

# Increasing the Acceptance of Energy Subsidy Reforms: Behavioral Insights for Latin America and the Caribbean

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## Executive Summary

Energy subsidies are widely used across the globe, with staggering figures that reach trillions of dollars each year. The International Monetary Fund (IMF) estimates that energy subsidies corresponded to, on average, 4.7% of Latin America and Caribbean (LAC) countries' GDP in 2021 (Parry, Black, & Vernon, 2021). However, besides much of the public resources, non-focalized subsidies do not necessarily address affordability challenges experienced by the most vulnerable families.

In addition, non-focalized energy subsidies create a series of distortions that often have negative environmental and social consequences. For instance, by artificially reducing prices, non-focalized energy subsidies can induce overconsumption of energy resources in some groups and increase greenhouse gas emissions. Therefore, removing non-focalized energy subsidies could help improve fiscal balance, promote better use of energy resources, and reduce the emission of air pollutants.

Nevertheless, citizens are very resistant to energy subsidy reforms since subsidies confer salient and tangible individual benefits in the form of cheaper electricity and fuel prices. To address this conflict, the current research examined what strategies governments should use to improve and amplify communication about energy subsidy reforms and increase consumer comprehension and support of such messages. Specifically, based on an experimental study conducted across 11 LAC countries, we investigated people's knowledge and normative views about energy subsidies and experimentally tested interventions designed to increase consumer acceptance of energy subsidy reforms.

Our findings provide clear evidence that people display a considerable lack of knowledge about the existence of energy subsidies, especially fuel subsidies and, to a lesser extent, electricity subsidies. Specifically, 44% of participants failed to indicate whether their countries subsidized electricity, and 64% failed to identify whether their countries offered fuel subsidies. Furthermore, citizens displayed a generalized desire to increase subsidies on electricity and fuels in their respective countries—by 26 percentage points in both cases. Finally, in the control condition of the experiment, where no communication strategy was used, there was an overwhelming unwillingness to remove energy subsidies across all

population subgroups. These findings shed light on the fact that implementing energy subsidy reforms might be a challenging and potentially unpopular task, as people's preferences are at odds with removing such benefits.

However, the results from our experiment also revealed that it is possible to increase people's willingness to remove energy subsidies. On the one hand, communication strategies that focus on the negative consequences of subsidies on public finances, the environment, or distributive justice were particularly effective, especially the latter. On the other hand, communication strategies that emphasize possible benefits of energy subsidy reforms, such as benefits for lower-income families (through welfare programs) and the population at large (through investments in healthcare, education, and public safety), did not work effectively. Put differently, while framing energy subsidies as intrinsically negative seems to prompt more positive attitudes toward energy reforms, highlighting the potential alternative uses of the money obtained through these reforms does not sway people's opinions in the same way.

Our results also provide clarity about how important it is to promote awareness campaigns about the existence of energy subsidies. The results underscore how information about energy subsidy reforms is displayed can significantly impact support for a possible energy subsidy reform. Other insights from the study included the observation that providing citizens with complete information produced very positive effects, but summarizing information reduced effectiveness. It is important to provide a more detailed explanation of the energy subsidy reform to increase awareness and possible support. Ultimately, these effects were consistent across different energy subsidies and countries.

This paper provides tangible approaches for policymakers to improve and amplify communication about energy subsidy reforms, increasing consumers' comprehension and support. Most consumers do not know about the existence of subsidies, and in the absence of information, they wish to increase those subsidies. However, the support for the energy subsidy reform can significantly increase when consumers are made aware of the possible negative consequences of non-focalized subsidies on public finances, the environment, and especially distributive justice. Consequently, energy subsidy awareness campaigns that focus on the negative outcomes of subsidies are essential for nurturing the success of



possible energy subsidy reform and, in the bigger picture, improving energy services affordability in LAC.

## 1. Introduction

Energy subsidies are widely used across the globe, with figures in the trillions of dollars annually (Sovacool, 2017). The International Monetary Fund (IMF) estimates that energy subsidies corresponded to, on average, 4.7% of countries' GDP in Latin America and the Caribbean (LAC) (Parry, Black, & Vernon, 2021). Despite consuming plenty of public resources, energy subsidies create a series of distortions that often have negative environmental and social consequences. For instance, by artificially reducing prices, energy subsidies induce overconsumption of energy resources and increase greenhouse gas emissions and other air pollutants (Di Bella et al., 2015; Parry, Heine, Lis, & Li, 2014).

A chief motivation for implementing energy subsidies is ensuring that lower-income households have access to energy. Affordability of energy services is a particular issue in LAC (Carvajal et al., 2020). Although the LAC region presents an electricity coverage of 97% as of 2018, per capita, electricity consumption is one of the lowest globally (2,156 KWh per year). According to Carvajal et al. (2020), the low per capita electricity consumption is related to low appliances ownership and the lack of affordability of electricity services for lower-income households.

Implementing general energy subsidies has proven as inefficient due to its lack of good targeting (Feng & Wang, 2018). Wealthier households tend to capture most of the resources of non-targeted subsidy programs as they consume more energy in their daily lives (Granado, Coady, & Gillingham, 2012; Coady, Flamini, & Sears, 2015). Hence, most resources go to households that are not the focus of the energy subsidy program.

Removing non-focalized energy subsidies could not only help countries achieve more efficient use of energy and public financial resources but also promote a conscious use of resources due to higher prices; consequently, a reduction in greenhouse gas emissions could ensue (Schwanitz, Piontek, Bertram, & Luderer, 2014). This idea has gained momentum globally in the recent past (*G20 Leaders' Communique Hangzhou Summit*, 2016), allowing governments to address social inequities by freeing resources to be used in more powerful targeted energy subsidy programs. Removing subsidies is also tied to increasing investments to improve electricity service supply quality, better targeted, or

investments in areas such as healthcare and education (Coady, Parry, & Shang, 2018; Sovacool, 2017).

Nevertheless, citizens are very resistant to energy reforms since subsidies confer salient and tangible individual benefits in the form of cheaper electricity and fuel prices, and once introduced, subsidies tend to be difficult to remove (Commander, 2012). Indeed, experience has shown that attempts to implement energy reforms often trigger reactions ranging from widespread dissatisfaction (Atansah, Khandan, Moss, & Richmond, 2017; Di Bella et al., 2015) to violent upheavals (Natalini, Bravo, & Newman, 2020).

In this context, research has systematically investigated how governments can capitalize on favorable macroeconomic conditions and employ economic tools to make energy reforms more socially acceptable et al., 2020). Studies usually focus on the timing for implementing energy reforms and the design of compensation schemes, such as targeted cash transfers, to protect lower-income citizens from steep energy price increases. While understanding how to alleviate the negative effects of removing energy subsidies among vulnerable citizens possibly increases public support for energy reforms (Angel-Urdinola & Wodon, 2007; Savatic, 2016), evidence is still lacking about how to best communicate the removal of such subsidies. After all, policies with the exact same economic impact may be presented in distinct ways and, as a result, may prompt contrasting reactions among the public.

In this research, we conduct a highly powered, preregistered experiment across 11 countries in Latin America and the Caribbean to test the effectiveness of different strategies to increase public support for the removal of energy subsidies. Specifically, we examine what aspects should be emphasized when communicating energy subsidy reforms (e.g., government expenditure, environmental issues, distributive justice, benefits for the population at large, or benefits targeted at the poor) and whether the amount of information provided plays a role in swaying people's opinions. Using a survey-based approach within the same study, we also assess people's knowledge about energy subsidies and their normative views about such fiscal benefits. This research generates relevant information about people's knowledge and attitudes toward energy subsidies while also producing

insights for governments and policymakers on communicating energy reforms to the general public.

## **2.Communication Strategies for Successful Energy Reforms**

Implementing energy reforms has proven politically challenging (Inchauste & Victor, 2017; Skovgaard & Van Asselt, 2018), as subsidies tend to be viewed positively by citizens (Coady et al., 2018; Jain, Agrawal, & Ganesan, 2018; Salehi-Isfahani, Wilson Stucki, & Deutschmann, 2015; Vidican Auktor & Loewe, 2022). Research, however, suggests that it is possible to reduce public backlash in various forms.

According to previous findings, people should be more prone to accept energy reforms when: (a) macroeconomic conditions are favorable and fiscal pressure is significant (e.g., low inflation rate, solid periods of economic growth, fall in oil prices; Atansah et al., 2017; Di Bella et al., 2015; Kpodar and Imam, 2021; Marchán et al., 2011); (b) fluctuations in energy prices are low or moderate (Commander, 2012; Schaffitzel et al., 2020; Sovacool, 2017); (c) compensation packages are put in place to address potential losses incurred by the most vulnerable (e.g., increase in cash transfer programs, strengthen social protection systems; Coady et al., 2018; Feltenstein, 2017; Rentschler & Bazilian, 2017; Skovgaard & Van Asselt, 2018; Vogt-Schilb et al., 2019); and (d) the reform is implemented gradually (Monasterolo & Raberto, 2019; Rentschler & Bazilian, 2017).

Extant literature also proposes that effective communication is a central aspect for energy reform implementation (Al-Ojayan, Gaskell, & Veltri, 2020; Atansah et al., 2017; Carattini, Carvalho, & Fankhauser, 2017; Di Bella et al., 2015; Feltenstein, 2017; Inchauste & Victor, 2017; Nisbet, 2009; Rentschler & Bazilian, 2017; Schaffitzel et al., 2020; Skovgaard & Van Asselt, 2018). For instance, in Kuwait, behavioral interventions in the form of nudges were proposed – but not empirically tested – to (i) make government subsidies salient to citizens, (ii) activate social norms, and (iii) care for future generations (Al-Ojayan, Gaskell, & Veltri, 2020). Previous reports suggest that clear communication and messaging, creating online platforms to disseminate information about reforms, and ensuring public consultations may be effective in increasing public support for subsidy

removal (Skovgaard & Van Asselt, 2018). Finally, transparency and credibility are also suggested as important drivers for effective communication (Rentschler & Bazilian, 2017). Considered together, these results suggest that communication strategies may be effective in at least two important dimensions, not only helping increase preferences toward energy subsidy removal but also – critically -- increasing levels of awareness so that individuals are better informed that energy subsidies exist and represent an important government expenditure in their country.

When deciding how to communicate energy reforms, governments must first address citizens' levels of awareness related to energy subsidies, as discussed in the previous section. They must also address at least two main questions: What aspects of messaging should they focus on, and how should they provide information to citizens? Although there is no clear answer to either of these questions, some clear lessons emerge from the behavioral sciences literature. This research builds upon these lessons to develop different communication strategies to shed light on ideal communication content and best practices for sharing information.

*Content of Communication.* Effective communication strategies involving energy reforms should make the general public aware of the rationale for subsidy removal before its implementation. With this in mind, energy reforms can be justified either based on the negative consequences of general subsidies or the benefits obtained by their removal.

