ENERGY SAFETY NETS

BRAZIL CASE STUDY

POLICY BRIEF

KEY FINDINGS

- The *Luz para Todos* program has provided electricity connections to more than 3.4 million households, many of which are among the most vulnerable groups in Brazil. Brazil is on track for all households to have an electricity connection well before 2030.
- *Tarifa Social* supports almost 9 million households and helps to protect the electricity consumption of the most vulnerable groups in Brazil. This was confirmed by the increase in household electricity consumption, especially in low-consumption households, during the recent economic crisis.
- *Bolsa Família* represents an important resource for nearly 14 million low-income families but has limited impact on improving access to clean cooking energy services. This is because the value of the support has not kept pace with increasing LPG prices, and it can easily be diverted for other purposes.

RECOMMENDATIONS FOR POLICY MAKERS

- Localize Energy Safety Nets (ESNs) by allowing subnational governments/departments to adapt instruments to meet the diverse needs of poor and vulnerable households in different regions.
- The Ministry of Citizenship and the Ministry of Mines and Energy should invest in an awareness-raising campaign and amend eligibility criteria to expand enrolment in the *Cadastro Único*, Single Registry for Social Programs and allow *Tarifa Social* to support electricity consumption by poor and vulnerable households that are not included under the current scheme.
- The Ministry of Social Development should consider changing how support is provided for clean cooking energy. This could involve returning to an earmarked voucher program for LPG.
- The Ministry of Mines and Energy and the Ministry of Regional Development should promote greater collaboration between the various institutions that support access to and consumption of modern energy sources in rural and low-income urban communities.
- The Ministry of Women, Family and Human Rights should carry out impact analyses for *Tarifa Social* and *Bolsa Família* and apply a gender perspective to assess the links between ESN programs and women's well-being and gender equality.

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INTRODUCTION

This research aims to provide guidance for policy- and decision-makers, by identifying measures in Brazil that have been successful in enabling very poor people to access modern energy services and exploring the reasons for their success and challenges encountered. To address a gap in the literature, the case study adopted quantitative and qualitative methodologies to analyze *Luz para Todos*, *Tarifa Social* and other governmental programs, such as *Bolsa Família*, which can indirectly impact the access and consumption of modern energy sources.

