

# JOINTLY TACKLING THE CLIMATE CRISIS AND SOCIAL ISSUES

## INTEGRATING SOCIAL CONSIDERATIONS INTO CLIMATE BUDGET TAGGING EXERCISES

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Climate change and social issues have multiple two-way interactions, yet they are often addressed separately in public policy-making processes. We present here an analysis grid developed to facilitate the identification of climate and social hotspots in a national budget. Building on Climate Budget Tagging exercises, this tool aims to help governments easily review their entire budget to bring out budgetary measures that have both climate and social impacts. We applied the analysis grid to the French finance bill for 2021, highlighting that 83% of climate-related budgetary expenditures also have social impacts.

*Mots clés* : Green budgeting, climate budget tagging, social impacts, inequalities, just transition, performance budgeting.

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## Introduction

**Climate change and social issues have multiple two-way interactions.** While some public policies explicitly aim to kill these two birds with one stone, in many cases the two issues are tackled separately, giving rise to unintended side effects. Climate change mitigation and adaptation measures can have positive social impacts, such as cleaner air and the creation of new jobs (Ürge-Vorsatz *et al.*, 2014). However, they can also have negative social externalities, for example increased unemployment or income inequality (OECD, 2021b). Similarly, some policies aimed at tackling social challenges worsen climate issues, while others help to address them (ONPE, 2018). Aligning climate and social agendas to address both issues jointly will help to prevent adverse side

effects and maximise opportunities for co-benefits. Moreover, the intersection of climate and social issues is being increasingly acknowledged globally, with the rise of environmental justice movements, as well as the adoption of the Sustainable Development Goals (United Nations, 2015).

**Climate Budget Tagging (CBT) is a tool used to identify budget items that have positive or negative climate impacts (World Bank, 2021) and which could be adapted to cover both climate and social issues.** CBT indicates policy measures designed to tackle climate issues while also identifying those that have unintended climate implications. CBT exercises are gaining momentum worldwide and are increasingly used as a tool to assess whether a country's budget is in line with its climate ambitions. However, these exercises mostly ignore social issues, which is symptomatic of how budgetary processes take into account these two issues separately. This study aims to fill this gap, by integrating social considerations into CBT exercises, in order to facilitate the joint consideration of climate and social impacts in public budget-making processes.

**Using CBT as an analytical framework, this study aims to identify the social impacts of climate-related budgetary measures as well as measures that have both climate and social impacts, and to develop an analysis grid that allows any government to systematically assess the climate and social co-impacts of its budget.** In addition, it aims to test the analysis grid in practice by carrying out a proof of concept on the French budget.

This paper is organised as follows. Section 1 introduces the background and findings from a literature review. Section 2 presents the analysis grid. Section 3 details the application of the grid to the French budget. Section 4 discusses improvements to the grid and provides recommendations for further analysis. Section 5 concludes.

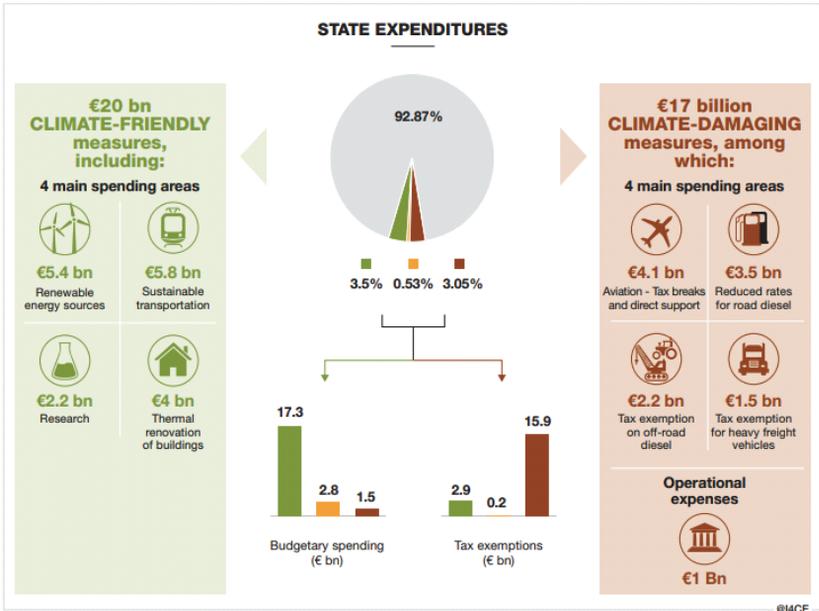
## 1. Literature review

### 1.1. Climate Budget Tagging principles

Climate Budget Tagging is the process of identifying all budget items that have positive or negative climate impacts. For example, CBT exercises tag investments in electric transport modes as climate-friendly, while investments and tax exemptions in the air transport

sector are classified as detrimental to the climate. CBT forms part of the ensemble of Green Budgeting practices, which cover all budgeting tools aimed at improving the environmental impact of fiscal policies, in order to help achieve environmental targets (Fetet *et al.*, 2019). The Institute for Climate Economics (I4CE) has identified more than 250 measures in the French budget that impact greenhouse gas (GHG) emissions (Figure 1).

Figure 1. Overview of climate-related French budgetary measures



Fetet *et al.* (2019).

CBT is a diagnostic tool that can be used to inform public authorities about the environmental compatibility of their budgets (Jansen, 2020). It has three main objectives. First, by assessing the environmental impacts of budget items, it helps to implement a coherent climate change strategy and improve budget performance (OECD, 2018). It is also useful for assessing the consistency of national budgets with national and international environmental commitments, such as the objectives of the 2015 Paris Agreement (République française, 2020). Finally, the CBT process helps to improve the transparency of expenditure and revenue. It answers questions such as: How much does the state spend to tackle climate change? How much is levied to

reduce GHG emissions? Who benefits from tax exemptions? (Fetet *et al.*, 2019) In order to lead to policy changes, the CBT results need to be integrated and taken into account within budget-making processes.

In less than two decades, over 50 countries have performed a climate assessment of their budgets, and 20 countries have implemented recurring exercises (Lecuyer & Postic, 2020). Early experiences took place mainly in developing countries and were supported in particular by the UNDP and the World Bank, through initiatives such as the Climate Public Expenditure and Institutional Review framework (UNDP, 2015). Several other frameworks have been developed since then, and methodologies vary between countries, as the environmental objectives taken into account and the scope of budget items analysed depend on countries' contexts and priorities (World Bank, 2021). Most countries' CBT exercises focus on climate mitigation or climate adaptation, and only include budgetary expenditure<sup>1</sup> (World Bank, 2021). The French CBT, initiated following the 2018 launch by the OECD of the Paris Collaborative on Green Budgeting (OECD, 2020), is so far the only initiative to address four additional environmental objectives: water resources management, the circular economy and waste, pollution abatement, and biodiversity and sustainable land use; moreover, in addition to budgetary expenditure, it includes the analysis of tax revenue<sup>2</sup> and tax expenditure.<sup>3</sup> Both the positive and negative impacts on each objective are analysed, recognising that a budget item may have positive impacts on one objective but negative ones on another. A CBT methodology designed especially for local authorities and government bodies has also been developed (I4CE, 2020).