Among the negative aspects of energy subsidies, research has shown that they impose a massive burden on public finances, consuming a substantial amount of public resources (Coady, Parry, Sears, & Shang, 2017; Di Bella et al., 2015; Parry et al., 2021); induce overconsumption of energy resources, which ends up contributing to environmental degradation (Coady et al., 2018; Parry et al., 2014; Sovacool, 2017); and often have detrimental consequences when it comes to distributive justice, as the poor are not necessarily those who experience the greatest fiscal benefits (Arze del Granado et al., 2012; Couharde & Mouhoud, 2020; Feltenstein, 2017; Vogt-Schilb et al., 2019). For instance, recent studies in LAC countries have shown that each US\$12 spent by governments on subsidies only US\$1 has been transferred to to 20% of the poorest households (Jain, Agrawal, & Ganesan, 2018). Under serious financial constraints,

governments frequently need to cut the budget in areas such as health and education or increase taxation when cuts are not enough to achieve economic equilibrium (Yépez-García & Dana, 2012; Glomm & Jung, 2015).

On the other hand, one could also emphasize the potential benefits that freeing up resources would bring to society (Klenert et al., 2018; Schaffitzel et al., 2020; Schwanitz et al., 2014; Vogt-Schilb et al., 2019). Governments freed from subsidies could better mitigate deficits and sovereign debt (Edenhofer et al., 2015; Jakob et al., 2018), thereby reducing distortionary taxes paid by citizens especially from developing countries (Jakob et al., 2018; Salehi-Isfahani et al., 2015). In Ecuador, for instance, a recent study suggests that if all energy subsidies are removed and if cash transfer programs, such as the *Bono de Desarrollo Humano*, are increased by US\$46 per month, the net income of the bottom quintile would rise by 9%, and the deficit could be reduced by US\$1.3 billion (Schaffitzel et al., 2020).

Past evidence shows numerous negative aspects of energy subsidies and how beneficial their removal could be. Given this, it is crucial for policymakers to select the most suitable information and tailor communication strategies that effectively reach citizens. Given that people have rather distinct attitudes toward welfare programs, with some supporting and others opposing them (Blekesaune, 2007; Blekesaune & Quadagno, 2003; Busemeyer, Goerres, & Weschle, 2009; Hasenfeld & Rafferty, 1989), we argue that it is important to distinguish benefits that are targeted at the poor from benefits that might improve conditions of society as a whole.

In this research, we vary the communication content by testing the effectiveness of strategies that emphasize negative (i.e., government expenditure, environmental issues, distributive justice) or positive (i.e., benefits for the population at large, benefits targeted at the poor) aspects energy subsidies. The behavioral sciences literature has systematically shown that people are particularly sensitive to negative information (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Ito, Larsen, Smith, & Cacioppo, 1998; Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Carlston, 1989). Therefore, citizens should become especially prone to accept energy reforms when confronted with information that emphasizes the negative consequences of subsidies relative to messages

that highlight the benefits obtained via subsidies' removal. Specifically, we hypothesize that individuals will display higher acceptance for energy subsidy removal when presented with negative (vs. positive) consequences of subsidies.

*Display of Communication.* Policymakers must decide on the amount of information to be provided to citizens: Should they provide complete information or offer summarized information that focuses on main aspects without giving much attention to the details, even though those details are sometimes very relevant? Although economic theory and intuition predict that more information invariably leads to better decision-making, influential choice models suggest otherwise (Simon, 1955, 1979, 1986). Theoretical speculations and empirical evidence in the behavioral sciences literature show that the amount of information can be detrimental to decision making, as it might impose an overwhelming cognitive burden (Eppler and Mengis, 2004; Jacoby, 1984; Lurie, 2004). Similar findings are observed when people are offered many alternatives; a phenomenon referred to as choice overload (for a meta-analytic review, see Scheibehenne et al., 2010). We will assess the effectiveness of offering full information or summarized information in swaying people's opinions about energy reforms to assess these competing possibilities. Although there is no test explicitly comparing these strategies in the literature, analyses of previous reforms and reform attempts suggest that providing households with complete, detailed information about the subsidy reform could favorably shape attitudes toward energy subsidies (El-Katiri & Fattouh, 2017; Savatic, 2016; Vagliasindi, 2013).

Despite the evident consensus regarding the need for communication to remove energy subsidies effectively, there is no research comparing the relative effectiveness of different communication strategies. We address this gap through this investigation and in doing so, provide tangible orientations for policymakers about how they can communicate energy reforms more effectively.

### **3. Method**

This study seeks to address the research gap on different communication strategies to remove energy subsidies from the gap, and consequently seeks to provide tangible guidance to policymakers on how they can communicate energy reforms more effectively.

With this purpose, an behavioural experiment was developed to understand awareness about the existence of subsidies on electricity and fossil fuels in the selected countries and how consumers react to the possibility of subsidy removal using different communication mechanisms.

This section describes the methodology behind the survey that was carried out. First, it presents how the survey sample was constituted and, then, how the procedure was structured to answer the research questions.

#### **2.1 Sample**

To investigate our main hypotheses, we conducted an experiment that relied on a between-subjects design with eight conditions (control vs. public finances vs. environment vs. distributive justice vs. general benefits vs. benefits to the poor vs. full information vs. full information summarized). Following recent trends in behavioral research (Palan & Schitter, 2018; Peer, Brandimarte, Samat, & Acquisti, 2017), participants were recruited via an online subject pool called Offerwise. Research has shown that experiments with participants sampled from such online pools lead to similar results when compared to other traditional sampling strategies (e.g., Amir et al., 2012; Crump et al., 2013; Horton et al., 2011; Litman et al., 2017; Paolacci et al., 2010; Suri & Watts, 2011). Participants received a link to fill out a short questionnaire on social issues in our study. Importantly, we did not highlight that the study focused on energy subsidies to avoid attracting more attention from respondents who were particularly sensitive to this topic.

We recruited participants from 11 countries in Latin America and the Caribbean: Argentina, Bolivia, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, and Paraguay. These countries were selected based on their energy subsidy policies during the data collection phase. Specifically, we selected regions



where: (a) energy subsidies were in place for both oil products and electricity, and (b) these subsidies benefited the population at large—that is, the subsidies were not targeted at poor citizens only. According to the International Monetary Fund (IMF, 2018), all 11 countries subsidized both fuels and electricity representing on average 2.8% and 0.7% of the GDP, respectively (**Table 1**).

**Table 1. Participation of Subsidies in LAC**

<i>Countries</i>	<i>Nominal GDP in USD Billions (2017)</i>	<i>Oil Products' Subsidies (% in GDP)</i>	<i>Electricity Subsidies (% in GDP)</i>	<i>Petroleum + Electricity (% in GDP)</i>
<i>Ecuador</i>	\$ 104.30	5.3%	0.2%	<b>5.5%</b>
<i>Dominican Republic</i>	\$ 76.09	2.7%	2.1%	<b>4.8%</b>
<i>Mexico</i>	\$ 1,151.04	3.6%	0.9%	<b>4.5%</b>
<i>Colombia</i>	\$ 314.46	3.5%	0.5%	<b>4.0%</b>
<i>Panama</i>	\$ 61.84	3.1%	0.6%	<b>3.6%</b>
<i>Bolivia</i>	\$ 37.78	3.3%	0.3%	<b>3.6%</b>
<i>Guatemala</i>	\$ 75.62	2.9%	0.4%	<b>3.3%</b>
<i>El Salvador</i>	\$ 24.81	1.9%	1.2%	<b>3.1%</b>
<i>Honduras</i>	\$ 22.98	1.8%	1.1%	<b>2.9%</b>
<i>Argentina</i>	\$ 637.56	1.7%	0.6%	<b>2.4%</b>
<i>Paraguay</i>	\$ 38.94	0.7%	0.2%	<b>1.0%</b>
<i>Average</i>	\$ 231.40	2.8%	0.7%	<b>3.5%</b>

Source: Authors' design based on IMF data (2018).

To make sure that our sampling strategy reached both citizens who would and who would not be directly affected by subsidy removal, we made use of two quotas: (a) at least 70% of our sample paid at least part of the electricity bill in their households, and (b) at least 20% of the sample had a car or motorcycle.

To detect the expected effects in each region, even after removing participants who eventually failed to complete the measures of interest, we collected at least 520 valid observations per country. This sample was achieved after power calculations that suggested a sample size of approximately 512 participants. This sample would suffice to achieve .80 power to detect a medium effect size (Cohens'  $d = .50$ ; Cohen, 1992; Sawilowsky, 2009) using an alpha level of .05. By utilizing the calculations for power to detect the minimum detectable effect size (MDES), we avoided the possibility of conducting

an underpowered study and increased our chances of detecting an accurate estimate of the effect of our manipulations.

We originally recruited a total of 7,204 participants. We excluded participants who failed to report their willingness to remove energy subsidies (either the general energy measure or the measures focusing specifically on electricity and fuel subsidies) and/or did not indicate their preferred time to remove these subsidies. Three hundred eighty (380) participants (5% of the sample) were removed from the analysis following the preregistered exclusion criteria, yielding a final sample of 6,824 participants. **Table 2** summarizes the final sample size for each of the 11 countries with the percentage of the targeted quota questions. A complete sample description per country is available in Table A1 in Appendix 1. Although we made efforts to reach a sample with a wide range of ethnicities, socioeconomic backgrounds, and other demographics, we did not rely on a representative sample.

**Table 2. Sample Size by Country**

	Observations	Pays Electricity Bill (%)	Has Motor vehicle (%)
Argentina	881	89.9	77.5
Bolivia	520	88.3	58.7
Colombia	670	94.0	74.8
Dominican Republic	610	88.0	68.7
Ecuador	582	85.9	64.3
El Salvador	559	87.7	60.3
Guatemala	589	87.6	76.7
Honduras	576	86.3	69.1
Mexico	728	90.8	87.1
Panama	570	85.4	65.3
Paraguay	539	85.3	72.7
Total Sample	6,824	88.3	71.3

### 3.2 Procedure

We invited participants to take part in a study on social issues. The study took between 10 and 15 minutes to be completed. Participants were informed that this study

had academic and public policy purposes and focused on "opinions about energy subsidies, before they consented to participate.

The procedure followed three main steps<sup>1</sup>. In the first part of the study, participants responded to a few questions on their electricity consumption level and fuels. More importantly, they were probed about their knowledge about energy subsidies in their countries and then indicated their opinions concerning the desired level of subsidies. Since these questions preceded the experiment, they provided important insights into how well-informed people were about energy subsidies and to what extent they understood their normative views concerning this fiscal benefit. In addition, to make sure that all respondents understood the main topic of the study, participants were presented with a short explanation of what constitutes an energy subsidy before answering subsidy-related questions. After reading that text, they answered a few questions about their knowledge and normative views involving energy subsidies. Specifically, participants were asked whether electricity and fuels are subsidized in their respective countries (response options included: yes, no, I don't know).

Participants were presented with the experiment in the second part of the study.