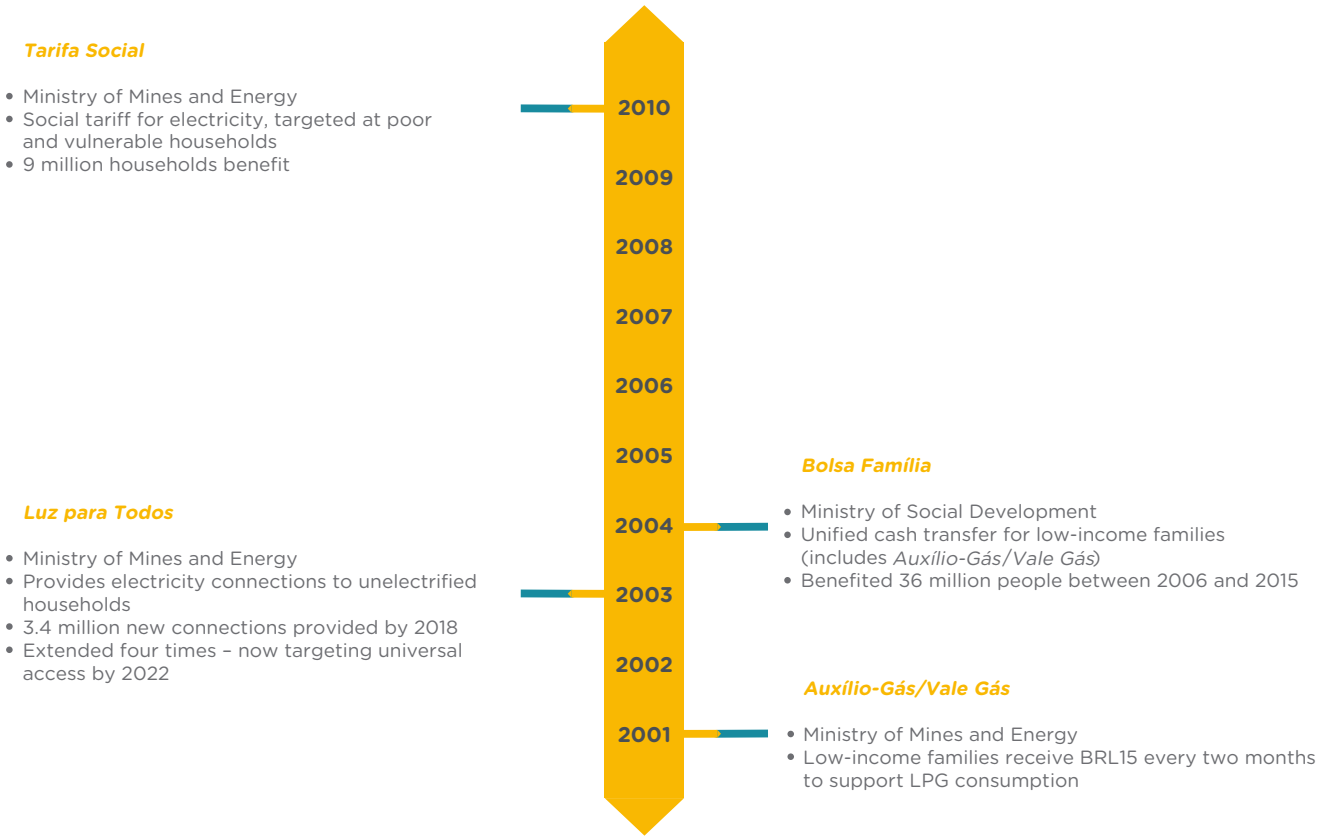
A literature review outlined the main government policies and programs that affect Brazil's Energy Safety Nets (ESNs)[1]. This was then complemented by two stakeholder workshops and 20 interviews with stakeholders directly involved in the design, conduct, evaluation and/or research related to the government programs mentioned above.

THE DESIGN, IMPLEMENTATION, AND EVOLUTION OF *BOLSA FAMÍLIA*, *LUZ PARA TODOS* AND *TARIFA SOCIAL*

Support for clean cooking (LPG) is provided as part of a broader social assistance program has also brought together policies aimed at guaranteeing food security and eradicating child labor. In 1995, the Social Safety Net Project (*Rede de Proteção Social*) was established to redistribute wealth and protect the most vulnerable people in Brazilian society. From 1995 to 2002, 12 programs were progressively included in this project, which was superseded the *Bolsa Família* integrated cash transfer program in 2004. This included

Figure 1

Launch of ESNs in Brazil



Source: Authors' elaboration based on Zimmermann 2006 and MDS 2019

1 ESN is an umbrella term for government-led approaches to support very poor and vulnerable people to access essential modern energy services, defined as electricity and clean fuels and technologies for cooking, by closing the affordability gap between market prices and what poor customers can afford to pay.

the *Auxílio-Gás/Vale Gás* program which provided that provided support for LPG for cooking (Coelho et al. 2018).

In 2003, the Brazilian government launched *Luz para Todos* with the aim of universalizing access to electricity to include the country's remaining unelectrified urban and rural households. The program was initially envisaged to reach 10 million people and end in 2008, but has been extended four times to run until 2022 and has already reached over 16 million people (MME 2017).

To complement the electricity connections provided by *Luz para Todos,* the creation in 2010 of *Tarifa Social,* a social tariff to support the consumption of electricity by poor and vulnerable groups was seen as 'instrumental in the process of ensuring the sustainability' of the energy access program (Gomes and Silveira 2012). This is a volume-differentiated tariff with discounts applied to households enrolled in the *Cadastro Único* according to how much they consume (lower-consuming households received larger discounts).

