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This executive summary and the accompanying policy recommendations on energy inequalities were developed within the framework of a comparative study on inequality between Europe and Latin America and the Caribbean. The study was launched last year by the EU-LAC Foundation and the Latin American Council of Social Sciences (CLACSO) with the objective of generating evidence-based insights to inform public policies as well as cooperation and investment programmes in the context of the EU-CELAC strategic partnership.

The clean energy transition, and its potential to address some of the structural dimensions of inequality within and across our two regions, remains a central priority on the agenda of the forthcoming CELAC-EU Summit 2025 and the Business Forum.

In this regard, the EU-LAC Foundation is pleased to present the authors' key findings and policy recommendations in the present document. The full study is available here:

https://eulacfoundation.org/en/spotlight-inequality-energy-manifestation-inequality-between-and-within-latin-america-and-europe

EXECUTIVE SUMMARY

Between 2020 and 2022, an unprecedented global energy crisis exposed and deepened existing inequalities in energy access and use. This study analyses how energy inequality, understood as a set of energy deprivations of varying severity, manifests itself in Latin America and Europe, comparing cases from Germany, Argentina, Colombia and Spain, with a quantitative and econometric approach focusing on households. It adopts a perspective that understands energy as a social right essential to well-being, and not just as an economic input.

Relevance

Households do not demand energy per se, but energy services that influence well-being, as energy permeates every daily action of contemporary life. Energy inequality is not limited to physical access to energy, but encompasses the quality, affordability and quantity needed to meet energy services. In contexts marked by economic, climatic and geopolitical crises, energy gaps aggravate social exclusion and limit individual and collective capacities.

Main results of the study

- Energy inequality is a significant phenomenon in both Europe and Latin America, although its forms of manifestation differ substantially between the two regions. On the one hand, in Argentina and Colombia more than 50% of households suffer from at least one energy deprivation (54% and 51% respectively), while in Germany and Spain the number of households affected does not exceed 40%. On the other hand, in the two European countries analysed, more households live with the juxtaposition of the three deprivations (close to 4% of households in both countries, compared to 1.35% in Colombia and 2.51% in Argentina).
- The causes of energy inequality vary both between and within regions, and also depend on the type of deprivation considered. Energy indigence shows considerable variability between countries, reflecting the interaction between national structural factors, energy policies and local socio-economic conditions. In terms of energy poverty, Europe has higher levels than Latin America, a difference attributable to the high cost of energy, dependence on energy imports and the reduction of subsidies in several European countries. In contrast, energy vulnerability is more acute in Latin America, which is consistent with the deeper levels of structural poverty and social exclusion in the region. A common element between the two regions is the high incidence of energy vulnerability as an isolated deprivation, i.e. not necessarily combined with energy poverty or destitution.
- In Latin America, Argentina shows greater severity in its indicators, with patterns similar to those observed in the Colombian Caribbean, suggesting the existence of common territorial and socio-economic factors in contexts of high vulnerability.
- In Europe, energy poverty - the only dimension measured homogeneously in Spain and Germany - affects Spain to a larger extent, which is related to structural conditions that hinder equitable access to energy services in lower-income contexts. Individual factors affecting energy inequality include household size, education level, employment status of the head of household and housing conditions, all with statistically significant effects. Gender also plays an important role, with a trend towards feminisation of energy poverty, observed both in the leadership of deprived households and in unequal participation in the household dynamics of energy access and use.
- Likewise, in the countries where it was possible to measure - Spain and Colombia - it was found that ethnic or racial origin significantly influences the risk of energy inequality, evidencing its structural and intersectional dimension.
- There are social inequalities that promote energy inequality, but they are not necessarily overlapping phenomena.

- Energy inequality, more specifically energy poverty, is not necessarily a mirror image of income poverty. A non-negligible proportion of households - 50% in Colombia - are affected by energy poverty without being exposed to significant material and monetary deprivation. This finding reinforces the complexity of the phenomenon and the need for differentiated approaches that consider national specificities and the multiple dimensions of energy inequality.
- Measuring energy inequality with a focus on traditional monetary poverty indicators, such as the 10% of income threshold, can hide phenomena behind energy poverty - i.e. households that do not exceed conventional thresholds but suffer real energy deprivation due to low levels of forced or limited consumption.

