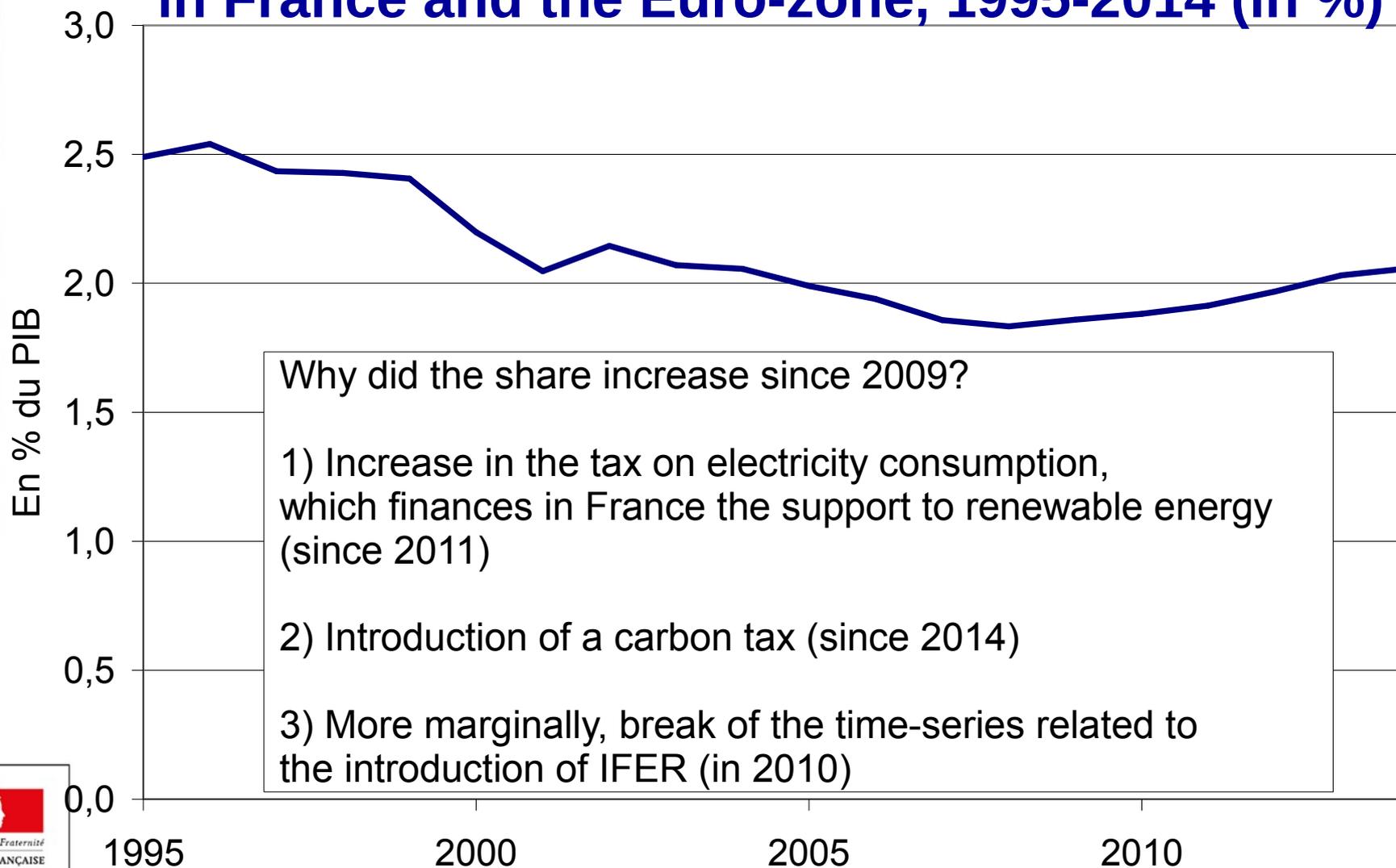


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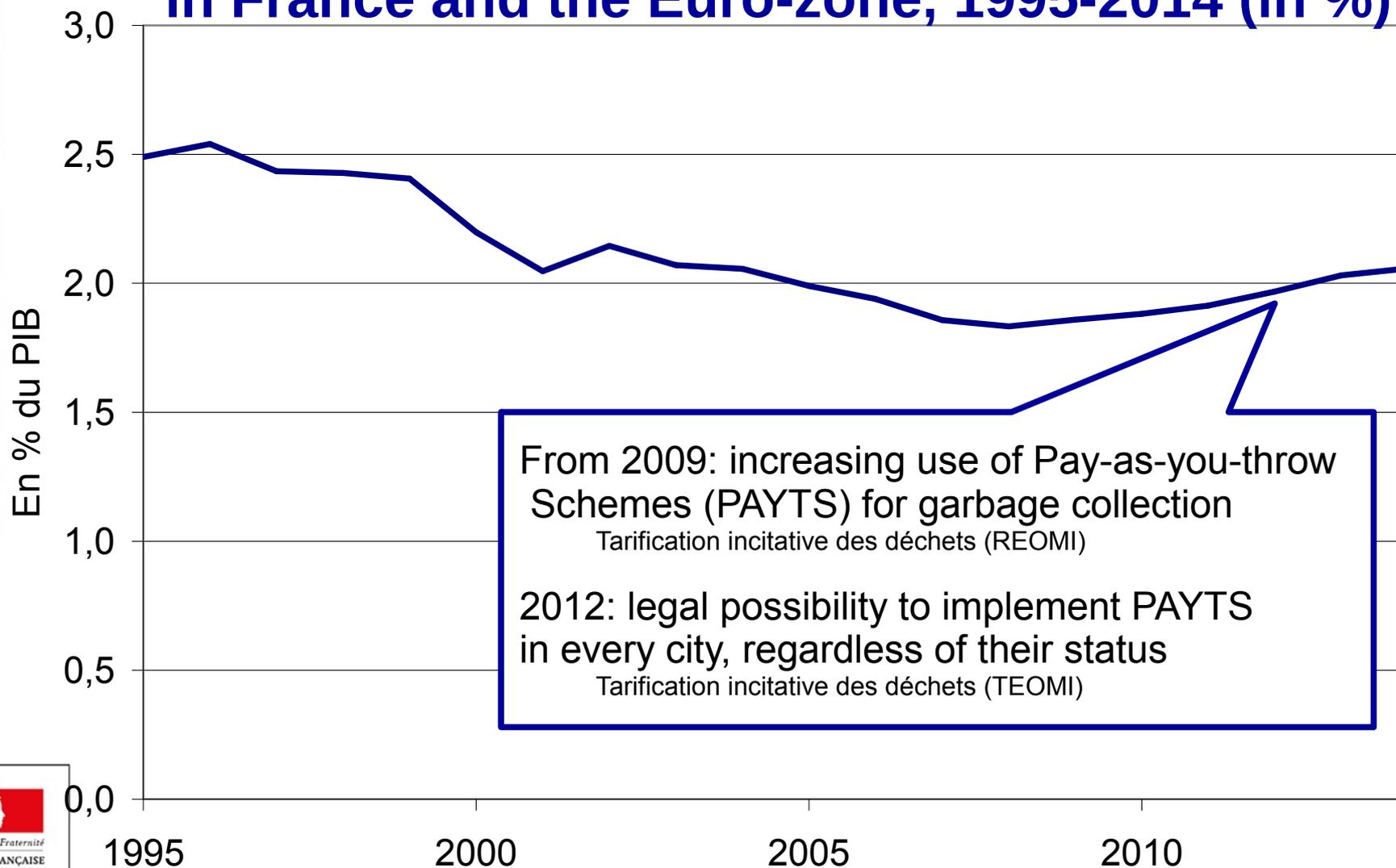


