

Green Transition in the Cities: European Union and Greek Strategies Supporting Energy-Sufficient Households [†]

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Abstract: Amidst global health crises, Europe now faces a challenging energy crisis, impacting the economy and society. To address this, the European Union (EU) established a fund with social criteria to combat energy poverty, promote greener technology, and support lower-income citizens. However, addressing energy poverty and social exclusion requires a comprehensive, long-term strategy. Ensuring equitable funding distribution among industries poses monitoring challenges, potentially excluding small businesses. This paper discusses the EU's Social Climate Fund, set to launch in 2025, outlining its objectives and examining energy poverty in Greece. It critically evaluates past strategies to inform future policy-making and strategy formation for complex issues.

Keywords: green cities; energy poverty; social climate fund; social exclusion; energy crisis

1. Introduction

After the worldwide health crises that not only caused the weakening of the business sector but also the lowering of household income, Europe is now facing a newly introduced challenge that directly affects both the economic and social sectors. The energy crises caused by the rapid increase in fuel and gas prices have created a very unstable and unsafe environment for both citizens and industry. Faced with this new challenge, the European Union tries not to bypass the goals of environmental protection and the Green Deal objectives and aspires to make this an opportunity to provide assistance to those most impacted in recent years. To accomplish this, the EU announced the formation of a fund aiming to provide financial support under social criteria in order to fight energy poverty and allow households with lower incomes to access the energy market while at the same time promoting greener, more advanced technology. Although this seems to be an aspiring initiative, energy poverty and social exclusion are far more complex phenomena than they appear to be. Thus, they require in-depth and long-term strategy formation with a thorough and persistent implementation mechanism. In addition, the distribution and absorption of funding among industries may be hard to monitor, causing small or very small businesses to be excluded from the competition. Driven by the European initiative for the formation of the Social Climate Fund, aiming to set off in 2025, this paper presents the main objectives of the initiative while documenting the manifestations of energy poverty in Greece. Furthermore, with the scope of highlighting possible weaknesses or challenges of the future operation of the Social Climate Fund, this paper critically reviews similar former and ongoing strategies in Greece. This paper aims to enhance the discussion around policy-making and strategy formation on such demanding and complex issues.

2. The Social Climate Fund

In accordance with the initiative taken by the leading countries/economies worldwide, the EU attempts to regulate the emissions causing the greenhouse effect. In this direction,



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in 2021, the European Commission decided to promote the target of a minimum 55% reduction in greenhouse gas emissions by 2030 and ultimately achieve climate neutrality by 2050. To achieve this goal, the “fit for 55” package was adopted, introducing a set of legislative proposals to meet this new objective. The main strategy is shifting to a greener and more efficient economy and everyday life overall.

Considering that in the EU buildings and road/transportation sectors, 70% of the emissions come from households [1] the shift to green energy consumption should concern individuals/citizens as much as developed industries. The Commission understands that the weaker and most impacted factors of society by this transition would be the smaller businesses and the economically unstable households due to their inability to facilitate the cost of this shift on more advanced construction, technological equipment, vehicles, or household appliances. In order to address this issue, the “fit for 55” action plan establishes the formation of a Social Climate Fund (SCF) [2] to combat energy and mobility poverty and help manage the higher costs of the energy transition. Thus, the aim of the fund is to help vulnerable households, small businesses, and transportation users meet the costs of the green energy transition in the building and transportation sectors. According to the EU, the SCF support may be of two types: (a) either introduce temporary direct income support measures to combat the rise in the cost of fuel for heating and transportation (such as lowering energy taxes and fees), or (b) invest in buildings’ renovation, use renewable energy, shift to public transportation, carpooling, carsharing, and engagement in active transportation (such as cycling). As provided by the SCF, fiscal incentives, vouchers, subsidies, and interest-free loans are a few examples of possible measures [3,4].

The SCF aims to provide over EUR 72 billion in total in EU funding over the 2025–2032 period. According to the EU, these funds and investments will need to be at least doubled by equivalent social climate funding from each member state. Moreover, for the member state to claim the funding, it must submit a Social Climate Plan for approval by the European Commission, composed according to specific guidelines given by the EU itself.

3. Energy Poverty Assessment

The term energy poverty describes the inability to access efficient amounts of energy for oneself. However, the term needs to be specified more deeply, as the efficiency level under which someone is considered “poor” is linked to a combination of factors. Besides income, there may be several aspects that define the relevant position of individuals regarding energy poverty, many of which may be cultural or geographical. It is apparent that not all European member states have the same needs when it comes to energy consumption, nor does that need last for the same period of time. Also, among European citizens, geographical, cultural, and (building)constructional variations create different needs per household, meaning that the need for a cooler or a warmer house may vary.

Given that the European Union aims for a just and equal distribution of funding among member states but also that it consists of countries and ethnicities with a wide variation, the Commission proceeded to set indicators [5,6] that will assist in the evaluation of each member state. The member states are encouraged to use them while composing the Social Climate Plan that is required to claim European funding.