## 1.2. The need to address climate and social issues jointly

Social impacts related to the implementation of climate policies are growing in scale, with adverse side-effects at the forefront of the debate. The Yellow Vest movement in France started in 2018 to oppose an oil price hike and the big impact it would have on households' disposable income (OFCE, 2019). These protests took place in a

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1. Budgetary expenditure is "expenditure authorized or to be authorized by the legislature through a budget law" (International Monetary Fund, 2001).

2. A tax is a "compulsory unrequited payment to the government" (OECD, 2021a).

3. "Tax expenditures include exemptions from the tax base, allowances deducted from gross income, tax credits deducted from tax liability, tax rate reductions, and tax deferrals" (International Monetary Fund, 2001).

particular context, characterised by the escalation of the climate crisis on one hand and the rise of social concerns on the other: poverty and unemployment rates in France are now higher than in the 2000s (Observatoire des inégalités, 2019), and income inequality has increased in OECD countries since 1980 (Keeley, 2015).

On the other hand, policies that address social objectives, such as “pro-growth” or “pro-poor” policies, may give rise to massive negative climate externalities. For instance, subsidies to the fossil fuel industry, provided on the grounds that they serve economic and societal purposes, contribute to higher GHG emissions and greater cumulative emissions over time (Fay *et al.*, 2015). However, climate and social policies can also lead to co-benefits, and some policies such as the thermal renovation of buildings for low-income households are explicitly designed to address both climate change and income inequality (Redouin *et al.*, 2014).

The importance of the opportunities for co-benefits is further emphasised by the concept of a just transition. This concept first appeared in the 1980s and demonstrates that the fight against climate change and the fight for social justice can be pursued together (Just Transition Initiative, 2020). Both the original concept, which focused on the protection of workers’ rights, and the current broader definition as written in the Conclusions of the 102th International Labour Conference, which includes the impacts of a low-carbon transition on society as a whole, highlight the feasibility of curbing climate change while ensuring social rights and equity (International Labour Organization, 2013). At the European level, the Just Transition Fund serves this purpose and aims to “alleviate the impact of the transition by financing the diversification and modernisation of the local economy and by mitigating the negative repercussions on employment” (Kołodziejcki, 2021).

In response to this growing need to tackle climate and social issues together, intergovernmental organisations are recommending the integration of social objectives within CBT. For instance, the UNDP supports the joint consideration of poverty reduction and gender inclusion with climate objectives, especially in developing countries (Mukherjee *et al.*, 2014). Several NGOs and institutions are also campaigning for the inclusion of social inequalities in CBT. For example in France, the Power of Living Pact, supported by 50 organisations, has proposed 66 budgetary measures for a green and fair society (Pacte du

pouvoir de vivre, 2019). These initiatives underline the heightened awareness of the benefits to be gained from the integration of social considerations into CBT exercises. Moreover, these approaches echo early budget tagging exercises, which focused on social issues, and in particular poverty, international development and gender (World Bank, 2021). These budget tagging initiatives usually tackled one specific social dimension and tended to include only policies with positive impacts, for example pro-poor policies, gender equality policies, or policies that contribute to one or more SDGs. Recently, broader social budgeting practices have been developed, such as well-being budgeting in New Zealand (Government of New Zealand, 2019), or equality budgeting in Ireland (OECD, 2021c).<sup>4</sup>

### 1.3. Review of the climate and social co-benefits and adverse side-effects

This subsection presents the main social indicators and intensification factors impacted by climate-related budget items, and reviews the measures identified in the literature as having both climate and social impacts. The literature review included many keywords, such as ‘energy policy’ and ‘distributional effects’, and covered both academic and grey literature, in English and French.

#### 1.3.1. *Identification of the main social indicators*

Several social dimensions impacted by climate-related budget items were identified in the literature. The five most relevant, because directly impacted, were selected and analysed as part of this study.

- Income inequality

A policy that benefits more high-income households or places a higher burden on low-income households has negative distributional impacts and increases income inequality. For instance, feebate policies or tax credits for the purchase of an electric vehicle benefit more high-income households who can afford to buy a new vehicle (Durrmeyer, 2018; Borenstein & Davis, 2016).

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4. Unlike for climate impacts, there is so far no methodology to tag all the social impacts of a budget (i.e., all social dimensions and both positive and negative impacts). Existing social budget tagging tools are less comprehensive than CBT for climate policies, and there is no unified framework for social budget evaluation. Developing a methodology to tag all budget items’ social impacts is much more complicated than for climate impacts, as the scope is broader and multifaceted, yet the results could be highly interesting. Nevertheless, this is beyond the scope of this study and requires extensive additional research.

On the other hand, some policies are explicitly designed to curb income inequality. The French “conversion bonus”, given when disposing of an old polluting vehicle to purchase a less polluting one, includes a maximum-income eligibility criteria; an ex-post socio-economic study revealed that most beneficiaries are non-taxable (CGDD, 2019).

#### ■ Poverty & income

Many climate-related budget items impact poverty and income. Poverty can be defined as living with less than US\$3.20 or US\$5.50 per day, for lower-middle-income or upper-middle-income countries respectively (World Bank, 2020). Poverty in that sense depends directly on income. For example, financial support to farmers has a direct positive impact on income and can help reduce poverty (Ministry of Agricultural, Land Management and Cooperatives, Nepal, 2018). Depending on the policy mechanism, this support can lead to climate synergies or trade-offs. For example, subsidies or direct income payments conditional on environmental criteria have positive climate impacts, while tax exemptions on non-road diesel contribute to increased GHG emissions.

#### ■ Employment

Policies aimed at supporting the transition to a low-carbon economy, such as policies that support the development of renewable energy (RE), often create new jobs (Markkanen & Anger-Kraavi, 2019). However, these policies can have negative employment impacts on other energy sectors, such as the coal industry, and the overall aggregate impact on employment is often unclear (OECD, 2021b).

Most policies impacting industries’ revenues or competitiveness will indirectly impact employment as well. For instance, an emissions trading system with auctioned allowances for energy-intensive trade-exposed industries could have negative employment impacts due to carbon leakage (I4CE, 2015), although this result is disputed (Carbon Market Watch, 2021).

#### ■ Health

Any policy that reduces GHG emissions and other pollutants leads to health improvement, and vice versa (Markkanen & Anger-Kraavi, 2019). Climate mitigation policies can also lead to other health co-benefits, for example thermal renovation policies help regulate indoor temperatures and increase living comfort (Ürge-Vorsatz *et al.*, 2014).

Furthermore, climate adaptation policies often contribute to health improvement. Adaptive Social Protection measures, especially in developing countries, aim to ensure minimum standards of living and access to health services (Bowen *et al.*, 2020).

Nevertheless, some climate policies have ambiguous health impacts. For example, an energy consumption tax in residential buildings reduces overall GHG emissions and improves air quality, but also increases energy poverty, especially for low-income households, which can lead to health issues (Berry, 2019).

