EXECUTIVE SUMMARY

SUBSIDIES FOR FOSSIL AND RENEWABLE SOURCES

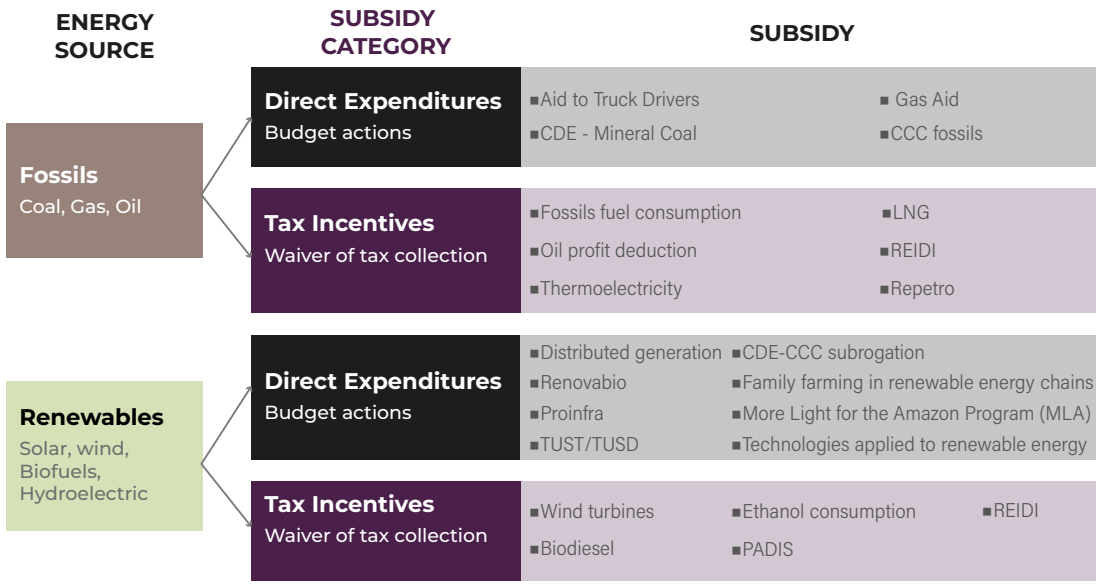
(2022-2023)

BRASÍLIA, SEPTEMBER 2024

Inesc launches the seventh edition of the monitoring of subsidies offered by the Federal Government to fossil and renewable sources[1] with data referring to the years of 2022 and 2023.

The data gathered in the publication make up a mosaic of information from different sources, organized into two modalities (consumption and production) and two categories (direct expenditure and tax exemptions).[2]

FIGURE 1 ENERGY SOURCES, SUBSIDIES, AND SUBSIDY CATEGORY



Source: Inesc.

1 When calculating subsidies for renewable energy, the water source is not considered.
2 For a better understanding of the classification and calculation methods, please refer to our methodology.

In 2023, subsidies from both sources totaled US$ 19.96 billion, which represented an increase of 9.07% compared to the 2022 figure. This increment was ensured by an increase of US$ 906.94 million (33,5%) in renewable sources, to the detriment of fossil sources, which saw an increase of US$ 746.66 million (4.79%).

TABLE 1 BRAZIL: OVERVIEW OF SUBSIDIES FOR FOSSIL AND RENEWABLE SOURCES (2022 AND 2023)

Types and sources of subsidies	2022	2023	Variation
Fossil subsidies (production)	US$ 6,907,009,952.57	US$ 8,380,915,041.20	21,34 %
Fossil subsidies (consumption)	US$ 8,694,777,126.94	US$ 7,967,532,028.74	-8,36%
Total	**US$ 15,601,787,079.51**	**US$ 16,348,447,069.94**	**4,79%**
Subsidies for renewables (production)	US$ 2,291,334,253.90	US$ 3,185,627,923.07	39,03%
Subsidies for renewables (consumption)	US$ 415,663,154.85	US$ 428,209,198.80	3,02%
Total	**US$ 2,706,997,408.75**	**US$ 3,613,837,121.87**	**33,5%**
Total of both sources	**US$ 18,308,784,488.26**	**US$ 19,962,284,191.81**	**9,03%**

Source: Inesc (to consult the sources, check the methodology).

Subsidies for fossil fuels totaled US$ 16.34 billion, or 81.9% of the total, while subsidies for renewables totaled US$ 3.61 billion or 18.10% of the total. **These values show that for every US$ 1.00 spent on renewable energy sources, US$ 4.52 are subsidized for fossil fuels**.

The oscillation compared to fossil sources is due to two main factors. On the one hand, a drop of US$ 727,24 million in waivers associated with fuel consumption, driven, in turn, by the return of the Cide and PIS/Cofins taxes on gasoline. It is worth noting that the reduction in the subsidy was not greater because the exemption for diesel was maintained and because the amounts sold were greater, resulting in an expansion of subsidies for the aforementioned fuel.