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Main reforms since 2008

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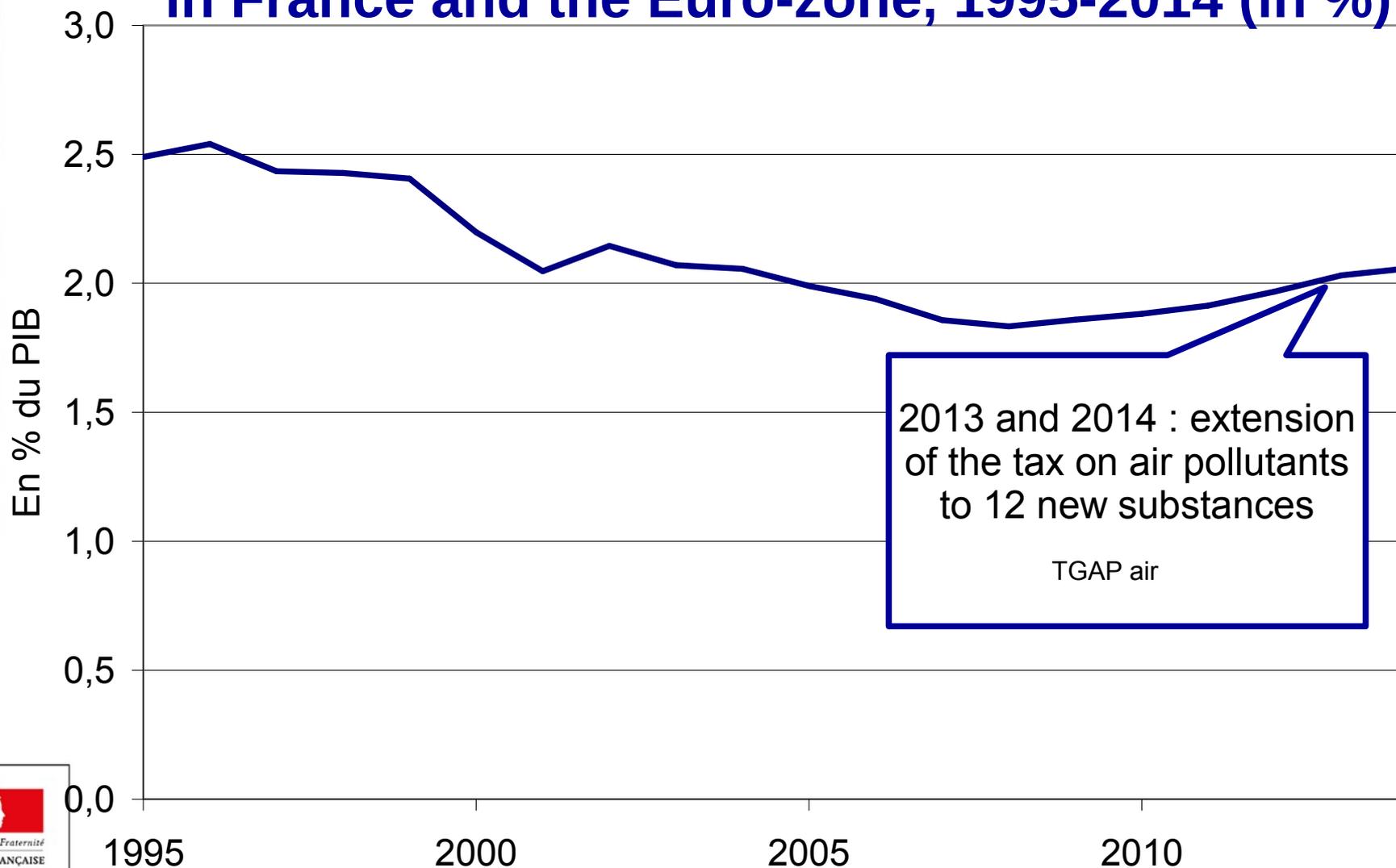