Key public policy implications

- Recognise energy inequality as a multidimensional phenomenon: policies must move beyond a narrow focus on energy poverty based on wasteful spending, and incorporate other forms of energy deprivation and exclusion.
- Develop and incorporate official statistics on energy inequality: there is an urgent need to incorporate multidimensional indicators into official statistics to guide fairer interventions.
- Remove the policy focus away from the energy poverty and overspending dimension: energy deprivation is of varying intensity and the conditions that promote it are different. Alleviating energy deprivation requires a multi-scalar and multi-dimensional approach.
- Incorporate an intersectional approach in energy planning: gender, age, education, and ethnicity must be explicitly integrated into energy policy design.
- Design policies that are sensitive to the territorial and socio-economic context: there are no universal solutions. Responses must be tailored to national and local realities. This is even more relevant in less developed economies, where the import of measures from developed contexts has proven in other contexts to be the initial seed of policy failure.
- Focus energy subsidies on a broad perspective: reformulate the segmentation of energy subsidies according to the type and level of energy deprivation, and not just the economic level of households. In this respect, it is important that the criteria are tested, easy to apply and monitor, and relevant to the national context. These aspects reduce exclusion and inclusion errors.
- Expand access to basic infrastructure: In Latin America, policies should prioritise the extension of electricity and gas networks, particularly in rural or marginal areas, and encourage the financing of housing improvements and access to equipment. Territorialise policies: in both Europe and Latin America, energy inequalities have strong territorial roots. The inclusion of geographical criteria can improve the targeting and effectiveness of public policies.
- Promote bilateral and multilateral cooperation initiatives with the aim of disseminating good practices, tools and knowledge in support of national government initiatives to address energy inequality.

CONCLUSION

Energy inequality is a manifestation of structural gaps in our societies. Implementing policies to reduce energy inequality requires a comprehensive approach that combines three elements: intensity (adapting to different types of deprivation), territorial approach (given contextual differences) and targeting (targeting particularly vulnerable social groups). While there are clear interrelationships between income poverty and energy inequality, they are not fully overlapping phenomena. If public policies - short, medium and long term - are not adopted with an intersectional, territorial and multidimensional approach, the energy transition risks deepening exclusion. This study offers tools to design fairer and more effective policies that integrate energy, equity and social rights.

POLICY RECOMMENDATIONS

Understanding the intensity and drivers of energy inequality in Latin America and Europe is one of the main objectives of this report. The previous sections were implemented to that end.

Studying the problem from a multidimensional perspective, going beyond issues related to energy access and cost, allows for a systemic approach and provides essential results for policy programming aimed at mitigating and alleviating energy inequality. The results detailed in the previous section, because of the form of exposure and their level of detail, provide relevant information for general, region-specific and also country-specific policy recommendations.

General policy recommendations

- Tackle energy inequality, not just energy poverty, with policies. Energy inequality understood as the phenomenon that combines deprivations of different gradients is relevant in both regions (and countries analysed). Implementing policies that focus on overspending alone (energy poverty) significantly reduces the scope, leaving unaddressed other forms of energy deprivation that have serious consequences on the well-being of the population.
- Recognise the multidimensionality of energy inequality. In this sense, policies that only focus on the cost of energy (e.g. energy subsidies or economic support programmes) are insufficient to address the root of the problem. The results show that multiple factors condition energy inequality (household size, educational level, housing quality, feminisation of the household and employment of the main breadwinner), irrespective of the country/region analysed.
- Segmenting energy policies by considering criteria that go beyond the economic dimension. The multiple dimensions that explain energy inequality show that income is a relevant variable, but not the only one. In addition, the relationship between income and energy deprivation is more visible in energy indigence, but not in less severe deprivation. These aspects justify social and energy policies that contemplate segmentation criteria that go beyond household income, in order to avoid exclusion errors.
- Targeting policies according to risk profiles. According to the results, the variables that promote different energy deprivation are diverse depending on the region and country analysed. Thinking in terms of a representative profile for policy implementation implies simplifying a phenomenon that is extremely complex and multidimensional. However, there are patterns: single-parent households, female-headed, with older or unemployed heads of household, and with low educational attainment, should be prioritised in the allocation of subsidies or energy efficiency programmes.
- Design policies that are sensitive to gender and the feminisation of the household. While the effect of female leadership and the proportion of women in a household is heterogeneous across countries and energy deprivation (indigence, poverty and vulnerability), there is a notable tendency for households affected by energy poverty and indigence to be headed by a woman and/or to have more women than men among household members. Given this aspect, and also the relevance of substandard housing as an explanatory variable, it is key to integrate a gender perspective both in the distribution of resources and in the formulation of technological and housing solutions.
- Reformulate eligibility criteria for subsidies with a view to reducing exclusion errors. The use of single indicators (such as ranking by the 10% ratio) can obscure hidden forms of energy inequality. It is advisable to apply combined and context- sensitive criteria. The establishment of criteria should address the variables that are significant within each issue and be implemented with low control costs. Defining unclear/strict criteria could lead to inclusion errors that increase the cost of funding and promote regressive outcomes, such as those found by Poggiese and Ibañez Martin (2024) in the case of Argentina.
- Promotion of bilateral and multilateral cooperation initiatives with the aim of disseminating good practices, tools and knowledge in support of national government initiatives to address energy inequality.

Regional policy recommendations

- The following recommendations are based on the analysis and results of two specific cases per region. Although this could be considered small, the selection of countries (justified in detail in section 3.1 of this report) pursued the objective of analysing economies that were representative of the region, taking into account economic, demographic and also energy aspects.