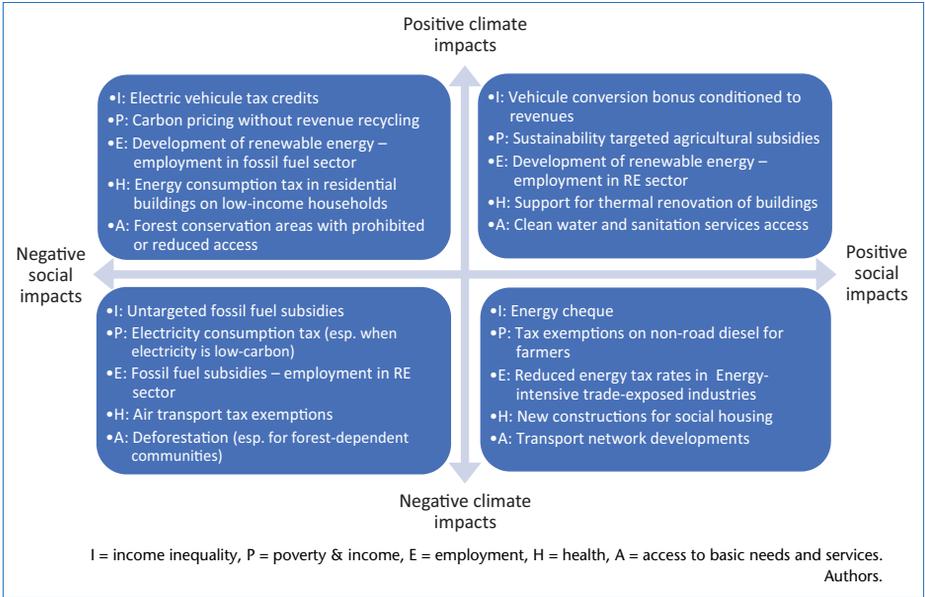
#### ■ Access to basic needs and services

Climate-related budget items sometimes affect access to food, clean water, clean energy, or infrastructure access. For example, transport network developments increase transport infrastructure access and therefore facilitate the access to other services (Hallegatte *et al.*, 2019). However, this has negative climate impacts, especially if it increases private transport. On the other hand, while forest protection and carbon sinks enhancement policies lead to carbon absorption, they can have negative impacts on food security due to land use competition with agriculture, and they can threaten local populations' livelihoods (FAO & UNEP, 2020). Deforestation can also prevent forest-dependent populations from accessing basic needs and therefore threaten their well-being, in addition to having direct negative impacts on carbon emissions. There can nevertheless be synergies between climate and access policies, for instance access to clean water and sanitation services boosts households' ability to cope with the effects of climate change.

A policy can have different impacts on several indicators, some of which drive the impacts on other indicators. For instance, renewable energy projects can lead to higher energy prices, which negatively affect household income and put a greater burden on low-income households, which in turn aggravates energy poverty, leading to adverse side effects on health (Neuhoff *et al.*, 2013).

The previous examples suggest that the climate and social impacts of public policies fit into four different impact scenarios (Figure 2). The top right quadrant is the climate and social co-benefit (or synergy) scenario. The bottom left quadrant corresponds to policies that have negative climate and social impacts. The other two quadrants show scenarios with trade-offs between climate and social benefits.

Figure 2. Examples of budgetary measures impacting each social indicator, for each impact scenario



A given policy is not confined to one particular quadrant. It can fall into different quadrants based on the social indicator considered. Moreover, depending on the policy’s design specificities, it may shift between quadrants. Some of the policies involving trade-offs could easily generate synergies through the implementation of the right fiscal instrument or public policy. For instance, a carbon tax without revenue recycling tends to be regressive and have a negative impact on income, but revenue recycling can be used as a lever to make the policy progressive and reduce inequality (World Bank, 2019). On the other hand, some negative impacts are harder to compensate for and would require greater policy adjustments. For example, the negative climate impacts of developments in transport networks can be limited by favouring public transportation but cannot be avoided without forgoing some of the social benefits.

1.3.2. *The influence of intensification factors*

The social indicators identified above show how people can be affected by climate-related budget items. However, impacts can vary from one individual to another. This led us to consider that social impacts are influenced by six group characteristics, which we named

intensification factors: age, gender, level of income, household characteristics, job sector, and urban or rural area (Figure 3). These factors are classified in four different levels on which people can be impacted.

#### ■ Individuals

As individuals, people are affected differently depending on their **age and gender**.

- Young and elderly people tend to be more sensitive to the health benefits from reduced air pollution, and older workers are more vulnerable following job losses as they usually have more difficulty finding a new job (OECD, 2021b).
- Some measures promote gender equality and create opportunities for women. In agriculture, climate change financing that takes gender into consideration, and in particular the feminisation of agriculture, can support women's empowerment and reduce their workload through gender-friendly technology (Ministry of Agricultural, Land Management and Cooperatives – Nepal, 2018).

#### ■ Households

Households' **level of income**, as well as **detailed features** such as the type of housing, home or car ownership, and the employment status, influence how people are impacted by policies.

- For instance, high-income households are the main beneficiaries of fuel tax exemptions for the aviation sector, as they fly more (The Shift Project, 2021).
- Similarly, homeowners tend to benefit more from subsidies that increase the value of property, such as subsidies for renovations or the development of public transportation nearby (OECD, 2021b).

#### ■ Workers

Workers are affected differently depending on their **job sector**.

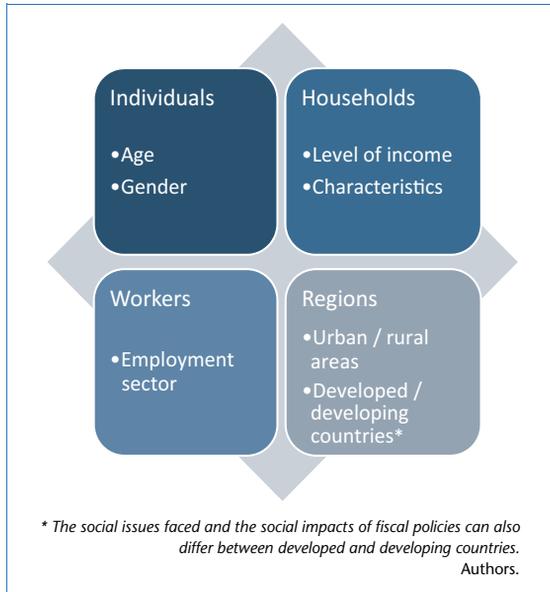
- Employees in polluting and energy-intensive industries are more at risk of losing their job in the context of the transition to a low-carbon society (Wang *et al.*, 2016).
- In contrast, new job creation tends to occur in low-carbon industries, including renewable energy production (OECD, 2021b).

## ■ Regions

Finally, social impacts also depend on geographical considerations.

- People are affected differently depending on whether they live in **urban or rural areas**. For example, it is well known that carbon taxes put a greater burden on rural households who have less alternatives to car use (Douenne, 2020).

Figure 3. Intensification factors\*



### 1.3.3. Budgetary measures and social impacts characterisation

The examples above show the diversity of climate-related budgetary measures that have social impacts. 100 measures<sup>5</sup> were identified in the literature as having both climate and social impacts. They can be classified into eight sectors: energy, transport, building, industry, agriculture and forestry, social measures, natural disaster risk reduction and management, and other.