Participants were randomly assigned to one of the eight experimental conditions. Those conditions focused on a different communication strategy to shape people's perceptions of energy subsidies.

The communication strategies were divided into four groups: (1) control condition, which contained only a text that informed participants that they receive energy subsidies in their countries; (2) texts that highlighted problems caused by energy subsidies to public finances, the environment, and distributive justice; (3) texts that emphasized the alternative uses of resources that were used to finance energy subsidies in terms of benefits targeted at the population at large (investments in healthcare, education, and public safety) or the poor (welfare programs); and (4) texts containing all the information described above, either complete or summarized. **Table 3** summarizes the experimental conditions (see Table A2 in Appendix 1 for a complete description of the manipulations).

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<sup>1</sup> The procedure is available at Appendix 2.

**Table 3. Experimental Conditions**

<b>Experimental Condition</b>	<b>Description</b>
Control Condition (N=861)	There are energy subsidies on electricity and/or fuels in your country.
Government Expenditure Condition (N=851)	(...) Eliminating these subsidies would help reduce public spending, reinvesting resources in other areas.
Environment Condition (N=849)	(...) Removing these subsidies would help address the negative impact on the environment by reducing energy consumption.
Distributive Justice Condition (N=856)	(...) Most of the money from these subsidies goes to wealthier citizens, as they consume more energy in their homes and more fuel in transportation.
Benefits Population Condition (N=864)	(...) The money previously used for subsidies could benefit the population through increased investments in public services (healthcare, education, public safety).
Benefits Poor Condition (N=847)	(...) The money previously used for subsidies could benefit poor citizens by increasing and creating new welfare programs.
All Information Condition (N=852)	<i>All information above in full.</i>
All Information Summarized Condition (N=844)	<i>All information above summarized and presented in bullet points.</i>

Note: Experimental conditions are fully described in Table A2.

Upon reading the assigned text, participants then filled in the main dependent variables. They indicated their opinion about the possible removal of energy subsidies in their countries on a scale of 1 (totally opposed) to 5 (totally in favor). Since participants in the control condition were only informed about the existence of energy subsidies in their countries, the average willingness to remove subsidies in this condition reflected people's baseline opinions about energy subsidy reforms. They were also asked to indicate how willing they would be to remove electricity and fuel subsidies in separate questions using a scale of 1 (extremely unwilling to remove) to 5 (extremely willing to remove). After indicating their attitudes toward the removal of such subsidies, participants then indicated when they preferred the removal of the subsidy to take place if it was carried out anyway (immediately, in 6 months, or in 12 months).

In the last part of the study, participants completed a resource allocation task, i.e., indicated their preferences concerning resource allocation after a hypothetical removal of

energy subsidies, and then filled out a sociodemographic questionnaire. Finally, participants were asked to indicate their preferences concerning the allocation of resources after a hypothetical removal of energy subsidies. To this end, they completed a tradeoff task where they reported the extent to which the government should "increase the amount received by needy families in income transfer programs"; "create a specific benefit for needy families to be used exclusively with costs related to electricity and fuels"; "increase investments in health, education, and public safety"; "create or expand projects related to environmental preservation and the development of sustainable energy sources"; or "use these features to keep public accounts balanced." In this task, participants had ten hypothetical coins to allocate among the different ends. We collapsed the cash transfer and in-kind benefits targeted at the poor because we did not identify systematic differences between these two types of welfare assistance programs.

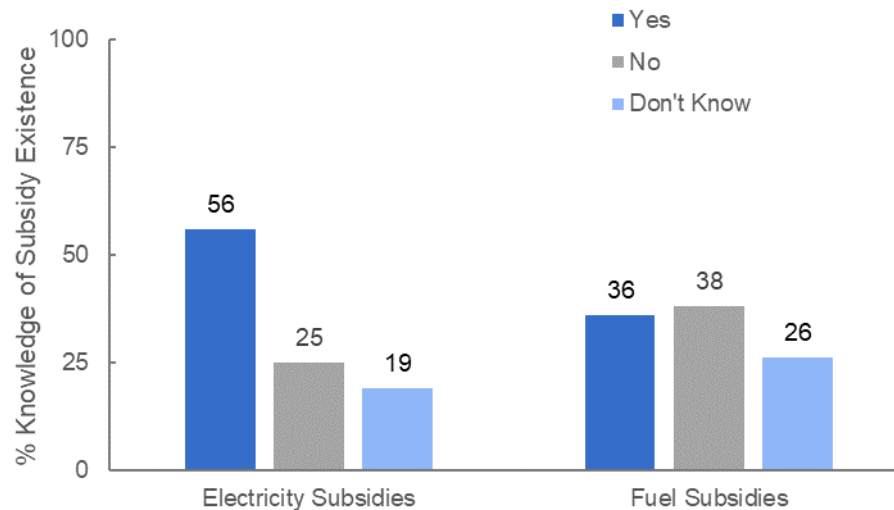
## **4.Results**

This section presents and discusses our results. First, we will present the results on Energy Consumption and Subsidy Awareness and Opinion, then the results of the experiment on how people behave in terms of approval of a subsidy reform according to the information and communication mechanism to which they are exposed, and finally, on the participants' resource allocation decision and sociodemographic profile.

### **3.1 Energy Consumption and Subsidy Awareness**

Forty-four percent of respondents either believed that there were no subsidies on electricity in their countries or indicated that they did not know the answer (**Figure 1**). The lack of knowledge was even more apparent when it comes to fuel subsidies. Sixty-four percent of respondents failed to indicate the correct answer. Citizens seem to know little about energy subsidies, even though such subsidies represent a relatively large proportion of the GDP.

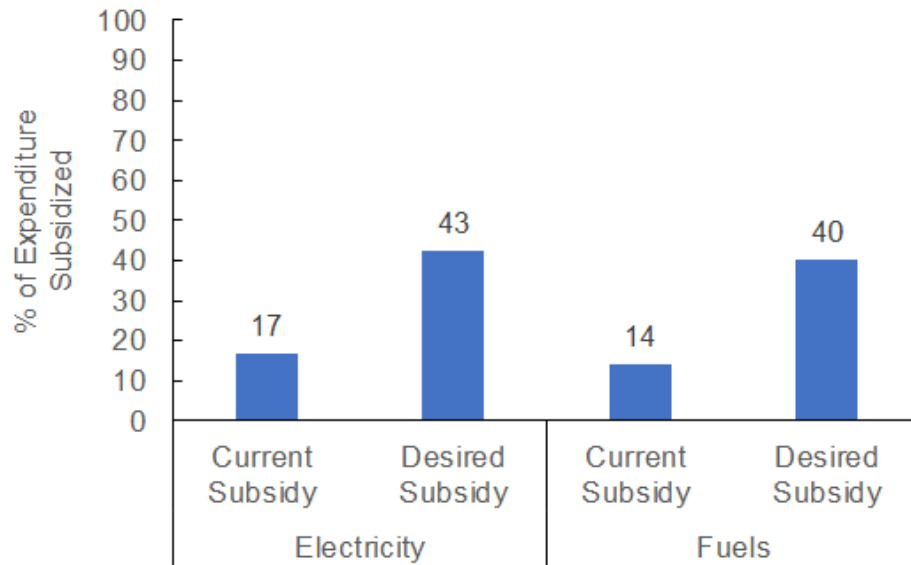
**Figure 1. Perceptions about the Existence of Energy Subsidies**



Participants were also asked to indicate how much of their electricity bill and fuel prices were subsidized in their countries on a scale ranging from 0% to 100% (including an "I don't know" option). They also indicated how much they believed these subsidies should ideally use the same scale. Results described in **Figure 2** suggest that people would like subsidies on both electricity and fuels to increase by approximately 26%. Such perceptions varied among countries with respect to perceived levels of subsidized electricity (min=7.3%; max=25.0%) and fuels (min=7.6%; max=18.2%), as well as the desired levels of electricity (min=35.9%; max=49.2%) and fuels (min=34.4%; max=43.0%) to be subsidized. Thus, people seem to see energy subsidies positively, as they would like to increase these fiscal benefits. Interestingly, we identified a weak to moderate correlation between current and desired levels of subsidies on both electricity ( $r=.22$ ) and fuels ( $r=.19$ ).

The findings described in this section shed light on challenges faced by policymakers when trying to implement energy reforms. How should policymakers communicate about energy subsidy removal when people would prefer to increase the size of subsidies? Our experiment was designed to answer this intriguing question.

**Figure 2. Perceived and Desired Levels of Energy Subsidies**



#### **4.2 Experiment**

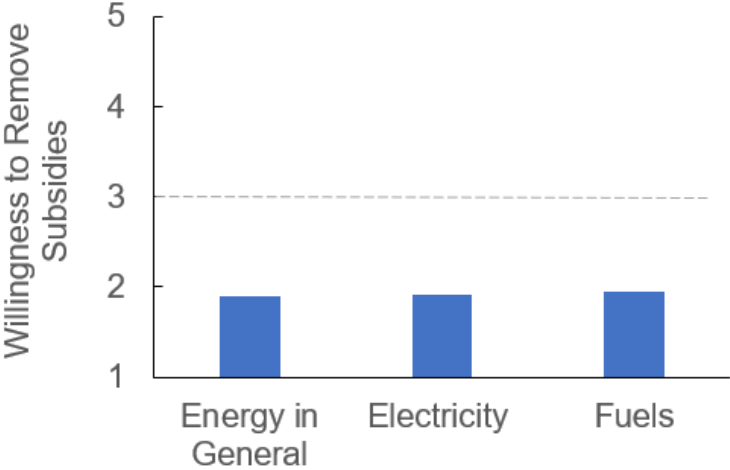
After completing the first part of the study, participants were randomly assigned to one of eight experimental conditions.

Before presenting answers to the other seven experimental conditions, it is important to analyze participants' answers exposed only to the control condition, in which the participants were only informed about the existence of energy subsidies in their countries. Those participants indicated their baseline opinions about energy subsidy reform – i.e., how willing they were to remove energy subsidies, and what preferred timing for such removal (defined in Methods, Page 14), without any additional information besides the existence of the subsidy in the country.

Figure 3 shows the average willingness to remove subsidies in this condition reflects people's baseline opinions about energy subsidy reforms. As **Figure 3** illustrates, participants in the control condition were unwilling to remove energy subsidies in general and specific subsidies on electricity and fuels. The fact that all the average scores were far below the scale midpoint—that is, the point of indifference between removing and not removing the subsidy—corroborates this finding (contrasts against 3.00:  $M_{\text{energy}} = 1.90$ ,  $t = 27.16$ ,  $p < .001$ ;  $M_{\text{electricity}} = 1.91$ ,  $t = 26.77$ ,  $p < .001$ ,  $M_{\text{fuels}} = 1.95$ ,  $t = 25.53$ ,  $p < .001$ ).

Interestingly, a paired-samples t-test revealed that people were willing to remove electricity subsidies as fuel subsidies ( $t = 1.52, p = .13$ ).