On the other hand, there was an increase of US$ 1.47 billion in production subsidies, which were driven by the increase in waivers associated with the Special Customs Regime for Export and Import of Goods Intended for Research and Mining Activities of Oil and Natural Gas Deposits (Repetro), which increased by US$ 1,40 billion, compared to 2022. With such behavior, in the opposite direction between production and consumption, the total value of subsidies remained relatively stable between 2022 and 2023.

Subsidies for renewables, in turn, increased from US$ 2.70 billion to US$ 3.61 billion, which represented an increase of 33,70%. This expansion is attributed exclusively to the US$ 894.29 million increase in subsidies for the production of renewable energy, due to the

expansion of waivers associated with the Incentive Program for Alternative Electricity Sources (Proinfa), the Special Incentive Regime for Infrastructure Development (Reidi) and the distributed generation.

1. Values, highlights and main findings: subsidies to fossil sources

In this edition, an additional effort is made to reflect on the different categories of fossil fuel subsidies (production and consumption), on their different implications and on the resistance associated with the urgent effort to review them.

Consumption subsidies are concentrated on two distinct axes. The majority (91% or US$ 7,24 billion of a total of US$ 7.96 billion in 2023) results from the reduction or exemption of taxes on the consumption of gasoline, diesel oil and liquefied petroleum gas. Over time and by different governments, changes in the rates that apply to fuels (PIS/Cofins and Cide) were used as a measure to contain significant increases in domestic prices, which are the result, in turn, of global supply and demand contexts.

Another, much smaller portion of subsidies (9% or US$ 0,72 billion of a total of US$ 7.96 billion) is granted through direct government spending to support specific groups, based on social vulnerabilities or the power to pressure governments. This is what we witnessed in 2022, when subsidies were granted to truck drivers (Aid for Independent Cargo Transporters) and to vulnerable social groups (Gas Aid), with the latter being maintained in 2023.

The difficulty in reversing such subsidies is related to the high sensitivity and difficulty in changing the relative prices of the aforementioned fuels, whether due to the pressure exerted by specific groups, the general antisocial nature of the measure or the impacts of these increases on the rest of the economy.

In summary, short-term subsidy reform does not appear to be economically, socially and politically viable. The medium-term solution involves the energy transition process in key sectors, such as freight transport, in addition to solutions linked to quality urban mobility that are not dependent on fossil fuels.

Production subsidies, in turn, involve issues of a different nature, as well as other actors resistant to their review.

Part of the aforementioned subsidies is linked to the **use of fossil fuels by the electricity sector** (Fuel Consumption Account, Mineral Coal, Thermoelectricity and LNG). It is a part that represented 36.06% of production subsidies (US$ 3.02 billion of a total of

US$ 8.38 billion in 2023). It turns out that almost all of this amount was paid directly by consumers, through their electricity bill. In other words, the subsidy reform involves issues related to energy planning, which must advance more quickly to reduce dependence on the use of fossil fuels.

In the same direction, four paths must be followed: I) accelerate the phasing out of coal-based thermoelectric generation, blocking extensions of the incentive, which ends in 2027; II) ensure the energy transition in the Brazilian Amazon, with the progressive relinquishing of diesel-based generation in isolated systems and with the construction of renewable solutions for remote communities; III) prevent the installation of new natural gas-fueled thermoelectric plants into the system; and IV) reform the Energy Development Account (CDE), so that "*subsidies cease to be allocated to the Energy Development Account (CDE) and are transferred to the National Treasury and paid for by all taxpayers*."

Finally, most **production subsidies are directly related to oil exploration in Brazil**. In 2023, these corresponded to US$ 5.31 billion out of a total of US$ 8.38 billion, that is, 63.46% of the category's total. These are subsidies that correspond to tax waivers granted to oil and gas producers, with Petrobras being the biggest beneficiary, but not the sole one. In 2023, 267 companies in total were qualified by Repetro, with waivers totaling US$ 3.71 billion.

Although the government signals its intention to review, in general, inefficient subsidies and incentives, subsidies for fossil fuels have been deemed a taboo subject. In addition to the resistance to including subsidy reform as part of its agenda in the G20 Presidency, in 2023 there was a missed opportunity to begin the review of Repetro in the Tax Reform implementation agenda.

Along with the urgency of reviewing fossil fuel subsidies as a policy instrument to address the progressive elimination of the supply of fossil fuel energy sources, the effects of waivers on public finances must be added to the debate. The billion-dollar waivers granted to such sources affect the Federal government's revenue and, consequently, its ability to deliver public policies, including those that are increasingly necessary for the country to adapt to climate change.

However, for the debate to mature, it is important to recognize that subsidy reform cannot advance as an exclusively domestic agenda. Both from the point of view of global supply and demand, as well as from the point of view of competition between producing countries and, above all, of emissions, this is a global dynamic and problem, deeply marked by asymmetries.

Given the complexity of the issue and, at the same time, the climate urgency, in addition to the inevitable collapse of the fossil fuel industry, the Brazilian government must face the challenge of refining its economic and political calculation. A more strategic view of the problem of subsidies for oil and gas exploration would help to situate the reform

agenda from an international political perspective, facilitated by its leading role in the global scenario of climate multilateralism.