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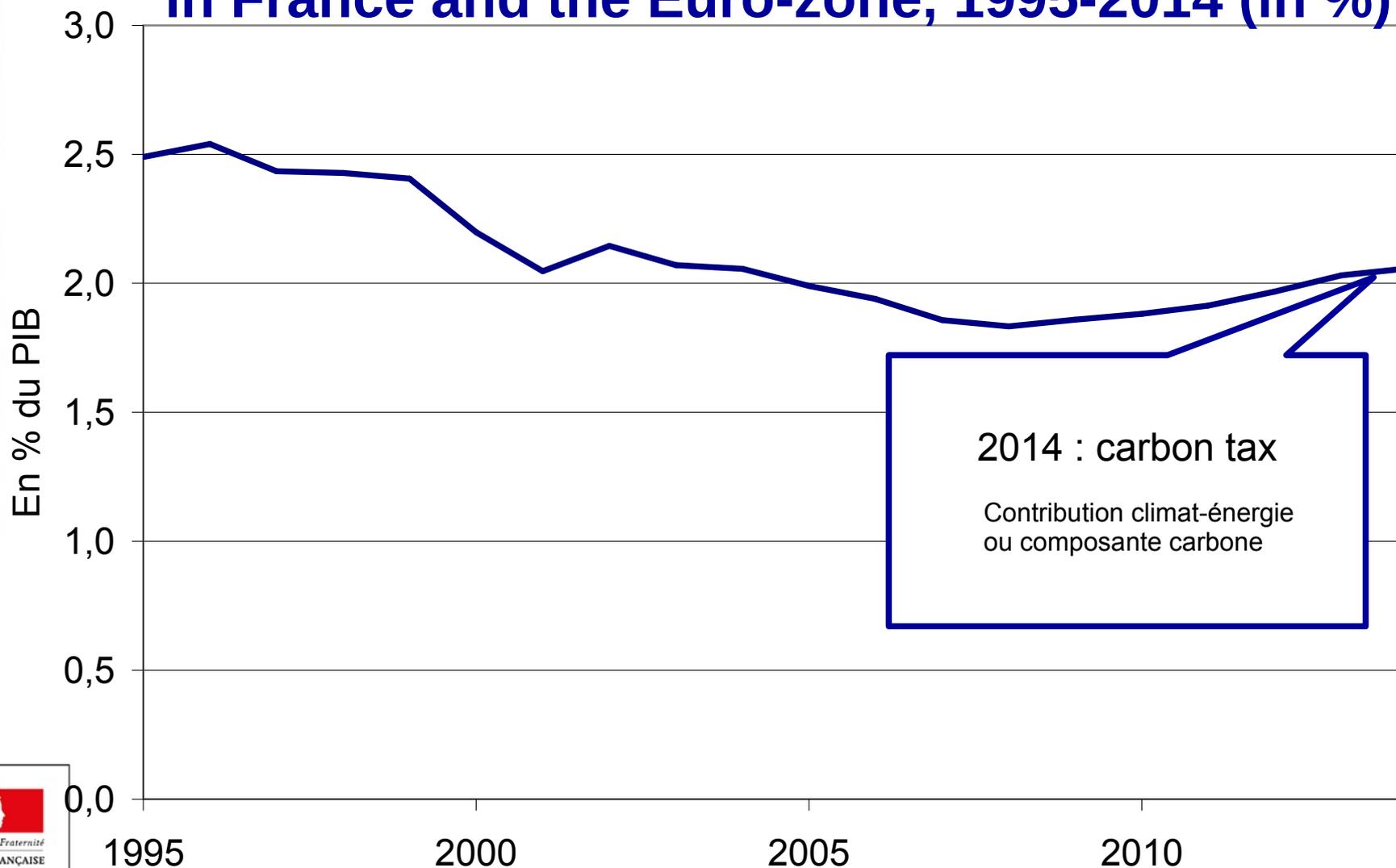


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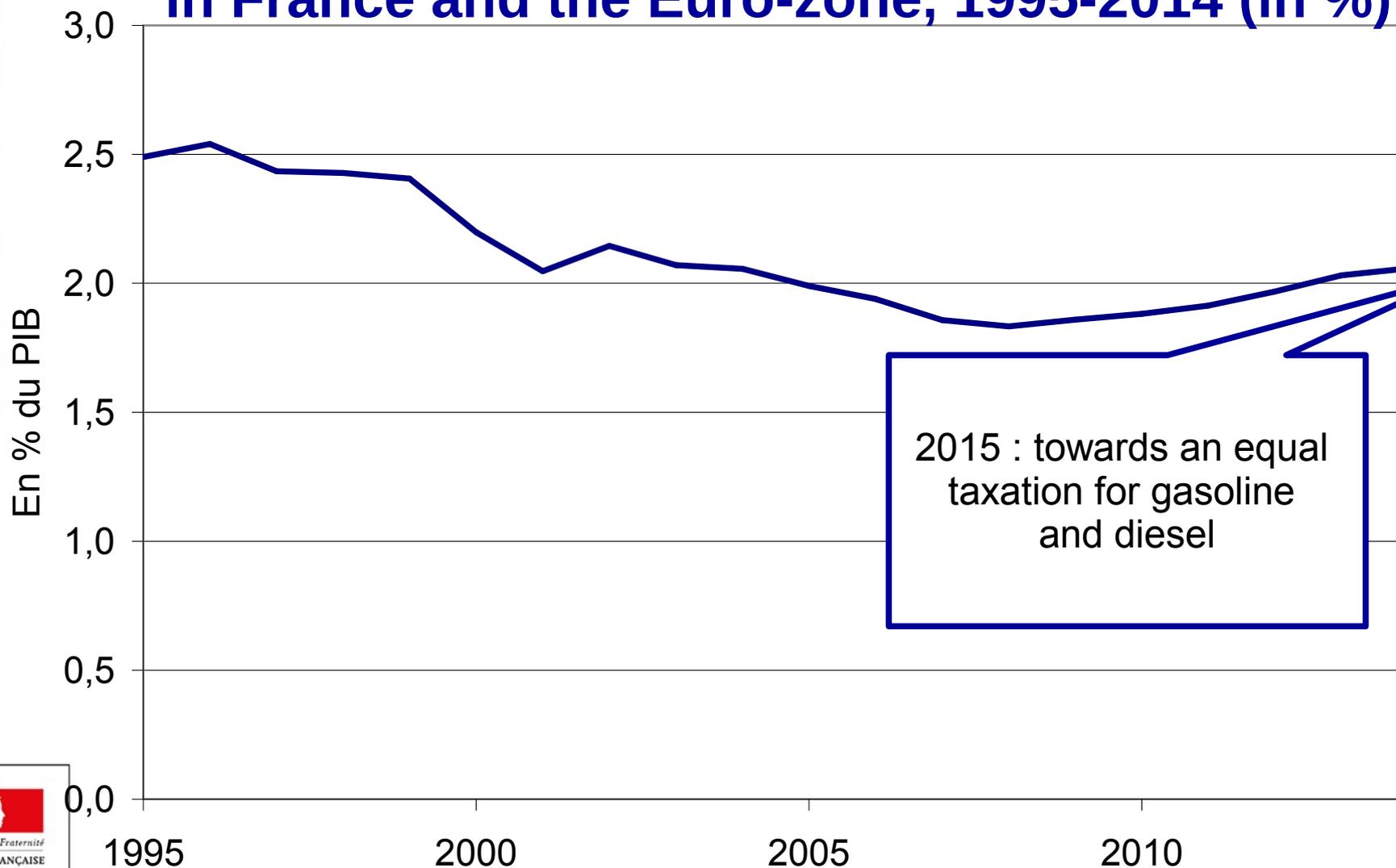