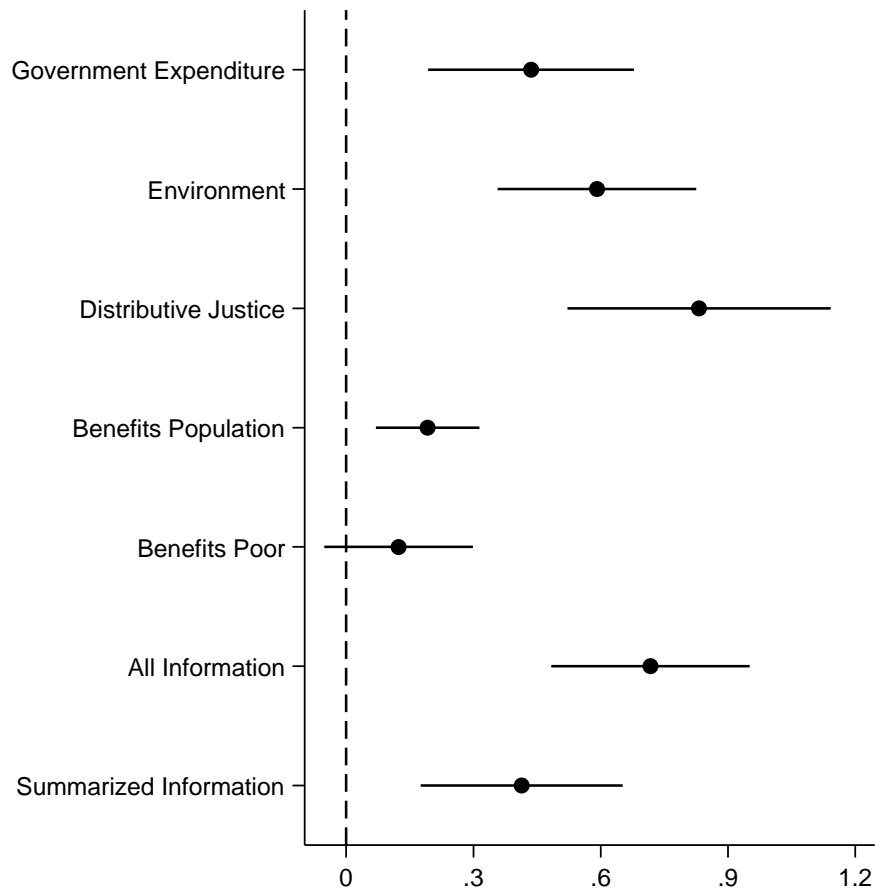
**Figure 3. Opinion on the Removal of Energy Subsidies of Participants Exposed Only to the Control Condition**



Given this generalized unwillingness to give up on energy subsidies, we then investigated the effectiveness of different communication strategies relative to the control condition. Specifically, we regressed willingness to remove subsidies on the seven experimental dummies (the control condition is the baseline) using an OLS model with standard errors clustered at the country level. We also accounted for country fixed effects. **Figure 4** depicts the results, and Table A3 in Appendix 1 provides the statistical details.



**Figure 4. Effect of Experimental Conditions on Support for Removal of Energy Subsidies**



All three strategies focusing on problems of subsidies (i.e., government expenditure, environment, and distributive justice) significantly increased people’s willingness to remove energy subsidies ( $\beta_{\text{government}} = .44, p < .001$ ;  $\beta_{\text{environment}} = .59, p < .001$ ;  $\beta_{\text{dist. justice}} = .83, p < .001$ ). Interestingly, the strategies focusing on alternative uses of resources produced weak or non-significant effects. While emphasizing benefits that the population at large may accrue from removing energy subsidies slightly increased support for energy subsidy reforms ( $\beta_{\text{benefit population}} = .19, p < .001$ ), emphasizing the benefits that the poor might experience did not influence people’s opinions about the policy ( $\beta_{\text{benefit poor}} = .12, p > .10$ ). Finally, providing complete information produced very positive effects ( $\beta_{\text{all information}} = .72, p < .001$ ), but summarizing information reduced its effectiveness ( $\beta_{\text{information summarized}} = .41, p$

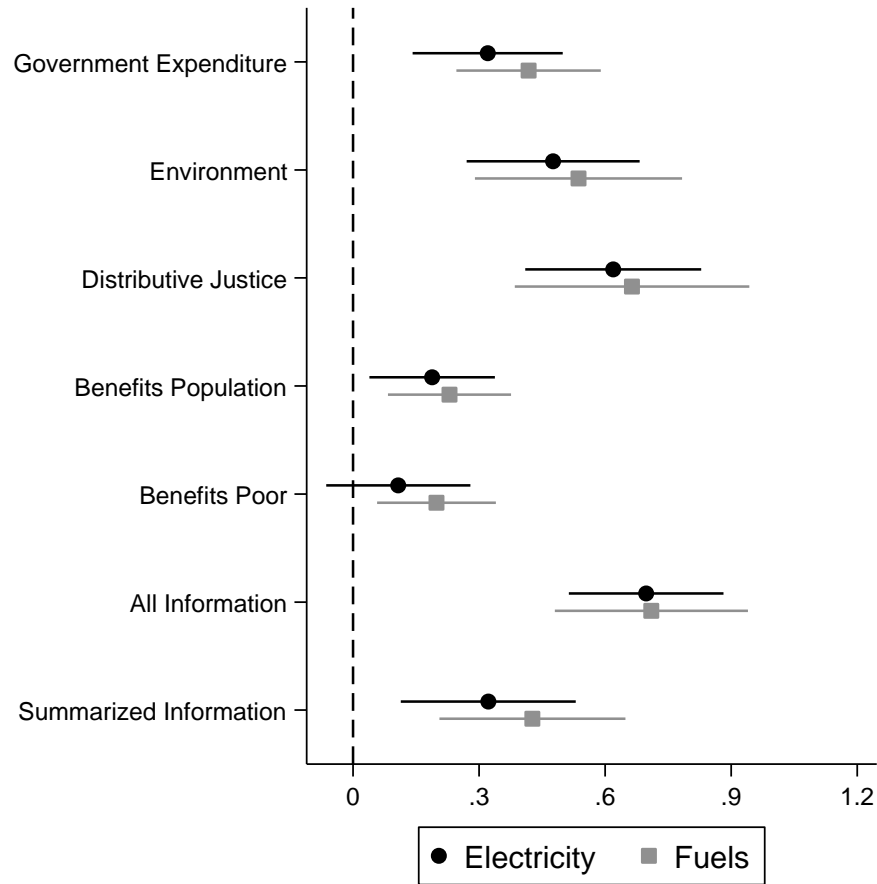
< .001). Importantly, results from complete vs. summarized information align with the previous literature that suggests that providing complete information about subsidy reform positively shifts individuals' views about energy subsidies (El-Katiri & Fattouh, 2017; Savatic, 2016; Vagliasindi, 2013). Results displayed in **Figure 4** are very consistent across countries (see Table A4 in Appendix 1).

Focusing on distributive justice and providing all information to participants worked particularly well relative to all other communication strategies. Although often used to promote support for public policy in general, emphasizing benefits that lower-income households and the general population may experience due to energy reforms does not seem to work effectively. Aspects that emphasize the subsidies as inherently problematic perform better than those that use the removal of subsidies as a way to get something better. This phenomenon might occur because people would not be willing to trade an established benefit for the promise of a future benefit, either because they oppose it or because it may not be a straightforward comparison between present energy-related benefits (i.e., subsidies) and future non-energy-related benefits (e.g., social assistance programs). Along similar lines, it might also be the case that people interpret welfare programs and investments in healthcare, education, and public safety as governmental obligations, not as benefits to be obtained via the removal of energy subsidies.

We then investigated whether these effects varied depending on the type of energy subsidy under consideration. We conducted the same methodology described above, but changed the dependent variable of interest to the removal of electricity or fuel subsidies. As **Figure 5** illustrates, the experimental conditions produced similar effects to those presented above (see Table A3 in Appendix 1). The only notable exception is that emphasizing benefits to the poor significantly increased participants' willingness to remove fuel subsidies ( $\beta_{\text{benefit poor}} = .20, p < .05$ ), a communication strategy that did not work for energy subsidies in general. Interestingly, the effect is slightly more positive for fuels than electricity, suggesting that opinions about the former might be more malleable than the latter. Along these lines, while there were no baseline differences in the average support for the removal of energy subsidies, as reported above, people became significantly more

willing to give up on fuel than electricity subsidies in the experimental conditions, as indicated by a paired-samples t-test ( $t = 9.27, p < .001$ ).

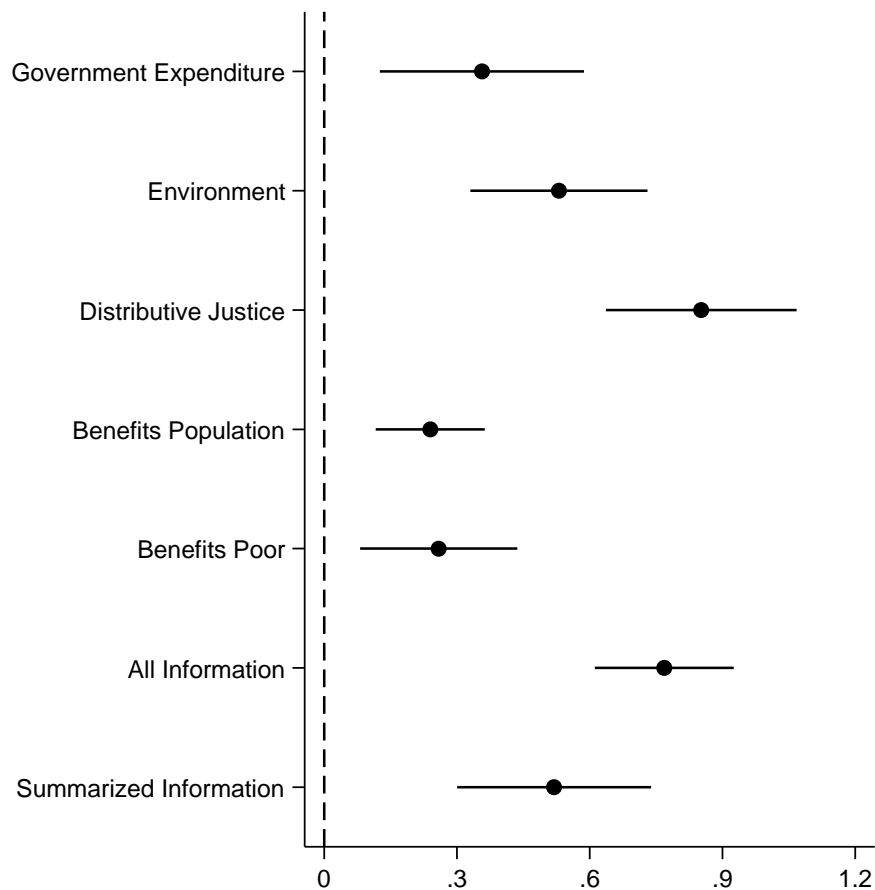
**Figure 5. Effect of Experimental Conditions on Support for Removal of Electricity and Fuel Subsidies**



Finally, we examined people's willingness to remove energy subsidies using a different approach: investigating people's preferences concerning when to remove them rather than directly asking how willing they would be for such benefits to be removed. The underlying rationale is that if people are more willing to give up energy subsidies in experimental conditions than in control conditions, they would also be willing to implement the subsidy more immediately. To test this possibility, we regressed time preferences concerning the removal of energy subsidies (1 = in 12 months, 2 = in six months, 3 = immediately) using an ordered logistic regression model with standard errors clustered at

the country level. We also accounted for country fixed effects. Again, as **Figure 6** illustrates, experimental conditions produced similar effects relative to those presented above (see Table A3 in Appendix 1). But this time, emphasizing benefits to the poor significantly shifted participants' preferences toward a more immediate subsidy removal ( $\beta_{\text{benefit poor}} = .26$ ,  $p < .001$ ), a communication strategy that did not work for energy subsidies in general.