Social impacts of budgetary measures cannot always be tagged as positive or negative, and many measures have ambiguous effects. In

5. The full literature review, which includes the details of the 100 measures and their impacts as well as bibliographic references is available online at the following link: <https://www.i4ce.org/download/escb-grille-analyse/>

some cases, the same measure can have both positive and negative impacts on an indicator, depending on the context. For instance, renewable energy projects have health co-benefits as they reduce the share of fossil fuels in favour of renewable energy and thus reduce pollution (Markkanen & Anger-Kraavi, 2019). However, as mentioned section 1.3.1, they can also have adverse health side-effects on health when they lead to higher energy prices (Neuhoff *et al.*, 2013). The overall health impact is uncertain due to these opposite effects.

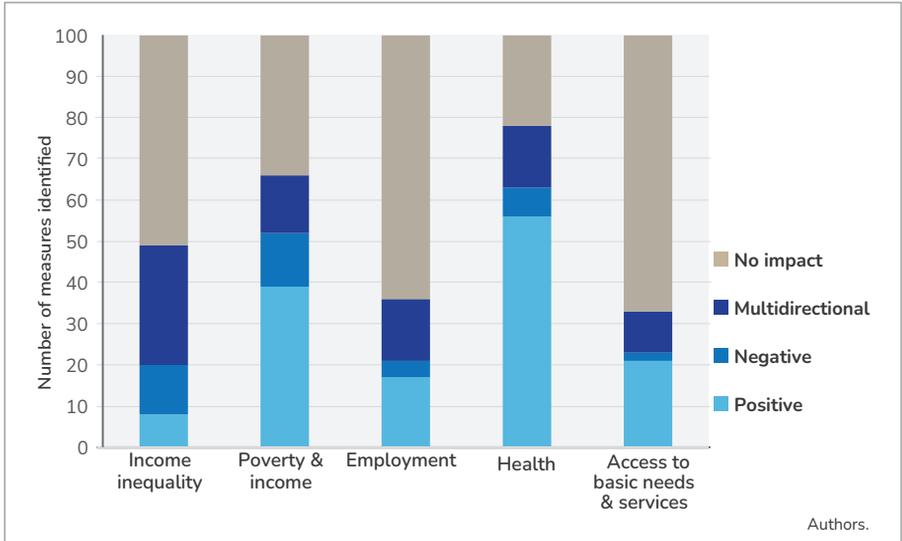
In addition, a measure's impacts are sometimes unclear and counterintuitive. A classic argument in favour of fossil fuel subsidies is that they reduce energy prices, and thus benefit poorer households and reduce energy poverty (Marchán *et al.*, 2017). However, in some countries, many poorer households do not have access to electricity or fuel distribution networks, or do not own a car or other equipment, which means that they do not benefit from lower energy prices (Zinecker *et al.*, 2018). Studies show that most fossil fuel subsidies tend to be regressive: as higher-income households consume more energy, they capture a bigger share of the subsidies. A study covering 20 developing countries showed that the bottom two deciles and top two deciles captured respectively 7% and 43% on average of existing fossil fuel subsidies (Fay *et al.*, 2015). Health impacts go in the same direction, as fossil fuel subsidies incentivise the production and overconsumption of fossil fuels, which increases pollution. Lower-income households tend to be more affected by higher levels of air pollution, as they are more likely to live in areas with poor air quality (Markkanen & Anger-Kraavi, 2019). To conclude, although fossil fuel subsidies reduce energy prices, they also have significant negative impacts on the poorest households.

These two examples demonstrate that a budgetary measure can have conflicting social effects. The actual impacts of a measure are often context-dependent and can be specific to each country and policy design. Nevertheless, there are some measures whose impacts are always either positive or negative. The numbers of unidirectional and multidirectional measures out of the 100 measures identified are detailed in Figure 4.

This graph shows that for some social indicators the impacts can be more systematically determined as positive or negative than for others. For instance, health impacts can usually be characterised as positive or negative, in contrast to income inequality impacts, which can often be multidirectional. This is logical insofar as income inequality impacts are

closely linked to policy designs and redistributive mechanisms, while health impacts are more inherently linked to a measure itself and its direct impacts on the living environment.

Figure 4. Impact orientation for each social indicator



The analysis of the 100 budgetary measures and their impacts contributed to the development of an analysis grid, to be applied to public budgets after a CBT exercise.

## 2. Overview of the analysis grid

The analysis grid<sup>6</sup> is a methodological tool based directly on the previous literature review and the climate and social co-benefits and adverse side-effects identified. It also draws on interviews conducted with other French think tanks and research institutes<sup>7</sup>, and with I4CE experts.

6. The analysis grid is available online at the following link: <https://www.i4ce.org/download/escb-grille-analyse/>

7. OFCE, Institut des Politiques Publiques, Observatoire des inégalités, ADEME.

## 2.1. Scope

As the analysis grid is intended to be applied to budgets after a CBT exercise, its scope is consequently limited to the scope of the CBT exercises. All three categories of budget items are included: budgetary expenditure, taxes, and tax expenditure. In addition, we chose to focus the analysis on climate mitigation and adaptation objectives, as up to now most CBT exercises address only these climate issues.

The analysis grid is a preliminary tool that needs to be complemented by future studies. Current gaps in the literature limit the exhaustiveness of the analysis, and as new research fills in these gaps, the grid will need to be updated.

## 2.2. Description of the grid's elements

The analysis grid consists of an Excel spreadsheet, which includes all the budgetary measures identified as having both climate and social impacts. Each row corresponds to a specific measure. An extract of the analysis grid for the measure "development of renewable energy projects" can be found in Table 1. The first three rows refer to the sector, category, and sub-category of each budgetary measure, and the fourth row specifies the type of budgetary measure. The fifth row provides a code for each measure, to facilitate the later application of the grid. The code comprises two letters referring to the measure's sectors and a number that indexes each measure.

The rows 7 and 8 summarise the impacts of each measure on climate mitigation and adaptation. Row 9 describes the social co-benefits, and row 10 describes the adverse side effects, drawn directly from the literature. In addition, the social impacts are coded with one row for each social indicator (11) and intensification factor (12). A "Yes" indicates that the measure can have some impacts on the given social indicator or intensification factor, while a "No" indicates that the measure has no identified impact. The analysis grid also includes a row, the sixth, that specifies whether the measure is relevant for developed or developing countries, or both. The type of country is not taken into account in the same way as the other intensification factors, as it determines whether or not a measure is relevant in a specific context in the first place, as opposed to the other factors, which only influence the impacts. The last two rows, 13 and 14, provide the references, as well as a robustness indicator.