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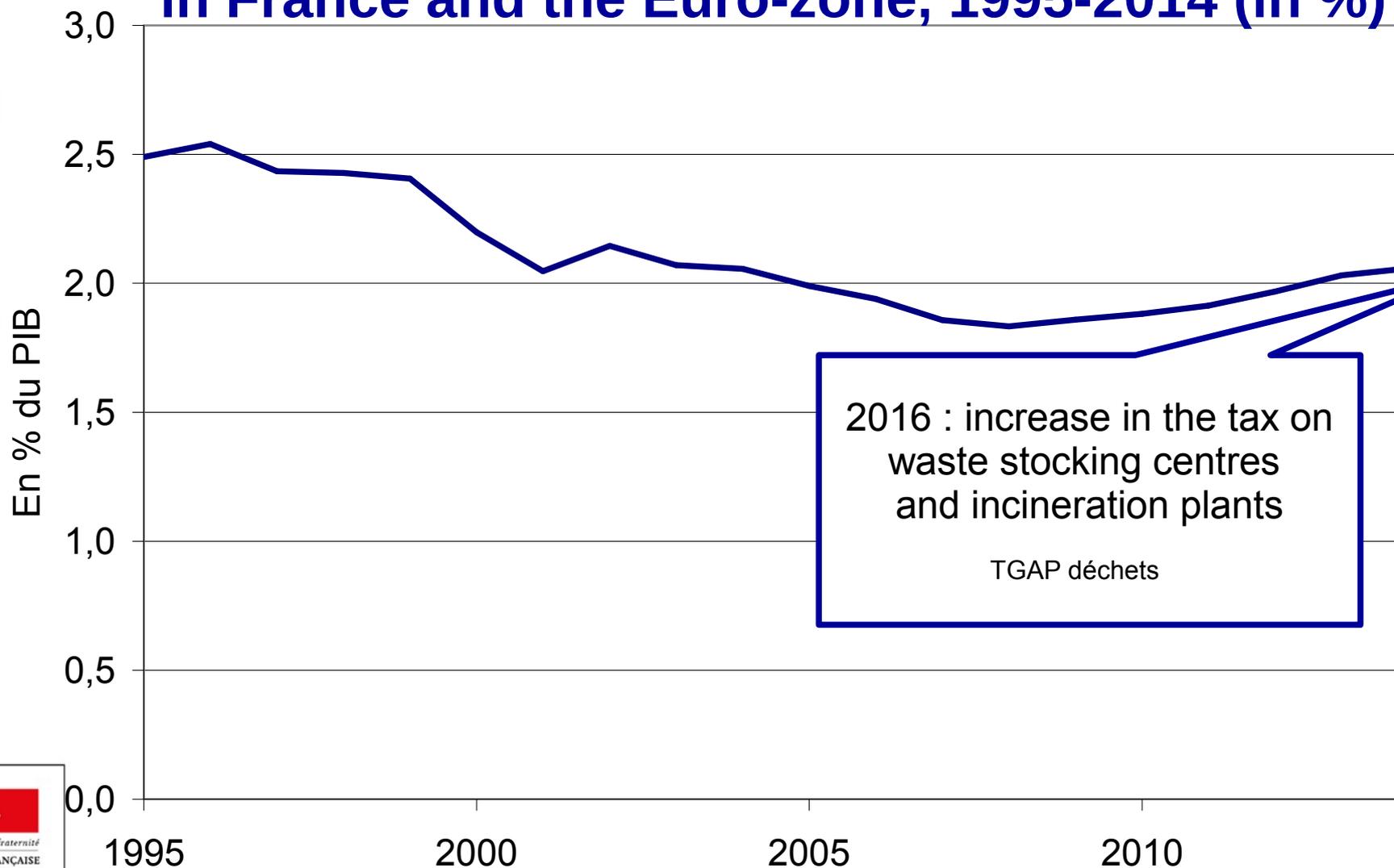


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Outline

1. Green Taxation in France: where do we stand now?
- 2. Some options for reform**



Why should we reform our environmental tax system? (1/2)

- Strong injunctions from international organizations, including:
 - European Commission (greening of the European semester)
 - OECD (France 2016 Environmental Performance Review)
 - G20 (fossil fuel subsidies)
- National and international targets for reducing our environmental footprint (LTECV, Paris Agreement, etc.) and for raising our revenue from green taxation (conférence environnementale 2012)

Why should we reform our environmental tax system? (2/2)

- In this context, the report takes stock of evaluations of existing taxes, and presents several successful experiences from our main partners (international benchmark)
- It identifies possible avenues for reform, without prejudging their political expediency

Let's open the debate!

- I will cover several topics, on which some of you have certainly worked.
- Your questions and inputs are highly welcome.
- Please feel free to interrupt me.



Indexing environmental tax rates on inflation?

- Unlike other tax instruments, no automatic indexing of most environmental taxes
- This point is often overlooked in the debate about green taxes.
- Most economists would agree that environmental tax rates should increase as the externalities that the tax cover. And because these externalities – like damages to the ecosystem or deterioration of human health - rise faster than prices (Quinet report, 2013), env. tax rates should at least be indexed on inflation
- This point is so evident to many economists that they don't mention it (e.g. Mirrless review in the UK).

Indexing environmental tax rates on inflation?

- Lack of indexing significantly erodes taxes' ability to reduce pollution
- Would avoid an erosion of env. taxation such as that observed between 1995 and 2008:
 - In constant euros, the tax rate on gasoline is still 15% lower in 2016 than at its peak in 1998
 - In the absence of indexation and with an inflation rate of 1.75% per year up to 2030, the TICPE rate on gasoline would be lower in constant euros in 2030 than in 2017, although the carbon component increase from 30,5 € / tCO₂ in 2017 to 100 € / tCO₂ in 2030
- Automatic indexing does exist in France for the TGAP air since 2013 and in several European countries for fuel taxes (Norway or the Netherlands)

Taxing diesel at the right level?