**Figure 6. : Effect of Experimental Conditions on Support for Immediate Removal of Energy Subsidies**



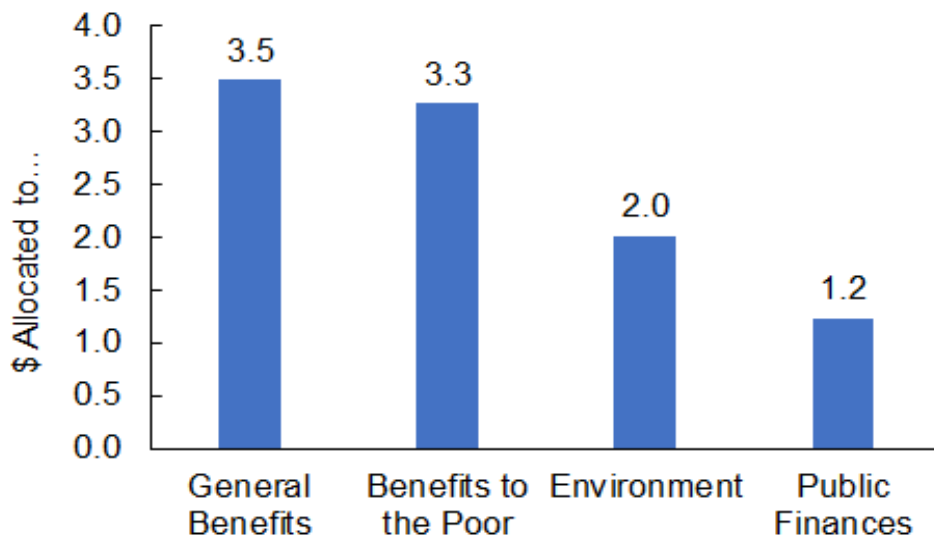
Once participants answered the experimental condition questions, they then proceeded to a manipulation check. Specifically, all participants except those assigned to the control condition read a brief excerpt extracted from the experimental condition to which they were assigned and were then asked to indicate whether that excerpt was present in the text they had just read. Most participants passed the manipulation check (81%), indicating that the manipulations worked as intended.

### 4.3 Resource Allocation Decision and Sociodemographic Profile

**Figure 7** sheds light on an interesting phenomenon: people directed most resources to welfare and health/education/public safety (poor and population at large), followed by environmental purposes and balancing public finances. This pattern might seem counterintuitive, as conditions emphasizing potential benefits that the poor or the population at large might accrue from energy subsidies' removal were the less effective pieces of information. Why then do people allocate more resources to these ends?

Although we have no direct evidence to answer this puzzling question, it is possible that people see these types of investments as the primary obligations of governments and therefore direct more resources to fulfill these goals – i.e., they direct more resources to lower-income households or the provision of services to the population at large, when compared to the environment and public finance expenditures. However, because they are seen as government expenditure obligations, emphasizing that the government could increase its budget on these grounds after removing subsidies does not push people to have more favorable views about energy subsidy reforms.

**Figure 7. Hypothetical Resource Allocation**



It is important to emphasize the differences across the questions reported in the previous section and the resource allocation task. While the former refers to how willing people would be for energy subsidies to be removed, participants are asked to assume that removal will be carried out in the resource allocation task. Thus, they should allocate the money. There is a fundamental difference between the two sets of questions that emphasize that preferences in terms of resource allocation reflect perceptions about governmental obligations and, as such, do not necessarily map into attitudes about energy reforms.

## **5. Conclusion and Policy Recommendations**

Although energy subsidies create distortions that often have negative environmental and social consequences, previous experience has shown that people tend to be very resistant to energy reforms (Commander, 2012). However, non-focalized subsidies do not necessarily address the affordability issue of energy services, which is one of the crucial challenges in the LAC region.

In addition, non-focalized energy subsidies create a series of distortions that often have negative environmental and social consequences. For instance, by artificially reducing prices, non-focalized energy subsidies can induce overconsumption of energy resources and increase greenhouse gas emissions. Therefore, removing non-focalized energy subsidies could help improve fiscal balance, increase energy affordability, promote better use of energy resources, and reduce the emission of air pollutants. This global commitment has gained momentum in the recent past.

To address this conflict, the current study examined what strategies governments should use to better communicate energy reforms to the public. Specifically, based on a highly powered experimental study conducted across 11 Latin American and Caribbean countries, we investigated people's knowledge and normative views about energy subsidies. We experimentally tested several interventions designed to increase the acceptance of energy subsidy reforms.

Our findings provide evidence that people display a significant lack of knowledge about the existence of energy subsidies, especially those applied to fuels and, to a lesser extent,

those involving electricity. Specifically, 44% of participants either did not know or reported not having electricity subsidies in their countries, against 64% for fuel subsidies. Further, citizens have a generalized desire to increase subsidies in their respective countries. Finally, in the experiment's control condition, where no communication strategy was used, there was an overwhelming unwillingness across all population subgroups to remove energy subsidies. These findings shed light on the fact that implementing energy subsidy reforms might be challenging and requires proper design.

The results from our experiment also revealed that it is possible to increase people's willingness for energy subsidies to be removed. Communication strategies that focus on the negative consequences of subsidies to public finances, the environment, or distributive justice were particularly effective—especially the latter. However, while emphasizing benefits is often used to promote support for public policy in general, focused on using the same funding to support focalized welfare programs and other universal public policies impacting the population at large (investments in healthcare, education, and public safety), this strategy did not work as effectively. Put differently, while framing energy subsidies showing negative impacts seems to prompt more positive attitudes toward energy reforms, highlighting potential alternative uses of financial resources obtained through these reforms did not sway people's opinions.

That result may be explained by the fact that people are particularly responsive to negative versus positive information, as widely documented in the behavioral sciences literature (Baumeister et al., 2001; Ito et al., 1998; Peeters & Czapinski, 1990; Rozin & Royzman, 2001; Skowronski & Carlston, 1989). Complementary explanations include the possibilities that: (a) people might not be willing to trade an established benefit—the energy subsidy—for the promise of a future gain because they may be risk-averse (Holt & Laury, 2002; Pratt, 1964), or they may not be willing to trade current energy-related benefits to non-energy-related benefits such as welfare programs or programs targeted to the poor, and therefore do not anticipate any benefits from the positive framing strategy; or (b) citizens interpret welfare programs and investments in healthcare, education, and public safety as governmental obligations, not as benefits to be obtained via the removal of energy

subsidies; or (c) heterogeneous views about welfare, with many being opposed to it – i.e., attitudes toward welfare programs may vary within and between countries.

Our results also provide clear guidance on conveying information about energy subsidy reforms. Although economic theory and intuition predict that more information invariably leads to better decision-making, evidence in the behavioral sciences literature shows that the amount of information can be detrimental to decision making, as it might impose an overwhelming cognitive burden on stakeholders (Eppler & Mengis, 2004; Jacoby, 1984; Lurie, 2004). In this study, providing citizens with complete information produced very positive effects, but summarizing information reduced effectiveness. This means that a broader explanation of the impact of energy subsidies is important. These effects were very consistent across different energy subsidies and countries.

Although our findings provide important insights on how to convey energy reforms better, some intriguing questions remain. First, we investigated how the content of information influences attitudes toward energy reforms, but there is ample evidence that the endorser of the message (e.g., a Republican or Democrat politician; Cohen, 2003; Van Boven, Ehret, & Sherman, 2018) also influences reactions to identical messages. Future work might explore whether and how interventions presented in this research are affected by the endorser of the reform.

Further, even though our results revealed that providing complete information to people led to more positive results than offering summarized information, we relied on a context in which participants paid full attention to the study. Further investigation on how to best display information in environments with varying levels of distraction might provide important insights on the importance of the full information strategy across contexts or reveal that this strategy is more effective in contexts with low distraction only.

In addition, it is important to highlight that this study relied on a self-reported measure to assess attitudes toward energy subsidy removal. Although self-reported data correlates positively with actual behaviors (Mosleh, Pennycook, & Rand, 2020), further investigation is warranted regarding the effectiveness of interventions in a context that addresses the personal cost.



Finally, to summarize, non-focalized energy subsidies can have a high cost and externalities and do not necessarily address the improvement of affordability of energy services to the most vulnerable households. That is a key issue in LAC, considering the efficiency of public policy expenditure, the sector's sustainability (both environmentally and financially), and how regressive some universal subsidies can be in a society with high inequality. Energy subsidy reforms are needed, but policymakers typically encounter great resistance from the population.

This paper provides tangible orientations for policymakers to improve communication about energy subsidy reforms, increasing consumer comprehension and support. Support for energy subsidy reform can increase significantly, especially if there is a energy subsidy campaign highlighting to consumers the possible negative consequences of non-focalized subsidies to public finances, the environment, and especially distributive justice. Consequently, awareness campaigns about energy subsidies that focus on their negative outcomes are essential for supporting the success of an energy subsidy reform focused on improving energy service affordability in LAC.

