

Barriers and Instruments

Persistent inequality in access to affordable energy services constitutes a structural barrier to a just transition away from fossil fuels, particularly for low-income households. In Brazil, electricity costs represent a significant share of household budgets, limiting public acceptance of climate policies and reinforcing the need to integrate social protection instruments into decarbonization strategies.

Despite recent progress in strengthening the Social Electricity Tariff (TSEE), which already reaches more than 17 million households registered in the national social registry (Cadastro Único), millions of eligible families still face administrative barriers, lack of information, and coordination challenges that hinder access to the benefit. This situation highlights the importance of strengthening automatic enrollment mechanisms and ensuring stable financing for policies aimed at reducing energy poverty.

At the same time, the financial structure of the electricity sector remains misaligned with the objectives of the energy transition. Between 2022 and 2024, the Energy Development Account (CDE) allocated, on average, BRL 1.04 billion per year to subsidize coal-fired thermal power plants in southern Brazil. These subsidies place upward pressure on electricity tariffs and contribute to the continued dependence on polluting sources, despite coal's limited share in the national electricity mix and the high operating costs of these plants.

The continuation of these incentives has been reinforced by long-term contracts and by the activity of corporate lobbyists in the Brazilian National Congress, influencing legislative processes that enable the extension of coal-fired power plant operations until 2050. The political influence of fossil fuel interests contributes to delaying the adoption of measures aligned with decarbonization, contradicting Brazil's commitments under the Paris Agreement and weakening the coherence between electricity sector financing instruments and the goals of sustainability, energy justice, and climate leadership in the context of COP30.

Description

Integrating social protection policies, fossil fuel subsidy reform, and the expansion of shared distributed generation represents a strategic pathway to reduce inequalities and expand access to clean energy. Strengthening the Social Electricity Tariff, combined with the progressive redirection of fossil fuel subsidies toward energy inclusion solutions, can reduce tariff pressure and improve access to affordable energy for vulnerable populations.

In this context, the expansion of community solar collectives represents an effective solution to democratize access to renewable energy and accelerate the energy transition. These models enable consumers without adequate rooftop infrastructure — such as tenants and residents of dense urban areas — to participate in distributed generation through shared systems and virtual net-metering schemes, reducing electricity costs and expanding social participation in the transition to a low-carbon economy.

Responsible actors and Required Instruments

National governments are responsible for aligning climate, energy, and social protection policies, ensuring sustainable financing mechanisms consistent with decarbonization goals. Energy regulators must ensure stable regulatory frameworks for shared distributed generation and promote data integration mechanisms that allow automatic expansion of access to the Social Electricity Tariff.

Key required instruments include:

- Fossil fuel subsidy reform
- Strengthening and reorientation of sectoral funds such as the Energy Development Account (CDE)
- Regulation enabling shared distributed generation and virtual net-metering mechanisms
- Public financing mechanisms, concessional credit, and climate finance
- Integration between social protection and energy policies
- Energy efficiency programs targeting low-income households
- Technical assistance for community renewable energy projects
- National just transition strategies integrating energy justice and energy poverty reduction

Electricity utilities are responsible for operationalizing tariff discounts and energy compensation mechanisms, while civil society organizations and local communities play a key role in social mobilization, capacity building, and governance of collective energy projects.

Gender and human rights approach

The proposal prioritizes low-income households, women-headed families, racialized communities, and populations historically excluded from access to energy services. Affordable access to energy is an essential condition for the realization of fundamental rights, including health, education, food security, and dignified living conditions.

By integrating social protection instruments with energy transition policies, the solution contributes to reducing structural inequalities and expanding the participation of vulnerable groups in the low-carbon economy, promoting a just, inclusive, and socially legitimate energy transition.

Sharing positive experience

The experience of community solar collectives demonstrates the potential of collective solutions to expand access to clean energy and reduce costs for vulnerable consumers. Over two years of implementation, the Coletivo Nosso Sol generated more than BRL 60,000 in electricity bill savings for 100 participating families, avoided 37 kg of CO₂ emissions, and trained 15 community leaders.

These results highlight how shared distributed generation models can strengthen local resilience, promote energy inclusion, and expand social participation in the energy transition. By combining economic, social, and environmental benefits, community solar collectives represent a promising pathway to democratize access to renewable energy and consolidate more decentralized, equitable, and sustainable energy systems.