LATIN AMERICA AND THE CARIBBEAN

- Expand access to distribution networks. Energy indigence, poverty, and vulnerability affect more than 50% of households in the countries analysed. Lack of access to electricity and natural gas networks emerges as a dimension of energy inequality, more specifically of indigence and vulnerability. In addition, the lack of access to these networks can also be associated with excessive expenditures, because those households that are not connected to the distribution networks use more expensive sources (organic material and bottled gas) and also do not benefit from subsidies related to energy access and consumption. Finally, it is important to explore the coordination possibilities among different levels of the public sector and the private sector to allow access of energy network expansion programmes to populations in isolated areas.
- Promote programmes to improve the quality of housing and equipment. The quality of buildings and the lack of equipment to meet essential energy needs are aspects that increase the chances that a household in LAC suffers from energy poverty, i.e. spends an excessive proportion of income to pay for the energy it consumes. Programmes and investments in infrastructure, housing improvement programmes, promotion of credits and micro-credits for the purchase of equipment can be social policy alternatives that have an impact on energy inequalities.
- Promote credit and financing programmes in vulnerable populations to guarantee access to networks, equipment and improvement of the home envelope. In line with the previous recommendation, lack of access to equipment and distribution networks such as substandard housing is a characteristic of vulnerable populations in LAC. These deprivations are combined with a severe constraint on financial inclusion (Carballo, 2020; Azar, Lara and Mejía, 2018). Alleviating the restriction of access to targeted finance to reduce these material and energy deprivations would, according to our results, have an impact on deprivations of energy indigence, vulnerability and poverty in LAC households. An alternative to this may be the work coordinated between national governments and international organisations such as the Inter-American Development Bank through programmes such as FINLAC, a comprehensive initiative to promote financial inclusion in Latin America and the Caribbean that aims to ensure that the most vulnerable people can access the financial services they need.
- Strengthen education and training programmes for women and youth: The educational climate of the household is key to alleviating energy deprivation, as is female leadership and the age of the main breadwinner. Combine these three dimensions and target educational and assistance programmes that promote the advancement of educational trajectories in these vulnerable groups.
- Implement energy efficiency and energy education programmes. The problem of energy poverty and energy vulnerability is associated with populations with multiple material and economic deprivations, however, as expected, the socio-economic profile is more advantageous than in the group of households that face energy indigence. Programmes for reasonable and efficient energy use in vulnerable or energy-poor households could have a significant effect in reducing these problems.
- Include ethnic and migrant populations as priority groups. In Colombia, these communities face greater structural barriers and have a high incidence of energy deprivation. In Argentina these dimensions could not be incorporated into the empirical analysis.

EUROPE

- Implement/prioritise energy efficiency schemes and thermal assistance for single- parent and elderly households. These groups were vulnerable to energy deprivation of varying intensity, but mostly in the case of energy vulnerability.
- Consider migrant profiles within the priority groups in energy and social policies. In Spain, migrant-headed households have a high incidence of vulnerability and energy indigence. Social integration should include the energy dimension. Assess subsidies and tariff adjustments considering the socio-economic profile of the household. Given that energy poverty also affects households with medium and high levels of education, policies must go beyond purely economic criteria.
- Promote employment policies households of middle socio-economic status. Energy vulnerability reaches households with an intermediate socio-economic profile, where severe material deprivation is less pronounced than other energy deprivations. Energy- vulnerable households are mostly affected by PSH unemployment and housing/ equipment problems.
- Programming policies on energy vulnerability. The problem affects a considerable proportion of households, putting them at risk to any changes that affect the energy sector and the ability to pay (this happened during the terrible triennium). Addressing households affected by this deprivation is a preventive measure for more severe energy problems, which require greater resources to be able to manage them.

Country-level recommendations

GERMANY

- Prioritise single-parent and elderly households in energy rehabilitation and consumption subsidy programmes.
- Promote information campaigns on energy efficiency targeting women and the elderly. Include the concept of "energy vulnerability" in the design of public policies, beyond monetary poverty.

ARGENTINA

- Expand housing improvement schemes and access to equipment to meet basic energy services.
- Update energy subsidies with criteria that incorporate hidden deprivations (e.g. low non-voluntary consumption) and criteria that reduce the regressivity of the current scheme.
- Implement educational and technical training programmes in vulnerable communities to promote efficient energy use.
- Increase the coverage of distribution networks throughout the country, mainly for natural gas.

COLOMBIA

- Reduce regional gaps in electricity tariffs, in particular in the Caribbean, through targeted subsidies or regulatory review.
- Develop natural gas access programmes in areas with high dependence on traditional fuels.
- Design inclusive policies that consider the ethnic and migrant status of the head of household as structural factors of energy inequality.
- Apply geographical criteria to target energy inclusion policies.

SPAIN

- Strengthen energy payment subsidies for households headed by women, migrants and the unemployed, adjusting the criteria according to household composition and age.
- Integrate housing energy rehabilitation measures in dense urban areas with a focus on households at risk of monetary poverty.
- Promote policies that link energy efficiency and employment, through training and subsidies for green jobs in vulnerable sectors.

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