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## Appendix 1: Additional Tables

Table A1: Sociodemographic Characteristics

	Argentina	Bolivia	Colombia	Dominican Republic	Ecuador	El Salvador	Guatemala	Honduras	Mexico	Panama	Paraguay	Total
<b>Gender</b>												
Male	47.5%	45.7%	40.1%	39.5%	36.7%	39.1%	44.7%	39.2%	37.0%	36.3%	47.7%	41.3%
Female	51.8%	54.1%	59.8%	59.6%	63.3%	60.7%	55.3%	60.4%	62.9%	63.3%	51.9%	58.4%
Other	0.7%	0.2%	0.2%	0.9%	0.0%	0.2%	0.0%	0.4%	0.1%	0.4%	0.4%	0.3%
<b>Race</b>												
White	66.0%	13.3%	41.2%	18.4%	7.2%	21.0%	13.0%	18.3%	24.6%	29.1%	39.6%	28.5%
Black	2.0%	0.8%	5.0%	18.0%	2.7%	2.9%	0.4%	2.6%	1.2%	10.2%	2.6%	4.3%
Asian	0.7%	0.4%	0.5%	0.5%	0.4%	0.2%	0.2%	0.0%	0.4%	0.9%	0.4%	0.4%
Mixed	23.8%	71.9%	39.0%	48.2%	85.1%	55.1%	72.3%	67.6%	58.7%	50.4%	50.1%	54.8%
Indigenous	1.1%	8.4%	2.4%	4.5%	4.0%	5.8%	9.2%	5.9%	7.0%	4.4%	1.2%	4.7%
Other	6.5%	5.1%	12.0%	10.4%	0.7%	15.0%	4.9%	5.7%	8.1%	5.0%	6.1%	7.3%
<b>Marital Status</b>												
Married	38.5%	33.2%	44.8%	35.7%	34.2%	36.6%	41.8%	43.2%	58.7%	44.1%	20.4%	39.9%
Divorced	8.6%	7.6%	7.1%	5.9%	7.6%	4.4%	5.1%	5.3%	7.1%	4.3%	4.4%	6.3%
Widowed	1.4%	1.0%	1.1%	1.1%	1.4%	1.3%	1.3%	0.0%	1.0%	0.9%	1.0%	1.1%
Single	51.4%	58.2%	47.0%	57.3%	56.8%	57.6%	51.8%	51.5%	33.2%	50.7%	74.1%	52.8%
<b>Age (Mean, SD)</b>	35.2 (10.6)	30.3 (8.4)	33.1 (9.9)	29.5 (7.9)	30.6 (9.3)	29.4 (8.3)	30.0 (8.6)	30.4 (8.3)	33.1 (9.5)	32.2 (10.2)	28.8 (8.7)	31.4 (9.4)
<b>Income (Mean, SD)</b>	14.5 (4.0)	10.3 (5.1)	12.6 (4.6)	12.0 (4.7)	10.8 (5.0)	10.8 (4.2)	13.1 (4.6)	12.9 (4.6)	14.1 (4.0)	11.5 (5.0)	10.6 (4.8)	12.3 (4.8)
<b>Subjective SES (Mean, SD)</b>	5.0 (1.8)	4.8 (1.6)	4.2 (1.7)	4.6 (1.8)	4.8 (1.7)	4.5 (1.7)	4.8 (1.5)	4.5 (1.6)	5.2 (1.6)	4.8 (1.5)	4.6 (1.9)	4.7 (1.7)
<b>Education (Mean, SD)</b>	5.1 (1.2)	5.4 (1.0)	5.5 (1.1)	5.1 (1.2)	5.2 (1.1)	5.0 (1.2)	5.1 (1.1)	5.0 (1.2)	5.7 (0.7)	5.2 (1.2)	5.1 (1.2)	5.2 (1.1)

Note: Income was measured using a 17-point scale extracted from the 2018 LAPOP survey. Each bracket is composed of a specific income range and currency, depending on the country. Subjective SES was measured using a 10-point scale of relative standing vis-à-vis other people in society (1 = bottom, 10 = top). Education was measured using an 8-point scale, ranging from 1 (incomplete primary education) to 8 (doctoral degree).

Table A2: Complete Description of the Experimental Conditions

Experimental Condition	Description
Control (N=861)	There are energy subsidies on electricity and/or fuels in your country.
Government Expenditure (N=851)	There are energy subsidies on electricity and/or fuels in your country. The value of these subsidies is around \$ X, which represents about X% of the GDP (the sum of all wealth produced in the country). Therefore, eliminating subsidies would help reduce public spending, allowing these resources to be reinvested in other sectors.
Environment (N=849)	There are energy subsidies on electricity and/or fuels in your country. Subsidies increase the consumption of electricity and fuels, which harms the environment. Removing these subsidies would help address this negative impact by reducing energy consumption.
Distributive Justice (N=856)	There are energy subsidies on electricity and/or fuels in your country. Most of the money from these subsidies goes to wealthier citizens, precisely those with more resources. That is because wealthier people consume more energy in their homes and more fuel in transportation.
Benefits Population (N=864)	There are energy subsidies on electricity and/or fuels in your country. The money previously used for subsidies could benefit the population at large through increased investments in services such as health (new equipment and hospitals), education (construction of new schools), and public safety.
Benefits Poor (N=847)	There are energy subsidies on electricity and/or fuels in your country. The money previously used for subsidies could benefit poor citizens by increasing the size of the aid of existing welfare programs or creating specific programs so that these families have access to cheaper energy.
All Information (N=852)	There are energy subsidies on electricity and/or fuels in your country. The value of these subsidies is around \$ X, which represents about X% of the GDP (the sum of all wealth produced in the country). Therefore, the removal of subsidies would help improve public finances. In addition, subsidies increase the consumption of electricity and fuels, which harms the environment. Removing these subsidies would help address this negative impact by reducing the consumption of natural resources. Finally, most of the money from these subsidies goes to the richest citizens, particularly those with greater purchasing power. That is because the richest consume more energy at home and more fuels in transportation. The money previously used for subsidies could benefit the population at large through increased investments in services such as health (new equipment and hospitals), education (construction of new schools), and public safety. Alternatively, this money could benefit poor citizens by increasing the size of the aid of existing welfare programs or creating specific programs to offset any price increases.
All Information Summarized (N=844)	There are energy subsidies on electricity and/or fuels in your country. - Reduce public spending, allowing these resources to be reinvested in other sectors. - Reduce environmental impact through lower energy consumption. Guarantee a fairer distribution of resources since most of the money from these subsidies goes to the richest citizens. Benefits the general population through greater investments in health, education, and public safety. - Benefit the poorest citizens by increasing the value of welfare programs or creating specific programs so that these families have access to cheaper energy.

Note: The value of subsidies and the share of the GDP spent with energy subsidies vary depending on the country.

Table A3: Effect of Experimental Conditions on Support for Removal of Energy Subsidies

	Remove Subsidy	Remove Electricity Subsidy	Remove Fuel Subsidy	Immediate Removal Subsidy
Government Expenditure	0.44*** (0.11)	0.32*** (0.08)	0.42*** (0.08)	0.36*** (0.12)
Environment	0.59*** (0.11)	0.48*** (0.09)	0.54*** (0.11)	0.53*** (0.10)
Distributive Justice	0.83*** (0.14)	0.62*** (0.09)	0.66*** (0.13)	0.85*** (0.11)
Benefits Population	0.19*** (0.05)	0.19** (0.07)	0.23*** (0.07)	0.24*** (0.06)
Benefits Poor	0.12 (0.08)	0.11 (0.08)	0.20** (0.06)	0.26*** (0.09)
All Info	0.72*** (0.10)	0.70*** (0.08)	0.71*** (0.10)	0.77*** (0.08)
Sum Info	0.41*** (0.11)	0.32*** (0.09)	0.43*** (0.10)	0.52*** (0.11)
Country Fixed Effects	Yes	Yes	Yes	Yes
Observations	6,824	6,824	6,824	6,824

Note: Columns 1-3 present the results from the OLS regression of depicted dependent variable on experimental condition dummies (control condition is the baseline) and country fixed effects, with standard errors clustered at the country level. Column 4 relies on the same model but uses an ordered logistic regression. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

Table A4: Summary of Marginal Effect of Experimental Conditions on Support for Energy Subsidies across Countries

Country	Government Expenditure	Environment	Distributive Justice	Benefits Population	Benefits Poor	All Info	Sum Info
Argentina			x			x	
Bolivia		x	x				
Colombia	x	x	x			x	
Dominican Republic	x	x	x			x	x
Ecuador	x	x	x			x	
El Salvador						x	
Guatemala	x	x	x			x	
Honduras	x	x	x	x		x	x
Mexico	x	x	x		x	x	x
Panama							
Paraguay	x	x	x	x		x	x

Note: x indicates  $p < .05$

## Appendix 2: The Procedure

---

### Start of Block: Consentimiento Informado

intro\_consent El objetivo de este estudio es conocer su opinión sobre los subsidios a la energía. Este estudio se lleva a cabo con fines de investigación y políticas públicas. Los datos serán analizados como parte de un estudio en colaboración con el Banco Interamericano de Desarrollo (BID). Si participa, tomará decisiones hipotéticas en una encuesta en línea y proporcionará algunas informaciones sobre usted.

El estudio debe tomar entre 10 y 15 minutos de su tiempo. Sus datos serán tratados de forma confidencial, anonimizados y analizados en forma agregada. Su participación es totalmente voluntaria y no implica ningún riesgo para usted.

Si en algún momento, tiene preguntas sobre la investigación o su participación, puede entrar en contacto con los investigadores responsables: Yan Vieites: [yan.vieites@gmail.com](mailto:yan.vieites@gmail.com), Mariana Weiss: [MARIANAWE@iadb.org](mailto:MARIANAWE@iadb.org)

---

¿Está de acuerdo con participar de este estudio?

- Sí
- No

End of Block: Consentimiento Informado

---

Start of Block: Consumption Electricity

Por favor, indique si usted tiene medidor de electricidad propio.

- Sí, tengo medidor de electricidad propio
- No, no tengo medidor de electricidad propio

---

¿Cuál es el monto promedio de sus gastos en electricidad (factura de la luz) por mes?

[En su moneda local. Por favor, utilice sólo números. No use centavos]

---

---

¿Qué proporción de sus ingresos mensuales está destinada a pagar su factura de luz?

▼ 0% ... Más del 50%

---

¿De qué porcentaje de la factura de luz de su casa es usted responsable de pagar en su hogar?

▼ 0% - No contribuyo al pago de la factura ... 100% - Pago toda la factura

¿Cuál es su percepción del costo de la electricidad en su país?

- Muy barata 1
- 2
- Ni cara ni barata 3
- 4
- Muy cara 5

**End of Block: Consumption Electricity**

---

**Start of Block: Consumption Fuels**

Por favor, indique si usted tiene coche o motocicleta.

- Sí, tengo coche
- Sí, tengo motocicleta
- Sí, tengo coche y motocicleta
- No, no tengo ni coche ni motocicleta

-----

¿Cuál es el monto promedio de su gasto en combustibles para el transporte (por ejemplo, gasolina y diésel) por mes?

[En su moneda local. Por favor, utilice sólo números. No use centavos]

\_\_\_\_\_

-----



¿Qué proporción de sus ingresos mensuales está destinada a pagar sus gastos de combustibles para el transporte (por ejemplo, gasolina y diésel)?

▼ 0% ... Más del 50%

¿Qué porcentaje del gasto de combustibles para el transporte (por ejemplo, gasolina y diésel) es usted responsable de pagar en su hogar?

▼ 0% - No contribuyo al pago de los gastos ... 100% - Pago todos los gastos

¿Cuál es su percepción del costo de los combustibles para el transporte (por ejemplo, gasolina y diésel) en su país?