- First steps towards an equal taxation of diesel and gasoline (2015-2017); equal taxation could be reached by 2022, by reducing the tax on gasoline by 5c€/l (-1c€/l every year) and increasing the tax on diesel in the same proportions

Taxation differential between diesel and gasoline				
	2014	2015	2016	2017
Gasoline (SP95 E5) and Diesel	+ 18 c€/l	+ 16 c€/l	+ 14 c€/l	+ 12 c€/l
Gasoline (SP95 E10) and Diesel			+ 12 c€/l	+ 10 c€/l

- Feebate scheme for the purchase of a new car could incorporate an air pollution component (see Israeli system for instance), which will discourage businesses and households to buy diesel cars

Tax incentives for buildings' thermal renovation

- Three instruments : tax credit (CITE), Reduced VAT rate and Zero rate loan (Eco-PTZ)
- Essential to achieve our renovation and emission reductions targets, but could probably be improved
- German program is interesting, because the amount of the subvention is based on the energy reductions achievements (whereas the CITE yields a uniform subvention corresponding to 30% of the renovation costs)

Taxing off-CO2 GHG emissions?

Émissions de l'UE à 28 en 2012

En Mt CO₂éq.

Source	Années	CO ₂	CH ₄	N ₂ O	Gaz fluorés	Total
Utilisation d'énergie	1990	4 136,1	155,5	33,5	0,0	4 325,1
	2012	3 495,5	76,4	32,4	0,0	3 604,3
Procédés industriels	1990	284,3	1,4	116,1	60,3	462,1
	2012	212,3	1,1	12,1	95,2	320,7
Usage de solvants et d'autres produits	1990	11,8	0,0	5,1	0,0	16,9
	2012	6,8	0,0	3,1	0,0	9,9
Agriculture	1990	0,0	257,6	360,3	0,0	617,9
	2012	0,0	198,8	271,9	0,0	470,6
Déchets ¹	1990	4,9	191,7	13,5	0,0	210,1
	2012	2,9	125,5	14,4	0,0	142,8
Total hors UTCF²	1990	4 437,1	606,1	528,6	60,3	5 632,1
	2012	3 717,5	401,8	333,8	95,2	4 548,4
UTC ²	1990	- 267,6	5,5	5,6	0,0	- 258,5
	2012	- 313,5	5,2	7,0	0,0	- 301,3
Total	1990	4 169,5	611,7	534,2	60,3	5 375,7
	2012	3 404,0	406,9	340,8	95,2	4 247,1

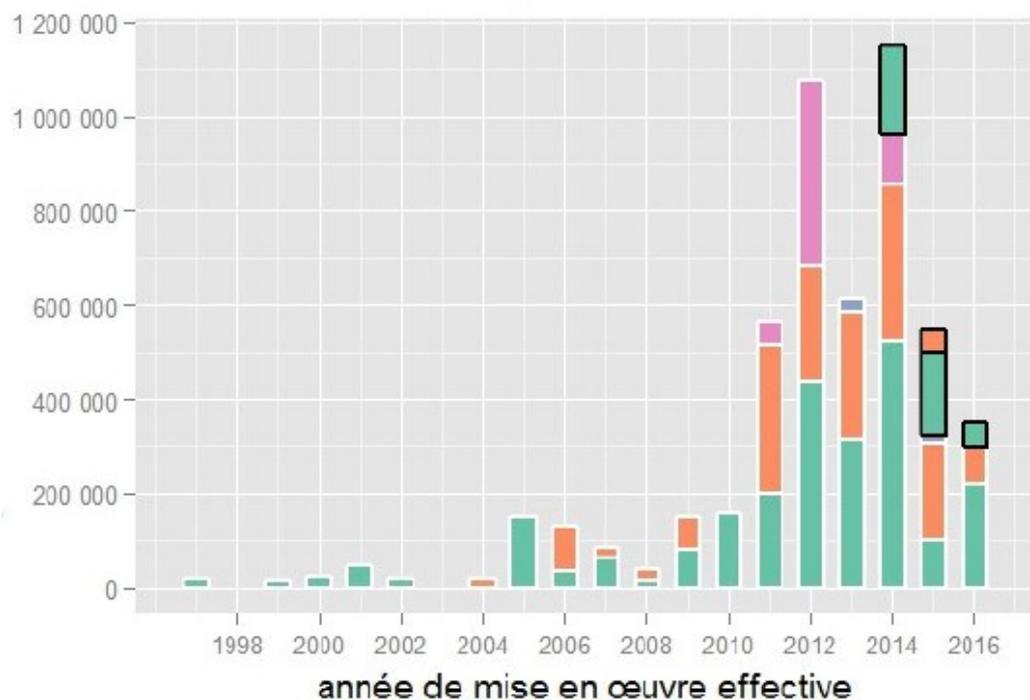
Source : Agence européenne pour l'environnement, juin 2014

- Methane (tax on red meat or on breeding)?
- Nitrogen oxide (tax on nitrogen fertilizers)?

Developing Pay-As-You-Throw Systems?

Graphique 2 – Développement de la tarification incitative selon le type de territoire

Population dans les communes passant en TI sur l'année



Tarification : par redevance incitative par taxe incitative

Type de territoire : mixte rural touristique ou commercial urbain

- Very efficient: -30% residual garbage collection
- Quick development betw. 2011 and 2014, but slowdown since 2015
- How can we reach the legal target of 25m people covered in 2025?

What about urban sprawling and loss of biodiversity?

- Urban sprawling and artificialisation of land surfaces are one of the main causes of loss of biodiversity
- We could green our development tax (taxe d'aménagement) by reducing or suppressing the tax exemptions, for instance for parking lots or public housing (Sainteny report, 2012)
- Or generalize a tax on buildings with a small surface as compared to its land consumption (versement pour sous-densité)
- But taxes are seldom used for that purpose in other countries (OECD, 2012), and are probably not the best instrument for dealing with spatial issues

Any other idea?



Thank you for your attention!