BOLSA FAMÍLIA, LUZ PARA TODOS AND *TARIFA SOCIAL:* IMPACTS AND INSIGHTS

Bolsa Família represents an important resource for low-income families and has helped to reduce the numbers of people living in poverty and extreme poverty from 46 million and 20 million, respectively, in the 1990s to 14 million and 5 million, respectively in 2014 (IBGE 2019). However, two issues (diversion to other goods and services, and failure to keep pace with real cost increases in LPG) raise serious questions over the continued effectiveness of *Bolsa Família* in supporting energy access for the most disadvantaged groups.

Table 1 shows the national LPG price in Brazilian reals per year in comparison to the value of *Bolsa Família.* Although both have increased in recent years, for a household to consume the same amount of LPG, it had to pay more of its *Bolsa Família* in 2019 than it did in 2015, i.e., the cost of a 13kg cylinder represented 58 percent of the monthly *Bolsa Família* in 2015, while in 2019 it represented 79 percent of its value.

When *Luz para Todos* began in 2002, more than 2 million rural households (12 million people) did not have access to electricity. Interviewees for this research stated that the goal of universal access to electricity in rural areas had mostly been achieved, an indication of the success of the program. To achieve truly universal access by 2022, the program is now largely aimed at the remaining unconnected households in the north and northeast of Brazil. In December 2018, *Luz para Todos* investments reached BRL 26 billion,

Table 1

Nominal price of LPG and value of *Bolsa Família*

	2015	2016	2017	2018	2019
Value of monthly *Bolsa Família* transfer (BRL)	77	82	85	89	89
Cost of 13 kg LPG (BRL)	45	50	55	65	70
Cost of LPG cylinder as share of value of monthly *Bolsa Família* transfer	58%	61%	65%	76%	79%

Source: Authors' elaboration based on ANP 2019 and Ministry of Social Development 2019

with approximately 3.4 million new connections since 2004. In all, 16.4 million people in rural regions of the country (7 percent of the total population) have benefited from the 542,000 projects implemented across 5,435 municipalities throughout the program (MME 2017; 2019).

Almost 9 million households (36 million people, or 11 percent of the total population) currently benefit from *Tarifa Social* (March 2019 – ANEEL). This has undoubtedly insulated some households from the national decrease in electricity consumption since the economic crisis of 2015. In particular, between 2015 and 2016, aggregate consumption by households that consumed small amounts of electricity increased by 11 percent and total residential consumption increased by 1.3 percent (EPE 2017 p.7). This was the opposite of the trend witnessed during the 1985 economic crisis, which saw all consumers reduce their electricity consumption. Despite this success, it is less clear whether the program supports all poor and vulnerable households - especially those who are not enrolled in *Cadastro Único* or those with higher levels of electricity consumption.

CONCLUSION

Luz para Todos and *Tarifa Social* have made important steps towards relieving energy poverty but have not yet managed to guarantee access for the most vulnerable groups in Brazil. Similarly, although *Bolsa Família* represents an important resource for low-income families, the amount conferred and its fungible nature make it inadequate to fully support the purchase of LPG.

Several options exist to improve the extent that current programs support low-income groups to access affordable, reliable, sustainable and modern energy services. Two aspects apply to all programs. The first is insufficient accounting for varying contexts throughout the country. This could be overcome by requiring subnational decision-makers to adapt instruments to meet the diverse needs of poor and vulnerable households in different regions. The second is a lack of awareness among the population of the programs and the benefits of modern energy services, which should be addressed by investing in sustained awareness-raising efforts.

Changes to program design may also facilitate better outcomes. For electricity, this could include modifying eligibility criteria for *Tarifa Social* to support low-income households that have relatively high levels of electricity consumption. For cleaner cooking, this could involve returning to an earmarked voucher program for LPG and subsidies for the purchase of solar stoves in rural areas with poor LPG distribution networks. Acquisition expenses could be paid back to utilities in the same way as commercial losses, or subsidized directly via the Energy Development Account, which is managed by the Ministry of Mines and Energy.

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