Table 1. Overview of the analysis grid

1	<b>Sector</b>	Energy	
2	<b>Category</b>	Renewable energy	
3	<b>Sub-category</b>	Development of renewable energy projects	
4	<b>Budgetary measure</b>	Investments	
5	<b>Code</b>	EN1_1	
6	<b>Countries (developed – developing)</b>	Developed & developing countries	
7	<b>Mitigation</b>	Positive impacts	
8	<b>Adaptation</b>	/	
9	<b>Social co-benefits</b>	Health benefits; employment impacts in RE sector; women employment; regional implications for workers, job creation where limited employment opportunities	
10	<b>Social adverse side-effects</b>	if increased energy prices: impacts on poorer households, energy poverty & health impacts, job losses in RE sector; population displacements	
11	<b>Social indicators</b>	Income inequality	YES
		Poverty & income	YES
		Employment	YES
		Health	YES
		Access to basic needs & services	YES
12	<b>Intensification factors</b>	Income	YES
		Urban / rural area	YES
		Job sector	YES
		Gender	YES
		Age	NO
		Other household characteristics (energy used for heating, family structure, employment status, dwelling type, car & home ownership)	NO
13	<b>Robustness indicator</b>	Several studies; gender & regional in OECD report Germany, one example dvped country	
14	<b>References</b>	Markkanen, S., & Anger-Kraavi, A. (2019). Social impacts of climate change mitigation policies and their implications for inequality. <i>Climate Policy</i> , 19(7), 827-844. Ürge-Vorsatz, D., Herrero, S. T., Dubash, N. K., & Lecocq, F. (2014). Measuring the co-benefits of climate change mitigation. <i>Annual Review of Environment and Resources</i> , 39, 549-582. Frondel, M., Sommera, S., & Vance, C. (2015). The burden of Germany's energy transition: An empirical analysis of distributional effects <i>Economic Analysis and Policy</i> , 45, 89–99 OCDE (2021), « The inequalities-environment nexus : Towards a people-centred green transition », OECD Green Growth Papers, n° 2021/01, Éditions OCDE, Paris	

### 3. A country case study: the environmental impact report associated to the French finance bill for 2021

The analysis grid was applied to the French green budget resulting from the government's CBT exercise. This stage of the study serves as a proof of concept, by testing the analysis grid with real-world data.

#### 3.1. French CBT data

The French government published its first methodological report on green budgeting and CBT in September 2019<sup>8</sup>, in response to the OECD's call for action during the One Planet Summit (IGF, 2019). The following year, the government released the "Report on the environmental impact of the State's budget", presenting the environmental impact of the proposed budgetary expenditure and tax expenditure from the draft finance bill (DFB) for 2021 (République française, 2020).

According to this report, €41.8 billion (bn) out of the €488.4bn of controllable budgetary expenditure and €11bn out of the €85.9bn of considered tax expenditure, were identified as having environmental impacts on at least one of six environmental dimensions: climate mitigation, climate adaptation, water resources management, circular economy and waste, pollution abatement and biodiversity and sustainable land use. Moreover, €38.1bn were identified as having positive environmental impacts, €10bn as having negative impacts, and €4.7bn as having mixed impacts, i.e., positive impacts on at least one environmental dimension, but negatives impacts on some others (Figure 5). Most of the items that have negative impacts correspond to tax exemptions. The scope of the budget analysed in this report also included the French post-Covid19 recovery plan, which represents €100bn over several years: €32bn of the total were tagged as having environmental impacts, among which €27bn had positive impacts and €5bn had mixed impacts.

The government data on the DFB for 2021 indicates the positive, negative, or neutral impacts of budget lines on each environmental dimension. It includes budgetary and tax expenditure, as well as earmarked taxes<sup>9</sup>. The total amounts analysed for each type of budgetary measure and the amounts that have environmental impacts are summarised Table 2. Regarding the recovery plan, only the

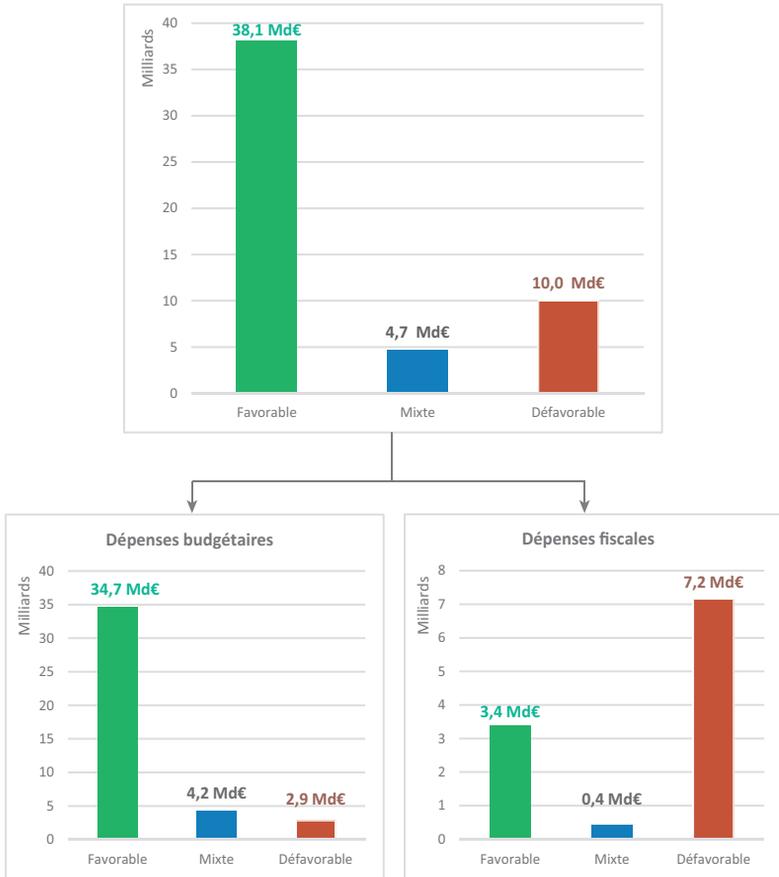
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8. This report is established by the article N°179 of the 2019 finance bill for 2020.

9. "Taxes raised and allocated to specific expenditure programs." (International Monetary Fund, 2007)

payment credits for 2021 are included in the table, i.e., €22bn, €6.54bn of which have impacts on climate mitigation or adaptation.

Figure 5. Environmental impact of budgetary and tax expenditure (€bn)



This figure shows at the top the total budget amounts that have positive, mixed and negative impacts. The graph on the left details the amounts of budgetary expenditure, and the graph on the right the amounts of tax expenditure. All amounts are in billion euros. République française (2020).

Table 2. CBT amounts for the 2021 DFB

Draft finance bill for 2021	Budgetary expenditure	Tax expenditure	Earmarked taxes
Total analysed amount (€bn)	488.4	85.9	18.9
Climate-related amount (€bn)	38.4	10.9	7.0

Adapted from République Française (2020).

### 3.2. Application of the grid and scope of the analysis

The analysis grid presented in Section 2 was applied to each of the budget lines of the 2021 DFB that have climate impacts. Each of these budget lines was matched, where possible, with a measure from the analysis grid, to deduce its social impacts.

The scope and quality of the analysis is directly determined by the budgetary data available. The French CBT did not focus on climate-related taxes, but rather earmarked taxes whose use of revenues has climate impacts. Some budget lines even correspond to the use of revenue itself instead of the earmarked taxes. To that extent, applying the analysis grid to these taxes is not a very relevant proof of concept, and for some cases it is equivalent to analysing the same expenditure twice. To overcome this issue, the lines in question were replaced with the corresponding earmarked taxes and the proper amounts, obtained from budget documents (AFITF, 2021). In addition, the analysis grid was also applied to the climate-related taxes identified by I4CE through their own CBT of the French draft finance bill for 2019 (Fetet *et al.*, 2019).