APPENDIX



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RÉPUBLIQUE FRANÇAISE



Ministère
de l'Environnement,
de l'Énergie
et de la Mer



Outline

1. More on the French Carbon Tax
2. More on pay-as-you-throw schemes for garbage



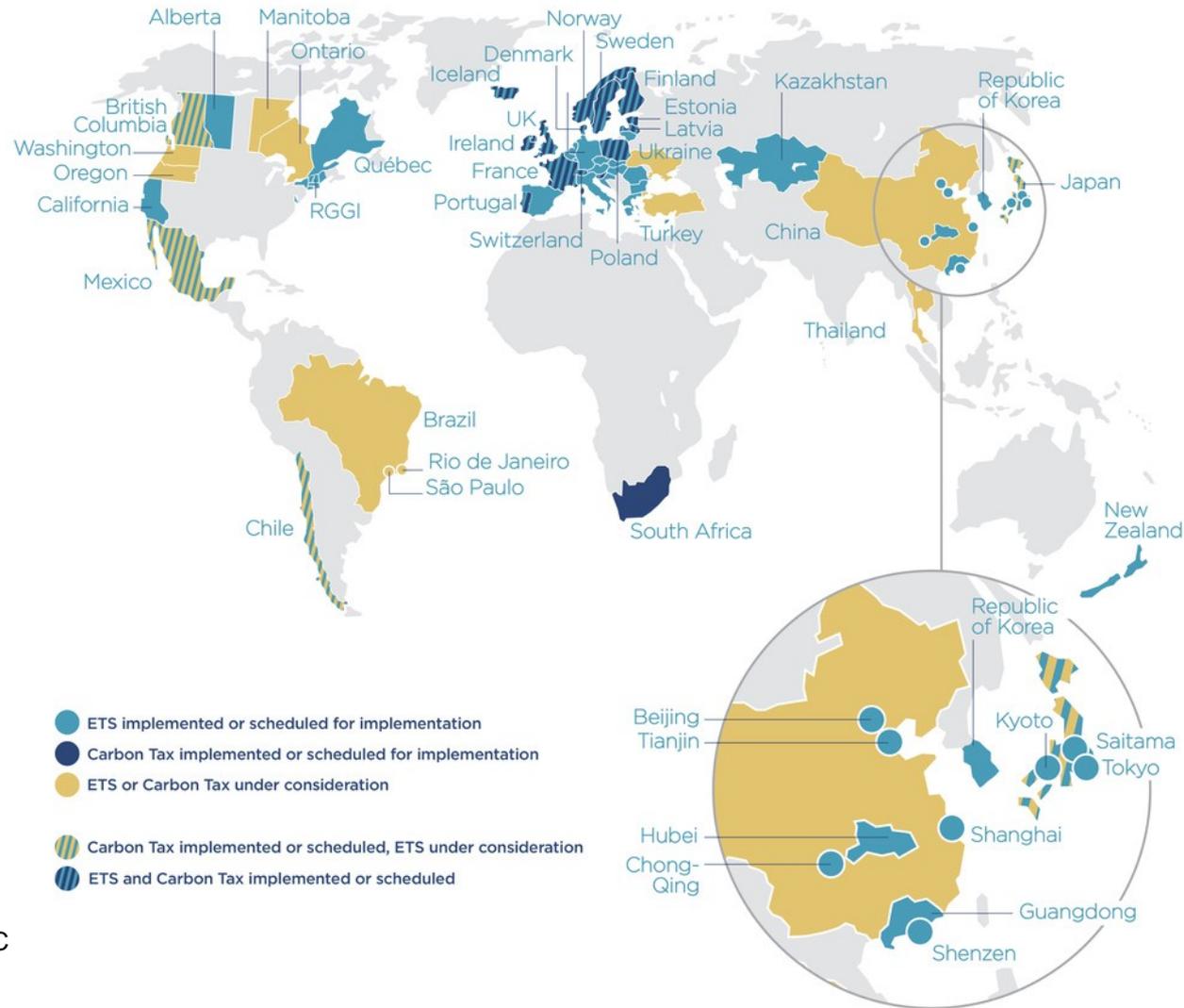
What is a carbon tax?

- A tax on the carbon-content of fossil fuels, expressed in € per tonne of CO₂
- To be more concrete, a tax of 20€/tCO₂ correspond to:

- diesel or domestic fuel	5.3 c€ per L
- gasoline	4.6 c€ per L
- natural gas	3.6 c€ per MWh

- Generally, several exemptions, in particular for energy-intensive industries (risk of carbon leakage)

Which countries have introduced a carbon tax?



- ETS implemented or scheduled for implementation
- Carbon Tax implemented or scheduled for implementation
- ETS or Carbon Tax under consideration
- Carbon Tax implemented or scheduled, ETS under consideration
- ETS and Carbon Tax implemented or scheduled

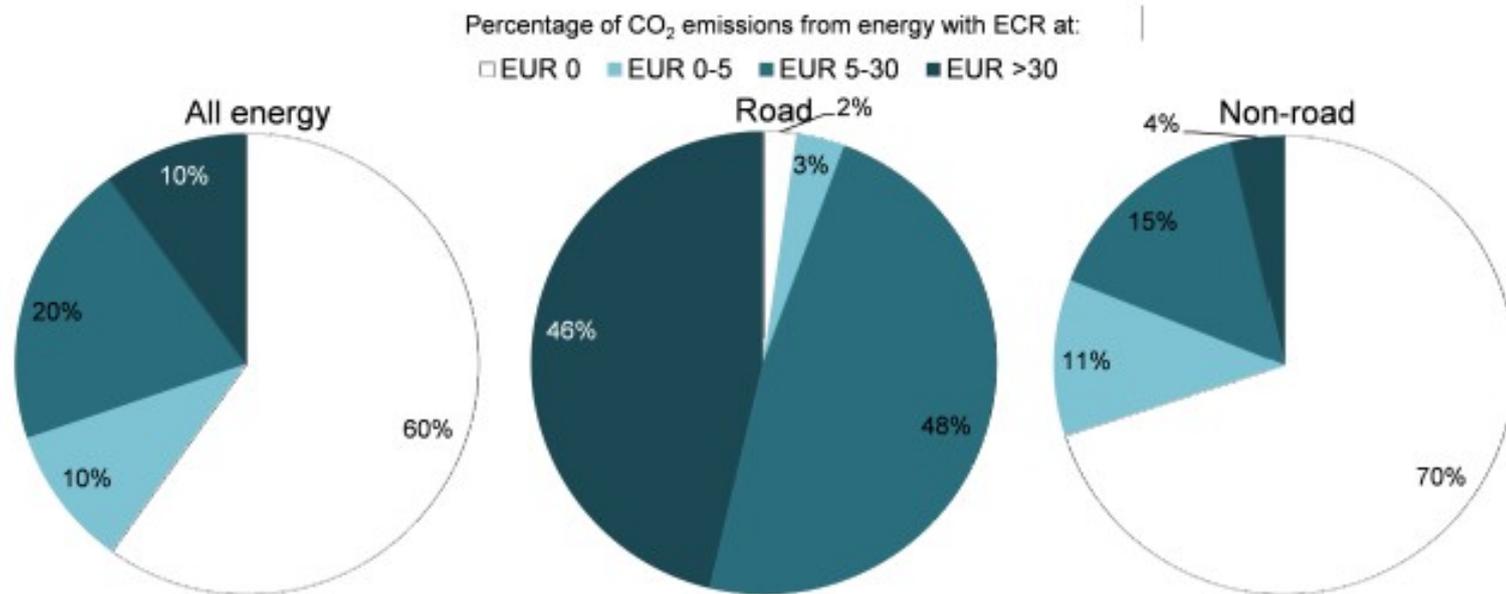
Source : CPLC



Explicit and implicit taxation of carbon

Some taxes aren't explicitly based on GHG emissions but implicitly tax GHG by taxing goods emitting GHG, like fossil fuels