What is expected of the Brazilian government, in short, is that it recognizes the problem of production subsidies as a **domestic problem whose solution requires global reform**. The challenge of situating the reform agenda where it should be addressed (on the international level) does not dispense with the need to carefully and officially assess the dimension of the subsidies granted to producers. On the contrary, it is a "homework" that contributes to the issue being addressed by Brazil with more authority and legitimacy on the international agenda, which will have the Amazon as a world stage at COP 30.

Recommendations

In face of the aforementioned scenario, which is complex and challenging, we seek to underscore in this edition that, if the subsidies are distinct, then the paths to reform are equally so. In the case of subsidies for oil exploration, the main recommendations to the Brazilian government are presented as follow.

- Increase **active transparency *regarding the various tax incentives*** that benefit companies in the oil and gas sector.
- Carry out a study to **calculate the effective tax burden of the oil and gas sector**, with a comparison of the effective tax burden of countries with the greatest weight in global oil production.
- Based on its leading role in the G20 and COP 30, addressing the **challenge of global reform of fossil fuel subsidies** as a central measure to accelerate the energy transition is a fundamental measure to expand countries' fiscal capacity to finance, without debt, their growing spending on mitigation, adaptation, losses and damages.

2. Highlights and main findings: subsidies for renewable sources

Over the last decade, renewable sources (especially wind and solar photovoltaic) have been gaining ground in the Brazilian electrical matrix: in 2014, wind represented 3.65% of the matrix, while photovoltaic represented 0.01%. In 2023, these percentages were, respectively, 12.70% and 16.75%. The growth occurred despite an installed capacity with a large contribution from hydroelectric plants, which reduces the need for supply from thermoelectric plants, especially in periods of water scarcity.

The scalability of renewable sources in the country is materializing, among other reasons, as a result of federal subsidies, which, to a large extent, are paid by electricity consumers themselves, through tariff charges. This happens thanks to the Incentive Program for Alternative Electricity Sources (Proinfa) and the Energy Development Account (CDE), which includes, among other expenses, the subrogation of the Fuel Consumption Account (CCC), the More Light for the Amazon Program (MLA), the support for incentivized sources and part of the incentive for distributed generation. According to the National Electric Energy Agency (Aneel), over the last five years, consumers have been penalized with an increase in the cost of CDE, which went from US$ 4.04 billion in 2019 to US$ 6,99 billion in 2023, which is equivalent to a nominal increase of 73%.

This scenario has a direct impact on the distribution and amounts of subsidies for renewable sources. Its growth in 2023 is due to the expansion of distributed generation values, which went from US$ 2.32 billion in 2022 to US$ 3.22 billion in 2023. As for the consumption side, there was a slight reduction, which, in this case, is explained by the gradual changes throughout the year in the rates of hydrated ethanol.

It is important to point it that the absolute majority of incentives for the production of renewable sources (US$ 2.89 billion) come from charges whose values are included in the electricity tariff itself, that is, it is the consumer who is paying, through Proinfa, distributed generation, incentivized sources, MLA and subrogation of the CCC. Thus, the total subsidies paid by electricity consumers in 2023 represent 80% of the amount of subsidies for renewables.

The figures gathered here show that the growth of incentives for the renewable electricity sector in Brazil has been funded by electricity consumers and, additionally, that renewable sources for generating electricity no longer require as many subsidies. However, on the demand side, efforts are still needed, including fiscal ones, so that we can advance the energy transition throughout its entire chain.

Finally, it is important to recognize that Brazil's historical experience in granting incentives without social and environmental safeguards and counterparts contributes to the violation of human rights. Despite robust environmental legislation, it is known that

the country has chronic deficiencies in the implementation of social, environmental and socio-territorial policies, and that environmental licensing is very fragile. As a result, large-scale and high-impact projects always lead to rights violations. It is no different today with large wind and photovoltaic projects.

Therefore, it is urgent to deepen and broaden the debate on safeguards for the renewable energy sector, based on the understanding that increasingly greater incentives are granted to such sources, boosting the sector's profits, which leads to numerous violations of the rights of the communities affected by the projects. Although the energy source is renewable, the production model reproduces the social and environmental problems of any enterprise in Brazil.

It is essential that public authorities act as inducing and regulating agents, in order to avert the perpetuation of injustices on behalf of energy transition.

Recommendations

For Brazil to move towards an energy transition with socio-environmental justice, it is a challenge to reconcile the guarantee of human rights, the eradication of energy poverty and the preservation of the environment. Subsidies for renewable sources should serve as an instrument to corroborate such issues, and not be yet another mechanism that contributes to perpetuating and aggravating social problems for the sake of energy transition. Furthermore, the aforementioned tax incentives should not further penalize the electricity consumer. Therefore, we recommend that the Brazilian government implement the measures presented below.

- Promote greater transparency in relation to subsidies for renewable sources, particularly with regard to the methodology for calculating tariff charges.
- Separate, in calculation methodologies and in the disclosure of information, subsidies for fossil fuels from subsidies for renewables. To achieve this, Aneel needs to adjust its Subsidiometer methodology.
- Implement a public policy for energy transition with social justice that has public resources from oil revenues as one of its sources of financing. This way, the costs would no longer be borne by electricity consumers, through tariff charges.

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