Furthermore, the government data table does not include the exact budgetary expenditure amounts for each line. Instead, amounts are aggregated by groups of budget lines, so-called “actions”. To be able to exploit these amounts, the codes linked to budget lines belonging to a same action had to be aggregated as well. This raises two issues:

- First, if the budget line corresponding to an action does not have social impacts but the rest of action lines do, the amount corresponding to this budget line is still included. In other words, some budgetary expenditure amounts are overestimated.
- Second, by aggregating the codes at the action level, information on the weighted importance of the social dimensions within an action is lost. This leads to the impacts on some social dimensions being overestimated.

This is the main limitation of the case study, but while it significantly reduces the precision of the analysis, it could easily be avoided if the government released information at the budget line level

### 3.3. Climate and social co-impacts of the French budget

The application of the analysis grid to the French budget outlined the share of budget items that may have climate and social impacts

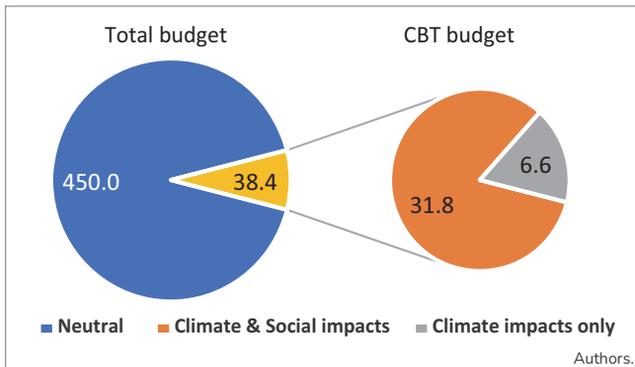
and highlighted the most impacted social indicators and the main intensification factors. However, similarly to the measures of the analysis grid and due to the methodology, it was not possible to tag as positive or negative the social impacts of budget items:

- First, some budget items match measures in the analysis grid that have ambiguous impacts on the social indicators.
- Second, most budget items have different impacts (positive, negative, ambiguous, or neutral) on each of the social indicators. It was therefore not possible to categorise the overall social impact.
- Third, some budget items match more than one measure of the analysis grid, and these measures do not necessarily have the same impacts on the social indicators.

Nonetheless, the results obtained from the analysis grid allow to visualize the magnitude of potential synergies or trade-offs between climate and social impacts of budgetary measures.

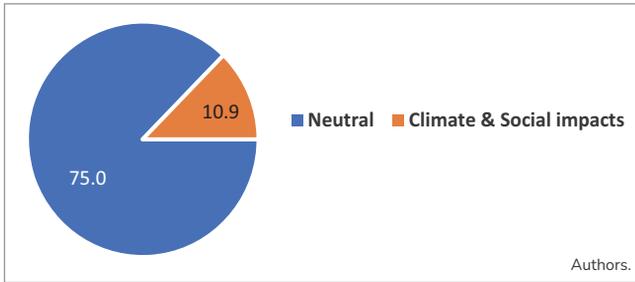
**1) 6.5% of total budgetary expenditure in the 2021 DFB may have both climate and social impacts, i.e., €31.8bn, or 82.7% of climate-related budgetary expenditure (Figure 6).**

Figure 6. Budgetary expenditure amounts (€bn)



**2) 12.7% of total tax expenditure in the 2021 DFB may have climate and social impacts, i.e., all the €10.9bn of climate-related tax expenditure (Figure 7).**

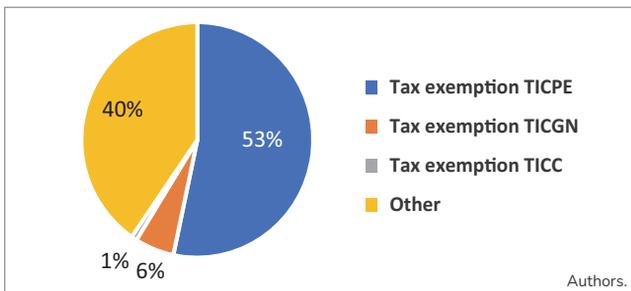
Figure 7. Tax expenditure amounts (€bn)



However, some tax loopholes are not included in the French tax expenditure data. When taking these into account – for instance, the tax difference between petrol and diesel and exemptions from the tax on energy products (TICPE) in the air transport sector, for certain ships and for refineries – tax expenditure increases to €16bn (Perrier & Vandon, 2021). Because this information does not appear in the CBT exercise released by the French government, the climate impacts and potential social effects of about 30% of tax expenditures are excluded from the analysis.

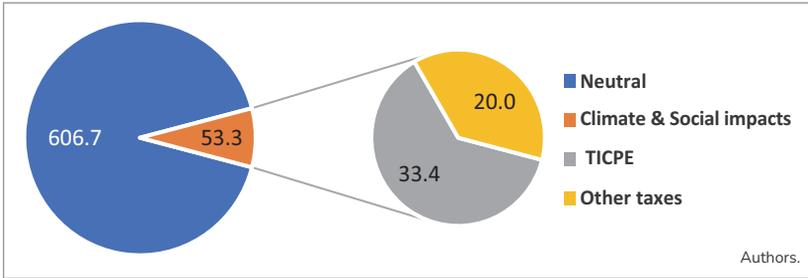
Moreover, out of the €10.9bn of tax expenditure that have climate and social impacts, 60% are tax exemptions on fossil fuels (Figure 8). These include exemptions from the tax on energy products (TICPE), the tax on gas (TICGN) and the tax on coal (TICC). TICPE exemptions are the biggest in terms of revenues and amount to 53% of climate-related tax expenditure. This underlines the prevalence of fossil fuel tax exemptions, and more precisely tax loopholes, among budget items that have negative climate impacts.

Figure 8. Share of tax exemptions on fossil fuels



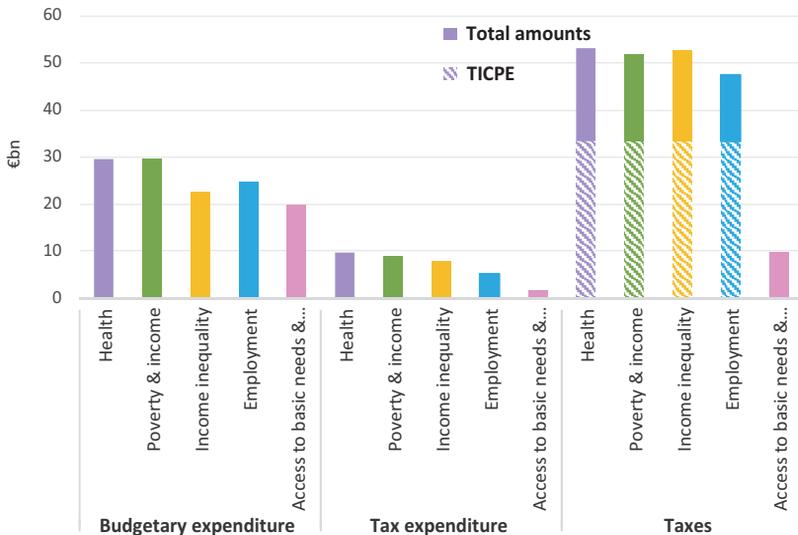
3) **8.1% of total taxes in the 2019 DFB may have climate and social impacts**, i.e., all the €53.3bn of climate-related taxes (Figure 9). The TICPE alone amounts to €33.4bn, or 62.5% of all climate-related taxes.