Share of CO₂-emissions from energy use subject to effective carbon rates (explicit, implicit or ETS), in OECD countries and 41 partners



Source : OECD (2016) Effective Carbon Rates: Pricing CO₂ through taxes and emissions trading systems



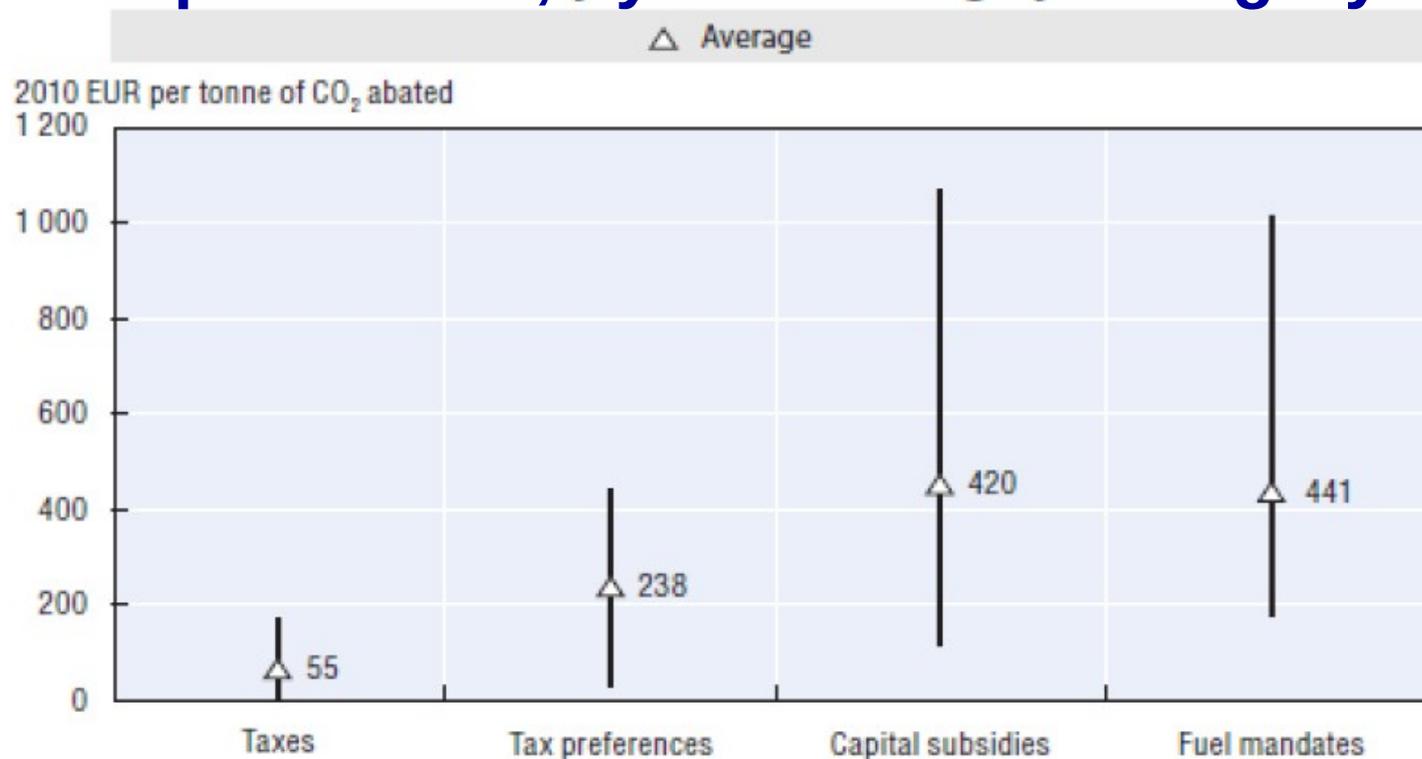
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Is a carbon tax efficient?

Estimated effective carbon price in the road transport sector, by instruments category



Source : OECD

Several failed attempts

- In Europe at the beginning of the 90'
 - => Member countries must be unanimous in bringing into force fiscal measures, but impossible to reach a consensus; EU launched the EU-ETS instead; some European countries (Sweden, Denmark...) implemented a carbon tax
- In the US at the beginning of the 90' (Clinton first term)
 - => strong political pressure to abandon the proposal, in particular due to redistributive issues
- In France in 1999 and 2009
 - => the proposals were approved by the parliament, but rejected by the supreme court (« Conseil constitutionnel »), because of the planned tax exemptions (e.g. for big businesses covered by the EU-ETS or agriculture), which undermine the constitutional principle of equal taxing for all citizens

The success of 2014: why did it work this time?

- International commitments
- Political support: left-green government coalition
- Scientific and technical committees:
 - Quinet report (2008): trajectory of carbon pricing from 2010 to 2030 to reach the « factor 4 » target
 - Green Tax Commission report (2013): a turnkey reform proposal
- Window of opportunity:
 - a new tax credit for businesses was planned (CICE), but w/o the corresponding financing
 - the carbon tax could raise revenue to finance the tax credit
- Tax proposal compatible with the Constitution (not an independent ecotax, but just a component of taxes on fossil fuels)

How does it work?