- Muy barato 1
- 2
- Ni caro ni barato 3
- 4
- Muy caro 5

End of Block: Consumption Fuels

---

Start of Block: Confidence in Government

¿Cuánto confía en la gente en general?

- No confío en lo absoluto 1
  - 2
  - Neutral 3
  - 4
  - Confío mucho 5
- 

¿Cuánto confía en el gobierno de su país?

- No confío en lo absoluto 1
- 2
- Neutral 3
- 4
- Confío mucho 5

**End of Block: Confidence in Government**

---

**Start of Block: Definition Energy Subsidies**

Ahora tenemos que definir qué son exactamente los subsidios a la energía. Lea con atención:

Los subsidios a la energía se refieren a cualquier acción gubernamental que reduzca el costo de producción de energía o que reduzca directamente el precio pagado por los consumidores de energía.

Los subsidios pueden aplicarse a la energía eléctrica, por ejemplo, a la factura de la luz, o a los combustibles usados para fines de transporte (por ejemplo, gasolina y diésel).

Por lo tanto, los subsidios hacen que el precio de la energía eléctrica y los combustibles sean más baratos para los consumidores a corto plazo.

End of Block: Definition of Energy Subsidies

---

Start of Block: Knowledge Energy Subsidies

En su país, ¿hay subsidios a la electricidad (factura de la luz)?

- Sí
  - No
  - No sabría decirlo
- 

En su país, ¿hay subsidios a los combustibles para el transporte (por ejemplo, gasolina y diésel)?

- Sí
  - No
  - No sabría decirlo
- 

End of Block: Knowledge Energy Subsidies

---

Start of Block: Knowledge Beneficiary Status Energy Subsidies

¿Es usted beneficiario de algún subsidio a la electricidad? Es decir, ¿recibe algún tipo de descuento en su factura de la luz?

- Sí
- No
- No sabría decirlo

---

¿Es usted beneficiario de algún subsidio a los combustibles para el transporte? Es decir, ¿recibe algún tipo de descuento en el consumo de gasolina, diésel u otros combustibles?

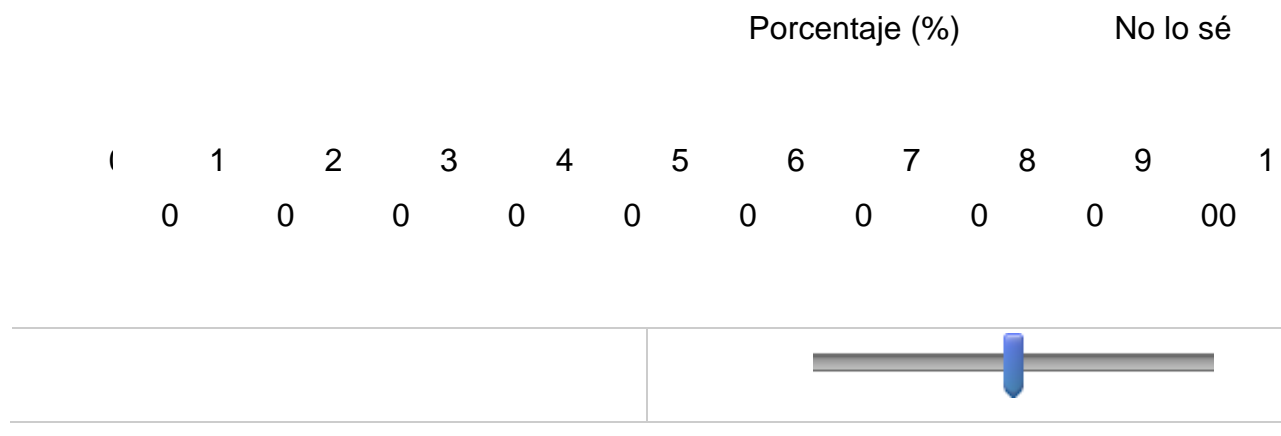
- Sí
- No
- No sabría decirlo

**End of Block: Knowledge Beneficiary Status Energy Subsidies**

---

**Start of Block: Knowledge and Opinion Electricity Subsidy**

Con respecto al precio de la electricidad en su país, ¿en qué proporción de la factura total, la electricidad está subsidiada?



Ahora indique cuánto cree usted que debería ser el subsidio a la electricidad:

Porcentaje (%)

( 1 2 3 4 5 6 7 8 9 1  
0 0 0 0 0 0 0 0 0 00



End of Block: Knowledge and Opinion Electricity Subsidy

Start of Block: Knowledge and Opinion Fuels Subsidy

cuanto al precio de los combustibles en su país, ¿en qué proporción el valor de los combustibles para el transporte está subsidiado?

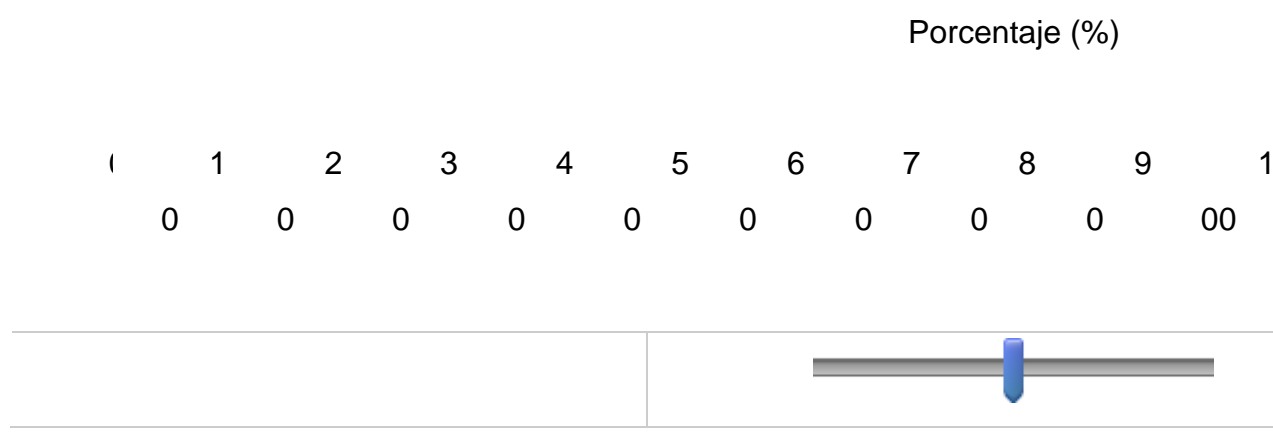
Porcentaje (%)

No lo sé

( 1 2 3 4 5 6 7 8 9 1  
0 0 0 0 0 0 0 0 0 00



Ahora indique cuánto cree que debería ser el subsidio a los combustibles para el transporte:



---

End of Block: Knowledge and Opinion Fuels Subsidy

---

Start of Block: Intro Experiment

En la página siguiente le brindaremos información sobre subsidios a la energía en su país, y luego evaluaremos sus opiniones.

---

End of Block: Intro Experiment

---

Start of Block: Condition: Control

**En su país existen, de hecho, subsidios** de energía a la electricidad y/o a los combustibles.

---

End of Block: Condition: Control

---

Start of Block: Condition: Governmental Expenditure

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**El valor total de los subsidios es de alrededor de US\$314 mil millones, lo que representa alrededor del 4.0% del PIB** (la suma de toda la riqueza producida por el país). Por lo tanto, eliminar los subsidios ayudaría a reducir el gasto público, permitiendo que estos recursos se puedan reinvertir en otros sectores.

---

End of Block: Condition: Governmental Expenditure

---

Start of Block: Condition: Environment

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**Los subsidios terminan aumentando el consumo de electricidad y combustible, lo cual causa impactos al medio ambiente.** La eliminación de estos subsidios ayudaría a reducir ese impacto negativo gracias a un menor consumo de energía.

End of Block: Condition: Environment

---

Start of Block: Condition: Distributive Justice

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**La mayor parte del dinero de estos subsidios se destina a los ciudadanos más ricos,** es decir, **precisamente a los que tienen mayor poder adquisitivo.** Esto se debe a que las personas con mayores recursos consumen más energía en sus hogares y más combustible en el transporte.

End of Block: Condition: Distributive Justice

---

Start of Block: Condition: Benefits Population

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**El dinero que se utiliza para subsidios podría usarse para** beneficiar a la población en general a través de mayores **inversiones en** servicios como los de **la salud** (nuevos equipos y hospitales), de **la educación** (construcción de nuevas escuelas) **y de la seguridad pública.**

End of Block: Condition: Benefits Population

---

Start of Block: Condition: Benefits Poor

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**El dinero que se utiliza para subsidios podría usarse para beneficiar a los ciudadanos más pobres,** aumentando el valor de los programas de asistencia social o

creando programas específicos para que estas familias tengan acceso a energía más barata.

---

End of Block: Condition: Benefits Poor

---

Start of Block: Condition: All Info

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.

**El valor total de los subsidios es de alrededor de US\$314 mil millones, lo que representa alrededor del 4.0% del PIB** (la suma de toda la riqueza producida por el país). Por lo tanto, eliminar los subsidios ayudaría a reducir el gasto público, permitiendo que estos recursos se puedan reinvertir en otros sectores.

**Además, los subsidios terminan aumentando el consumo de electricidad y combustibles, lo cual causa impactos al medio ambiente.** La eliminación de estos subsidios ayudaría a reducir este impacto negativo gracias a un menor consumo de energía.

**Por último, la mayor parte del dinero de estos subsidios se destina a los ciudadanos más ricos, es decir, precisamente a los que tienen mayor poder adquisitivo.** Esto se debe a que las personas con mayores recursos consumen más energía en sus hogares y más combustible en el transporte.

**El dinero que se utiliza para subsidios podría usarse para** beneficiar a la población en general a través de mayores **inversiones en** servicios como los de **la salud** (nuevos equipos y hospitales), de **la educación** (construcción de nuevas escuelas) y de **la seguridad pública.**

**Alternativamente, este dinero podría usarse para beneficiar a los ciudadanos más pobres,** aumentando el valor de los programas de asistencia social o creando programas específicos para que estas familias tengan acceso a energía más barata.

---

End of Block: Condition: All Info

---

Start of Block: Condition: All Info Summarized

En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles. Eliminar estos subsidios ayudaría a:

- Reducir el gasto público, permitiendo que estos recursos se puedan reinvertir en otros



sectores.

- Reducir el impacto ambiental mediante un menor consumo de energía.
- Garantir una distribución más justa de los recursos, ya que actualmente la mayor parte del dinero de estos subsidios se destina a los ciudadanos más ricos.
  - Beneficiar a la población en general a través de mayores inversiones en servicios como los de la salud, de la educación y de la seguridad pública.
  - Beneficiar a los ciudadanos más pobres aumentando el valor de los programas de asistencia social o creando programas específicos para que estas familias tengan acceso a energía más barata.

---

End of Block: Condition: All Info Summarized

---

Start of Block: Main DVs

---

Con la información proporcionada, responda a las preguntas de la página siguiente.