Those indicators can either be measurable or perceivable. They are divided into four groups: (a) indicators that compare the amount spent on energy to the household income; (b) indicators based on self-assessment, meaning that households are directly asked how they feel about their ability to afford energy to either warm or cool their house; (c) indicators based on direct measurements of physical variables, like the temperature, to determine the adequacy of energy consumption at a space/house; (d) indirect indicators that measure energy poverty by associated social factors, such as inability to pay utility bills, number of disconnections per area, and general housing quality.

Furthermore, in order to assess the overall energy poverty levels in the EU, the Commission launched the Energy Poverty Advisory Hub (EPAH) in 2021. This initiative aims to provide assistance to European local governments to diagnose and evaluate energy

poverty levels in their countries and then work towards a just energy transition. To accomplish this, the EPAH released a report that focuses on the national-level indicators of energy poverty. The member states can use them to build national strategies and plan mitigation measures.

In addition, it provides resources to guide the implementation of actions against energy poverty. For instance, it includes the EPAH ATLAS [6], an online interactive database that records local and international projects and measures addressing energy poverty worldwide. Additionally, it provides online courses to increase knowledge and build capacity for energy poverty mitigation actions. The platform also receives calls for technical assistance to initiate local actions.

The EPAH highlights the complexity of a horizontal identification of energy poverty. It realizes that, since energy poverty occurs at the domestic level, it becomes challenging to identify and quantify its diffuse effect properly. Also, since the reasons for energy poverty can be many, there can be several types of energy poverty, even among small-scale areas, thus requiring different types of actions. In an attempt to approach this topic as accurately as possible, the EPAH released a handbook [7] setting out the three phases of fighting energy poverty: (a) diagnosis, (b) planning, and (c) implementation. It also presented five macro areas of vulnerability: sociodemographic factors, household composition, health, energy literacy, and culture.

4. Energy Poverty in Greece

Among the European countries faced with the challenges posed by energy poverty, Greece seems to be a rather peculiar case. The economic crises that mostly hit Mediterranean European countries left Greek households struggling to pay for utilities or keep their houses warm for almost a decade. Energy poverty has been an issue in Greece since 2011, and the phenomenon has been studied on a domestic level and documented mainly in Athens. The rapid decrease in household income during the economic crisis, along with the increase in unemployment rates, made it difficult for households to pay the bills. In addition, the actions imposed by the EU in order to overcome the crisis resulted in several measures that included additional taxes for house owners that were initially applied through electricity bills, making it even more difficult to accommodate the monthly expenses. That crisis created unprecedented conditions for the present generation, resulting in increased levels of insecurity for households. Two more factors made the Greek case even more complex: the type of house construction and the type of home ownership. Both derive from the way and period in which the Greek cities developed (peak of construction activity between the 1960s and 1980s) and the “innovation” of the antiparochi phenomenon. Antiparochi led to the commercialization of housing and the rapid development of house building stock in cities when zero standards regarding construction quality and energy sufficiency were set (the first law to enforce minimum thermal insulation was applied in the 1980s and overall energy standards in 2014). In addition, it created a co-dependent model of ownership between house owners in blocks of flats—the Greek polykatoikia—meaning that they were all tied to each other for household operations decisions, as the vast majority of polykatoikias had a central heating system at the time.

The above resulted in a situation where the most vulnerable households met zero construction standards, leading to more energy consumption. At the same time, the ones that could afford to invest in their property or cover the cost of energy had to consider every flat owner as well. During that period, many polykatoikias did not operate the heating system at all, regardless of the fact that there might be owners willing to pay their share. It was also a period when several alternative types of energy were introduced (electricity via various appliances, biomass, pellets, etc.), and many households tried to disconnect from the central heating system [8]. Although it may come as a paradox between renters and homeowners, the most affected during that crisis were the latter. This is because, in addition to the tax enforcement for home ownership, homeowners were “tied” to a situation regarding their living conditions. They could have the ability to invest in an energy upgrade

but not be able to execute it, or they could not afford any change and thus be forced to live under these conditions. On the other hand, renters relevantly benefited since they could choose between homes with low rent and different conditions (construction, central heating or not, warmer/smaller/bigger flat, fireplace, etc.).

Shortly after that difficult period, Europe was hit by the COVID-19 crisis, followed by the energy crises of the last year, putting household energy security at risk once again. The COVID-19 crisis alone seems to have added 28% to households' energy consumption due to the domestic operational changes the pandemic caused [9]. However, it appears that this second energy crisis finds households in Greece somewhat more experienced. Many have already altered the way they heat their homes; they are more educated while searching for energy providers (contrary to the first period when the energy market was not open yet), and they seem more confident that they can manage to find reasonable solutions. This does not change the fact that households struggle to make ends meet, nor does it change the codependency created by polykatoikia. What has also changed over the past years is that since the housing market is exploding due to short-term rentals and economic development, rents are more than double what they were the last time, creating a suffocating situation for renters that already spend more than 40% of their income on rent [10].