Figure 9. Taxes amounts (€bn)



4) **“Health” and “Poverty & income” are the most affected social indicators** with respectively 90% and 88% of all climate-related budget items that can impact these indicators (Figure 10).

Figure 10. Climate-related budget items' impacts on social indicators

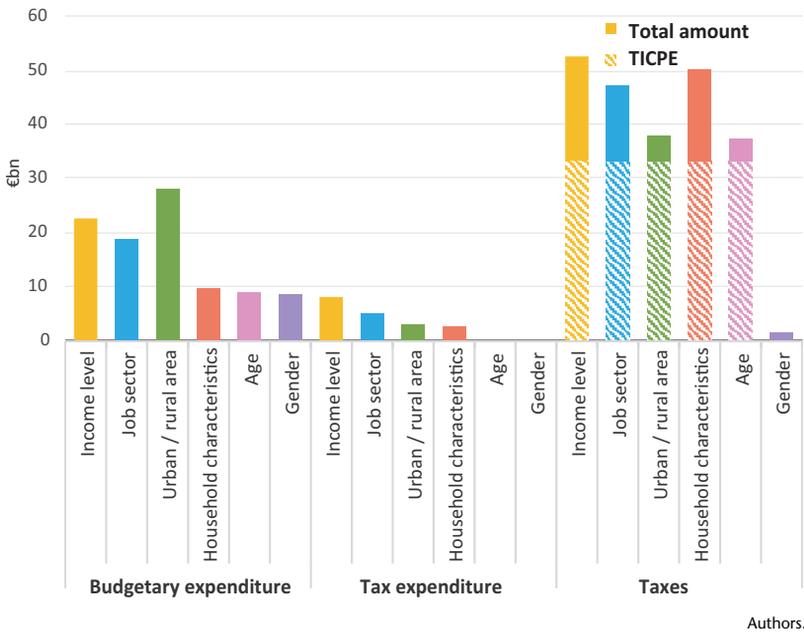


Authors.

“Access to basic needs and services” is the least affected social indicator, which can be explained by France being a developed country where basic infrastructures, clean energy, water, and food are accessible to almost everyone<sup>10</sup>.

5) “Income level”, “Job sector” and “Urban or rural area” are on average the three main intensification factors influencing who is impacted by climate-related budget items, with respectively 81%, 69% and 68% of climate-related items that may have social impacts affected by these factors. Gender, on the other hand, has little influence, even though more and more budgeting exercises are integrating gender considerations in their analysis (Figure 11).

Figure 11. Effects of intensification factors on climate-related budget items’ social impacts



10. One could expect this indicator to be more impacted by fiscal policies in developing countries, both positively as more policies are aimed at tackling accessibility issues, and negatively as some policies’ side effects can worsen these issues.

Household characteristics have a low influence on the impacts of budgetary expenditure, compared to the three main intensification factors, while they are the second-most influential intensification factor for taxes. This means that overall, the impact of taxes depends more on household characteristics. This result could be expected, as taxes directly impact households, or companies, and the tax base is often determined by such characteristics.

The application of the grid to the French budget brought out 10 climate and social hotspots, i.e., climate-related budget items that have significant social impacts. These items are characterised by high amounts – all over €1bn – and impacts on several social dimensions.

#### *Budgetary expenditure*

- 1). Financial support for electric renewable energy in mainland France, which includes wind, solar and bioenergy;
- 2). Railway investments, including infrastructure investments and subsidies to the SNCF (National Company of French Railways);
- 3). Financial support to households for energy-efficiency renovation work in housing;
- 4). Subsidies to reduce energy prices in non-interconnected areas, as a solidarity mechanism.

#### *Tax expenditure*

- 5). Reduced TICPE rate for non-road diesel, heavy fuel oil and liquefied petroleum gas used for agricultural and forestry work;
- 6). Reduced VAT rate (5.5%) for energy-efficiency work in housing completed more than two years ago, and inextricably linked work;
- 7). Reduced TICPE rate for diesel used as fuel by road freight vehicles of at least 7.5 tonnes.

#### *Taxes*

- 8). Domestic consumption tax on energy products (TICPE);
- 9). Domestic tax on the final consumption of electricity (TICFE);
- 10). Domestic consumption tax on natural gas (TICGN).

Other expenditure items also have significant social impacts:

- Development aid expenditure includes 11 budget items, which together amount to €1,6bn.

- Within the recovery plan, three budget items – thermal renovation, green infrastructure and mobility, and green energy and technology – have substantial climate and social impacts and amount between €0,9bn and €3bn.
- TICPE exemptions for certain overseas territories amount to €1,7bn.

These expenditures all comprise several budget items, which is why they are reported separately. Addressing precisely these expenditures would require carrying out the same climate and social analysis at their level with disaggregated data.

The results of the French case study show that a large share of climate-related budgetary measures also have social impacts, reinforcing the relevance of the cross-analysis of climate and social impacts. However, these results should be regarded as intermediate results, as they cannot per se be translated into practical actions, and further analysis is required to draw policy recommendations (see section 4.2.2 and 4.3).

## 4. Discussion & policy recommendations

### 4.1. Potential improvements to the grid

#### 4.1.1. *Extending the scope*

The analysis grid includes five social indicators and six intensification factors. However, budget items could impact other social dimensions as well. For instance, education was excluded from the analysis, because impacts on education were often side effects of other social impacts and not direct impacts of budget items. An example is how climate change finance in agriculture, by increasing incomes and reducing workloads, especially for women, can boost education enrolment (Ministry of Agricultural, Land Management and Cooperatives – Nepal, 2018). Furthermore, inequality was considered only in relation to income inequality, although every social dimension can exacerbate inequalities. For instance, health inequality, inequality in employment and education opportunities, or inequalities in access to infrastructure and basic services, are all significant social impacts (Observatoire des inégalités, 2019).

Moreover, the analysis is limited to climate mitigation and adaptation objectives, although many studies point out fiscal policies' impacts on other environmental objectives such as water resources management and biodiversity. The scope of the analysis was limited to the prevailing environmental and social dimensions to be able to study them in greater depth but completing the grid with other dimensions would be of great value.

In addition, the inclusion of adaptation measures in the analysis grid raised some issues and would benefit from further refinement, as all adaptation measures have social impacts in the sense that they improve overall living conditions, and most social measures contribute to adaptation: adaptation is closely linked to the social indicators "health" and "access to basic needs and services". Adaptation measures are of two types: new expenditure items related to the adaptation process only, and increased expenditure to integrate adaptation into existing expenditure items. The analysis grid includes all measures from the first category, and part of the measures from the second one, which are directly linked to changing living conditions and require specific action. For instance, investments to build protective infrastructure to adapt to sea level rise were included (Hallegatte *et al.*, 2017), but economic diversification measures in mountain economies are not. This methodological choice was necessary to limit the scope of the analysis.