---

Imagínese que el gobierno está estudiando eliminar estos subsidios. Indique a seguir su opinión sobre la eliminación de los subsidios:

- Totalmente en contra 1
  - 2
  - Neutral 3
  - 4
  - Totalmente a favor 5
-

¿Qué tan dispuesto estaría a eliminar cada uno de los tipos de subsidios a continuación?

	Extremadam ente en contra de eliminar 1	2	Neut ral 3	4	Extremadam ente dispuesto a eliminar 5
Subsi dio a la <u>electricidad</u> (factura de la luz)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Subsi dio a los <u>combustible</u> <u>s para el</u> <u>transporte</u> (por ejemplo, gasolina y diésel)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Suponiendo que se llevara a cabo la eliminación de los subsidios. ¿Cuándo preferiría que ocurriera la eliminación?

▼ Inmediatamente ... En 12 meses (1 año)

End of Block: Main DVs

Start of Block: Manipulation Check

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***En su país existen, de hecho, subsidios de energía a la electricidad y/o a los combustibles.***

- Sí, estaba en el texto
- No, no estaba en el texto
- 

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***Eliminar los subsidios ayudaría a reducir el gasto público, permitiendo que estos recursos se puedan reinvertir en otros sectores.***

- Sí, estaba en el texto
- No, no estaba en el texto
- 

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***La eliminación de los subsidios ayudaría a reducir los daños al medio ambiente gracias a un menor consumo de energía.***

- Sí, estaba en el texto
- No, no estaba en el texto
- 

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***La mayor parte del dinero de los subsidios se destina a los ciudadanos más ricos, es decir, precisamente a los que tienen mayor poder adquisitivo.***

Sí, estaba en el texto

No, no estaba en el texto

---

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***El dinero que se utiliza para subsidios podría usarse para beneficiar a la población en general a través de mayores inversiones en servicios como los de la salud, de la educación y de la seguridad pública.***

Sí, estaba en el texto

No, no estaba en el texto

---

En la página anterior, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***El dinero que se utiliza para subsidios podría usarse para beneficiar a los ciudadanos más pobres aumentando el valor de los programas de asistencia social o creando programas específicos para que estas familias tengan acceso a energía más barata.***

Sí, estaba en el texto

No, no estaba en el texto

---

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***El valor total de los subsidios es de alrededor de US\$314 mil millones, lo que representa alrededor del 4.0% del PIB (la suma de toda la riqueza producida por el país).***

***La eliminación de estos subsidios ayudaría a reducir este impacto negativo gracias a un menor consumo de energía.***

***La mayor parte del dinero de estos subsidios se destina a los ciudadanos más ricos, es decir, precisamente a los que tienen mayor poder adquisitivo.***

***El dinero que se utiliza para subsidios podría usarse para beneficiar a la población en general a través de mayores inversiones en servicios como los de la salud, de la educación y de la seguridad pública.***

***Alternativamente, este dinero podría usarse para beneficiar a los ciudadanos más pobres.***

Sí, estaba en el texto

No, no estaba en el texto

---

En las páginas anteriores, leyó un texto sobre subsidios y luego respondió algunas preguntas. Por favor indique si la siguiente información fue mencionada en el texto:

***Eliminar los subsidios ayudaría a:***

***- Reducir el gasto público, permitiendo que estos recursos se puedan reinvertir en otros sectores.***

***- Reducir el impacto ambiental mediante un menor consumo de energía.***

***- Garantir una distribución más justa de los recursos, ya que actualmente la mayor parte del dinero de estos subsidios se destina a los ciudadanos más ricos.***

***- Permitir destinar más recursos a inversiones en salud, educación y seguridad***

**pública.**

**- Permitir beneficiar a los ciudadanos más pobres aumentando el valor de los programas de asistencia social o creando programas específicos para que estas familias tengan acceso a energía más barata.**

Sí, estaba en el texto

No, no estaba en el texto

End of Block: Manipulation Check

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Start of Block: Resource Allocation

Suponiendo que se llevara a cabo la eliminación del subsidio. ¿Cómo cree que el gobierno debería gastar los recursos que antes estaban destinados a estos subsidios? Distribuya 10 monedas entre las siguientes posibilidades (la suma total debe ser igual a 10):

El gobierno debería...

Aumentar el monto que reciben las familias necesitadas en los programas de transferencia de ingresos (por ejemplo, Red Unidos - Familias en Acción). : \_\_\_\_\_

Crear un tipo de beneficio específico para familias necesitadas para que sea utilizado exclusivamente en costos relacionados a la electricidad y combustibles. : \_\_\_\_\_

Aumentar las inversiones en salud, educación y seguridad pública. : \_\_\_\_\_

Crear o ampliar proyectos relacionados con la preservación del medio ambiente y el desarrollo de fuentes de energía sostenibles. : \_\_\_\_\_

Usar esos recursos para mantener las cuentas públicas equilibradas. : \_\_\_\_\_

Total : \_\_\_\_\_

End of Block: Resource Allocation

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Start of Block: Price Sensitivity Energy

¿Cuál es la probabilidad de que usted reduzca el consumo de electricidad si la eliminación del subsidio a la energía eléctrica genera un aumento en el precio de la factura de la luz?

	Extremadamente improbable 1	Probablemente improbable 3	Probablemente probable 5	Extremadamente probable 7	No se aplica N
Aumento de 10%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aumento de 50%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aumento de 100%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuál es la probabilidad de que usted reduzca el consumo de combustibles para el transporte (por ejemplo, gasolina y diésel) si la eliminación del subsidio al combustible genera un aumento en el precio de estos productos?

	Extremada mente improbable 1	2	3	4	5	Extremada mente probable 5	N o se aplica
Aumento de 10%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aumento de 50%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aumento de 100%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Price Sensitivity Energy

Start of Block: Personal Items



Por favor, indique si tiene o no los siguientes artículos:	Sí	No
Estufa o calefacción	<input type="radio"/>	<input type="radio"/>
Congelador	<input type="radio"/>	<input type="radio"/>
Heladera/Refrigerador de 1 puerta	<input type="radio"/>	<input type="radio"/>
Heladera/Refrigerador de 2 puertas	<input type="radio"/>	<input type="radio"/>
Ducha eléctrica	<input type="radio"/>	<input type="radio"/>
Lavavajillas	<input type="radio"/>	<input type="radio"/>
Horno microondas	<input type="radio"/>	<input type="radio"/>
Horno eléctrico	<input type="radio"/>	<input type="radio"/>
Plancha eléctrica	<input type="radio"/>	<input type="radio"/>
Lavarropas	<input type="radio"/>	<input type="radio"/>
Televisión	<input type="radio"/>	<input type="radio"/>

Radio portátil	<input type="radio"/>	<input type="radio"/>
Computadora portátil, notebook o tablet	<input type="radio"/>	<input type="radio"/>
Aire Acondicionado	<input type="radio"/>	<input type="radio"/>
Ventilador	<input type="radio"/>	<input type="radio"/>
Teléfono móvil con acceso a Internet (Smartphone)	<input type="radio"/>	<input type="radio"/>
Acceso a Internet	<input type="radio"/>	<input type="radio"/>

Cuál es la principal fuente de energía que utiliza en su hogar para:

	E nergía Eléctrica	G as domicil iario	Bote/ garrafa de gas	L eña	O tra	Ni nguna
Calefacción/R efrigeración de la casa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocinar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calentar agua	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Con qué frecuencia utiliza los medios de transporte a continuación?

	N unca o casi nunca	U nas pocas veces al año	M enos de una vez al mes	U nas pocas veces al mes	U e 1 a 2 veces por sema na	E ntre 3 y 5 veces por semana	T odos los días
Coch e privado (coche propio, taxi, Uber)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trans porte Público (autobús/óm nibus, metro, tren)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Otro (bicicleta, a pie, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuántos kilómetros recorre al día para llevar a cabo sus actividades diarias (por ejemplo, ir y volver de la escuela, universidad, trabajo, etc.)?

▼ Menos de 5km ... Más de 60km

¿Cuántos dormitorios hay en la residencia donde vive actualmente?

▼ 1 ... 5 o más

End of Block: Personal Items

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Start of Block: Math Skills

Ahora queremos evaluar sus habilidades matemáticas. Por favor complete las preguntas a continuación:

¿Cuál de los siguientes números representa el **mayor riesgo** de contraer una enfermedad?

- 1 en 100
- 1 en 1000
- 1 en 10

¿Cuál de los siguientes números representa el **mayor riesgo** de contraer una enfermedad?

- 1%
- 10%
- 5%

End of Block: Math Skills

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## Start of Block: Sociodemographic Questionnaire

Antes de terminar, por favor responda a estas preguntas demográficas:

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¿Cuál es su género?

▼ Masculino ... Otro

¿Con qué grupo étnico se autoidentifica?

▼ Blanco ... Otro

---

¿Cuántos años tiene?

▼ 18 ... 85 o más

---

¿Cuál es su estado civil?

▼ Casado ... Soltero

---

¿Cuál es el nivel educativo más alto que ha completado?

▼ Escuela primaria incompleta ... Doctorado

---

¿En cuál de los siguientes rangos se encuentran los ingresos familiares mensuales de su hogar, incluyendo las remesas del exterior y el ingreso de todos los adultos e hijos que trabajan? (¿Cuánto dinero entra en total a su casa al mes?)

▼ Ningún ingreso ... Más de 3.150.000

---

Hay grupos que tienden a estar en la parte más alta de nuestra sociedad y grupos que tienden a estar en la parte más baja cuando se trata de ingresos. Aquí hay una

escala que va desde la parte más alta hasta la parte más baja de la sociedad. ¿En dónde se pondría usted en esta escala de ingresos?

▼ 10 (Parte más alta) ... 1 (Parte más baja)

¿Cuántas personas en total están viviendo o quedándose en su casa?

▼ 1 ... 12 o más

¿Cuál de las siguientes opciones describe mejor su situación laboral actual?

▼ Trabajo asalariado (a tiempo completo) ... Otro

¿Es beneficiario de algún programa de asistencia social? (por ejemplo, Red Unidos - Familias en Acción)

- Sí
- No
- No sabría decirlo

¿Cuál es su proveedor/distribuidor de electricidad?

▼ CEDENAR ... No lo sé

¿En qué estado/departamento/provincia/comarca vive actualmente?

▼ Amazonas ... Vichada

¿Cuánto le importa el calentamiento global?

En absoluto 1

2

Neutral 3

4

Muchísimo 5

**End of Block: Sociodemographic Questionnaire**

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**Start of Block: Debriefing**

¡Muchas gracias por su participación!

Si aún tiene preguntas sobre la investigación o sobre su participación, puede contactar con los investigadores responsables: Yan Vieites: [yan.vieites@gmail.com](mailto:yan.vieites@gmail.com), Mariana Weiss: [MARIANAWE@iadb.org](mailto:MARIANAWE@iadb.org)

**End of Block: Debriefing**

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