- The so called carbon component of taxes on fossil fuels, or Contribution climat-énergie, taxes every fossil fuel proportionally to its carbon content
 - Aim: to encourage the energetic transition:
 - « to decrease GHG emissions by 40% between 1990 and 2030 and to divide them by 4 until 2050 »
 - « to reduce the energetic final consumption by 50% between 2012 and 2050 »
 - **Several exemptions**, in particular for businesses covered by the EU-ETS, taxis, public works, agriculture, public transportation, etc.
 - Rise of the trajectory:

Trajectoire de la composante carbone (en €/tCO₂)

Loi de finances 2014				LFR 2015			LTECV	
2013	2014	2015	2016	2017	2018	2019	2020	2030
0	7	14,5	22	30,5	39	47,5	56	100

LFR : Loi de finances rectificative pour 2015 ; LTECV: loi relative à la transition énergétique pour la croissance verte

The difficult question of the acceptability of the reform

- **Several stakeholders have opposed the introduction of a carbon tax and remain reserved as to the increase in the tax rate until 2030:**
 - Some (but not all) union representatives, because of the loss of purchasing power of workers and poor households
 - Some (but not all) business representatives, due to the risk of loss of competitiveness, especially for SMEs
- When introducing a carbon tax, **policy makers should also focus on the recycling revenue**, which can be used to help households and businesses cope with rising energy prices

=> The favourable opinion on carbon taxes in the world depends heavily on the recycling of their income
- Economists can also play an important role in carrying out **meaningful and accurate evaluations of the impact of introducing the tax** (anticipated impacts by shareholders are often overestimated in relation to actual impacts)

Take-aways

- Carbon pricing (and especially carbon taxes) is a very efficient way of encouraging the energetic transition and to reduce GHG emissions at a lower economic cost
- The road is often long and painful to introduce a carbon tax, but it has eventually been done in France, as in many other countries in the last years
- The question of the acceptability of the reform by stakeholders is fundamental, and closely depends on the use of the tax revenue

Pay-as-you-throw schemes: how does it work?

- Pay as you throw is a usage-pricing model for disposing of municipal solid waste
 - Users are charged a rate based on how much waste they present for collection to the municipality or local authority (excluding recyclable waste like newspapers, packaging, etc.).
- Different from the usual schemes
 - Users pays a tax based on the household composition or the dwelling characteristics, regardless of the volume of waste they generate

The risks of earmarking

- Example of the public support to feed-in tariffs for electricity generated by renewable energy (solar, wind)
- The public support was funded by an earmarked tax on electricity consumption. The problem here is that you generate bad incentives: you're greening electricity production while at the same time increasing the price of electricity consumption, and yield incentives for households to use fuel oil or natural gas for heating purposes.
- The problem was not important till 2009, because the cost of our feed-in tariff program was low (<1bn€). It dramatically increased since then (cost ~5bn€).
- We could finally get ridd off this link between the tax on electricity consumption and the funding of feed-in tariffs. The revenue from the recently introduced carbon tax will fund our feed-in tariff program in the future.

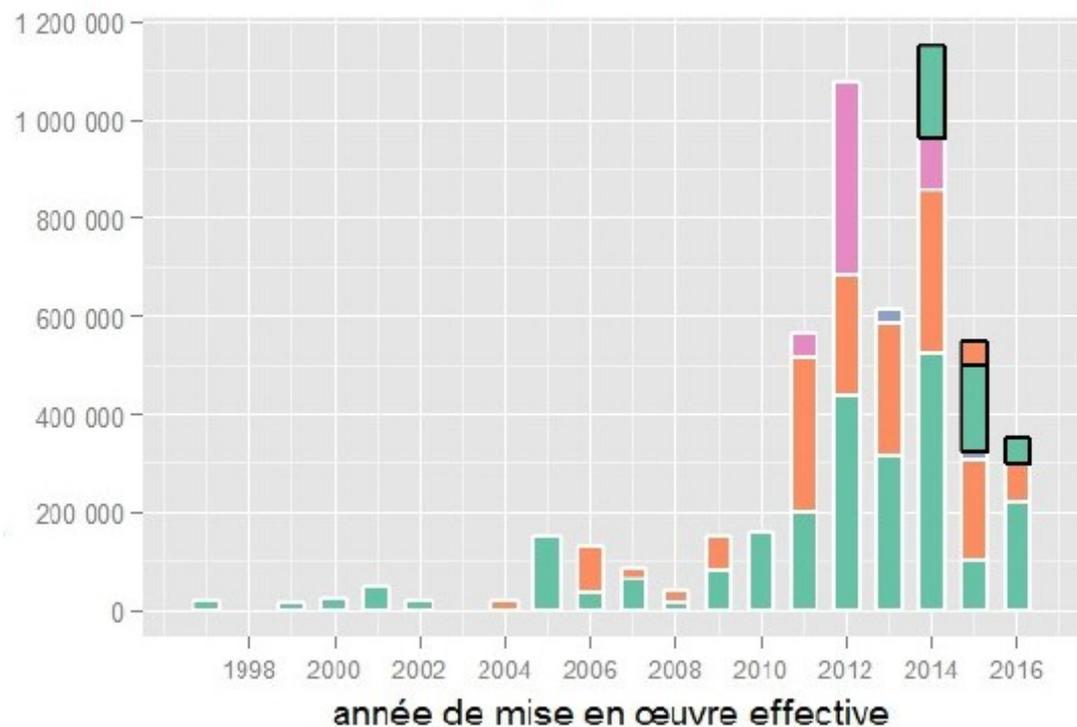
Pay-as-you-throw schemes: how does it work?

- Different methods available. Users can either pay a tax based on:
 - The frequency of the garbage truck passages (most frequent method in France)
 - The size of the garbage container
 - The weight of the waste collected (very costly to implement)
 - The number of trash bags (less frequent)

Pay-as-you-throw schemes: a quick development in France

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Tarification : par redevance incitative par taxe incitative

Type de territoire : mixte rural touristique ou commercial urbain

Source : Déchets ménagers - Efficacité de la tarification incitative, Théma Essentiels, CGDD, 2016

Pay-as-you-throw schemes: a very efficient tax

Tableau 1 – Effets des passages en tarification incitative de 2012-2013 sur les quantités collectées

Type de déchets	Quantités en 2013 dans les collectivités passées en TI (kg/hab)	Baisse par rapport au groupe témoin entre 2009 et 2013 (kg/hab)	% de la valeur en 2013 du groupe témoin
OMR (« poubelle grise »)	140,1	-68,5	-32 %
EJM (« poubelle jaune »)	60,9	+14,0	+30 %
Verre (en collecte séparée)	43,1	+4,3	+12 %
Total (avec déchetteries, bio-déchets, encombrants)	443,0	-49,4	-10 %

Source : Déchets ménagers - Efficacité de la tarification incitative, Théma Essentiels, CGDD, 2016