Finally, the analysis grid is applicable – and to some extent adapted – to the French budget. Some measures may not match other countries' budget lines perfectly. The grid requires some adjustments to fit different national contexts.

#### 4.1.2. *Improving the filter selectivity*

In addition to the scope of the analysis grid, it is relevant to question the depth of its detail as well. The results of the French case study highlighted that 82.7% of climate-related budgetary expenditure and 100% of taxes and tax expenditure can have social impacts. Moreover, 90% of all climate-related budget items can have health impacts. These figures may seem high, which is partly due to the level of aggregation of budgetary data, but also raises the question of whether the analysis grid is a sufficiently selective filter. For instance, it may be relevant and desirable to divide the health indicator into different health impact drivers to further disaggregate the data and results.

Similarly, the TICPE alone accounts for 53% of taxes that may have climate and social impacts. It comprises many different tax rates and

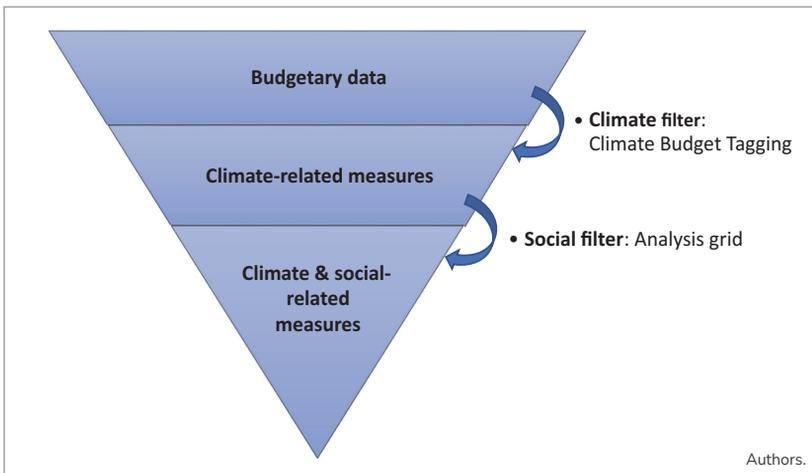
bases, and having disaggregated data on these various components of the tax would enable a far more accurate analysis of the social impacts.

## 4.2. Learnings and implications for countries applying the grid

### 4.2.1. Use of the grid and prerequisite

The analysis grid aims to enable any country or government agency that has already carried out a CBT exercise to add social considerations to its budget tagging. The purpose is to apply it to public budgets as a social filter, in addition to the climate filter, to bring to light the climate and social hotspots within budgets (Figure 12). It is intended to be a universal tool, usable by all countries.

Figure 12. Outline of the climate and social analysis process



The primary prerequisite is the fulfilment of a CBT exercise. However, CBT can present gaps and shortcomings, in terms of either the environmental dimensions analysed or the types of budget items, both of which affect the analysis of social impacts. In the case of the French budget, the chosen scope of earmarked taxes is not the most relevant one to analyse, and the inclusion of adaptation can be heavily criticised, with many questionable items (Depoues, 2020).

In addition, the robustness and precision of the analysis relies on the availability of government budget data. A lack of data can lead to over-estimating some impacts, as shown by the French case study.

Disaggregated and openly accessible data is needed to allow non-governmental parties to carry out robust studies. This is as much a matter of budget management and monitoring as it is of transparency.

#### **4.2.2. A first step in the joint climate and social assessment of public budgets**

The analysis grid is intended as a generic diagnostic tool. It highlights climate and social hotspots, but the co-impacts are not oriented, let alone quantified. Moreover, the social impacts identified are only potential impacts. The actual social effects of a measure are highly context-dependent and can be specific to each country. Determining these effects requires conducting further research at the country level and specific impact assessments. The climate and social hotspots can offer a starting point for further analysis.

Moreover, it would be valuable to assess whether the climate and social impacts are taken into consideration in budgetary processes, and if they are not, then to improve these processes. The analysis grid needs to be integrated within budget-making processes, to ensure that it is carried out and its benefits are used. Some further steps to enhance the consideration of climate and social issues in processes are detailed below for the French budget.

#### **4.3. Further analysis of the French budget**

Taking into account the previous discussion and the results of the French budget analysis, several next steps have to be carried out to gain further insights into the French budget's climate and social impacts.

- The French CBT exercise needs to be improved: its scope could be extended, and the analysis refined. Disaggregating some budget items such as the TICPE would prove very useful (see section 4.1). This requires improving budget data monitoring and transparency.
- Impact assessments of the 10 hotspots identified could be carried out, to precisely identify their climate and social effects in the French context and highlight the budget items that provide co-benefits.
- Assessing budget making processes, in particular the extent to which climate and social impacts are taken into account in budgeting, is a key step that would allow to enhance the consideration of these impacts in processes.

- Identifying levers to mitigate adverse side effects and enhance co-benefits would also improve the integration of climate and social issues in budget processes
  - First, it would help to distinguish between trade-offs that can easily become synergies and trade-offs that cannot be overcome.
  - Second, the French case study showed that most climate-related budget items may have social impacts. For the analysis grid to be an effective decision-making tool, these impacts must be prioritised. The availability of levers to either mitigate or enhance impacts is a key prioritisation criterion, which can be used as an additional filter to select the most relevant budget items and refine the identification of hotspots.

Analyses of policy levers and budget making processes to complement this study, as well as an in-depth case study of the French budget, are underway and will be published early 2022 by I4CE.

## 5. Conclusion

This study contributes to the joint integration of climate and social issues in public budget-making processes by adding social tagging to CBT exercises. CBT is used as an analytical framework to conduct the cross-analysis of fiscal policies' climate and social impacts.

Five main social indicators impacted by climate-related budget items were identified: income inequality, poverty and income, employment, health, and access to basic needs and services. In addition, six intensification factors that influence how people are affected by these budget items are distinguished: income level, living in an urban or rural area, job sector, gender, age, and household characteristics. Overall, 100 budgetary measures were identified as having both climate and social impacts.

An analysis grid that enables governments to assess the climate and social co-impacts of their budget was developed. The grid is intended to be applied to public budgets following a CBT exercise. It gathers a wide range of data on the climate and social impacts of fiscal policies.

The application of the analysis grid to the French 2021 draft finance bill post-CBT showed that most climate-related budget items may have social impacts. It highlighted the most impacted social indicators and the main intensification factors in the French context and brought out 10 climate and social hotspots

Nevertheless, this study is only a first step in the joint consideration of climate and social impacts within budgetary processes and needs to be complemented by further research. The analysis grid could be extended and completed with new literature. In addition, impact assessments and analyses of budget levers and processes are required to improve the analysis of hotspots and strengthen the integration of climate and social issues into budgeting. A further study that addresses these shortcomings and complements the French budget case study will be published in early 2022.

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