Another key observation is that there seems to be a disconnection between income and energy poverty. Several cases were documented in one of the most expensive neighborhoods of Athens, Kolonaki, where tenants of blocks of flats failed to come to an agreement on whether or how to operate their central heating during the economic crisis, thus leading to its abandonment. This situation has already been established, or the cost of maintaining the heating installations is out of reach today. On the other hand, there are cases of households with very small incomes that benefit from being part of a larger block of flats where everyone else can afford to heat their homes. This indirectly creates a more viable environment for them [11].

According to recent data regarding Athens [11], 35% of households cannot afford the energy to sufficiently warm their homes, as opposed to 33% in 2014. Moreover, regardless of the fact that consumers can choose between energy providers, there has been a 42% increase in electricity bills over the last two years. This has resulted in 66% of consumers being willing to sacrifice clothing expenses and 33% even cutting back on food expenses to keep up with paying utilities. This percentage clearly indicates that energy sufficiency is a staple and highly important need.

5. Review of Past and Ongoing Strategies

More than a decade prior to the proposal for a Social Climate Fund, Greece applied a strategy that resembled the initiatives and goals of the newly introduced establishment. Although the initiative was taken by the Hellenic Development Bank (HDB, then ETEAN [12]), whose objective was (and still is) to support small businesses to develop and fight economic challenges, the strategy placed Greek households at the center of the action plan. The ETEAN introduced a program called "Saving at Home" (SaH), aiming to channel European funding to small businesses battling the economic crisis. The program has operated since 2011 in funding cycles and releases a call for applications along with a guidebook of specifications every 1–2 years. The initiative seems to involve multiple types of assistance. It enables homeowners to upgrade their houses by providing direct funding, supports the construction market that took a great hit after 2008, and aligns with the European goals related to energy saving, emission reduction, and the transformation of the energy imprint. Apart from direct income support to the most vulnerable households and the direct subsidies on energy bills that do not constitute a complete and viable long-term governmental strategy, this program could have the potential to be a funding mechanism to support the battle against energy poverty. However, further evaluation of the program reveals a number of inconsistencies between the objectives and the actual implementation.

The first inconsistency is the categorization of the beneficiaries. The program sets a staggered funding system depending on the beneficiary's income, usually reaching 70%

funding for very low incomes. During the first round of applications, the banking system was strictly tied to the funding process, meaning that the remaining non-funded percentage had to be paid via a bank loan. However, any applicants not eligible for bank loans would automatically be excluded from the call. Taking into account that SaH released its first calls during the economic crisis, a wide number of potential—and very vulnerable—beneficiaries did not have access to the banking system and funding. This problem was resolved after the 2016 Call, making the applicants' loans non-mandatory; however, the problem with those who still cannot afford to pay their part upfront and are in need but not eligible for a bank loan remains.

The unwillingness of those with lower incomes to apply for funding is illustrated by the number of applicants per category. Until 2015, in Attica, the lowest incomes that participated represented only 56% of the applications (70% funding), while 43% of the applications represented the higher incomes (35% funding) [13]. The latter percentage indicates that applicants with increased income may have used the SaH Call as an investment opportunity and not as much as a social funding opportunity. They applied even though they were not eligible for a high percentage of funding. This attitude of beneficiaries seems to have been supported by the SaH program, as the latest calls seem to favor applications presenting proposals with large investments over smaller ones of beneficiaries not willing or able to invest a large amount. In addition, the last call of the program sets a rather competitive evaluation system for the proposals, setting a rather strict minimum for the energy upgrade. Again, this excludes households that may not be able to accommodate such large investments and promotes a commercial character over the social character of the program.

Last but not least, the SaH program is characterized by serious delays regarding proposal evaluation and mostly funding disbursement, meaning that vulnerable households may have to wait up to two years to complete their upgrade and thus still be affected by the energy crisis. On top of that, since it is mandatory to complete the house upgrade prior to receiving funding, many small businesses are not able to accommodate many applicants since they might have to wait up to 6–7 months to receive payment. This has led to an “off-the-record” mutual agreement between beneficiaries and businesses that the applicant must pay the full cost upfront. Then, upon receiving the subsidy, the business owner will pay the beneficiary back, thus making this the worst-case scenario for a vulnerable household aiming to receive funding. Unfortunately, in reality, it is unlikely that households with very low incomes will show interest in the green transition either way since they are struggling to make ends meet. However, this does not mean that any strategy should discourage those who might be willing to try.

6. Conclusions

Acting against energy poverty is an urgent obligation for all the member states individually and the European Union as a whole. Nevertheless, taking action requires a thorough consideration of the unique conditions of each case. To battle energy poverty, there is a need to specify what this is and where it derives from. The European Commission recognizes the variety of ways in which energy poverty can emerge and urges thorough research. It forms Social Climate Funding Strategies per state in order to reach and support all the possible forms of vulnerability and prioritize meeting their needs.

The SCF is a tool that can work towards supporting this transition, but only if member states act accordingly. For Greece, this means that there must be no delays in the formation of the Social Climate Strategy, as it is necessary to receive funding. Furthermore, the obligation of the state to co-fund the action plan by 50% means that there must be reasonable funding secured for social justice. It is unclear whether the state itself determines the total amount of funding depending on the resources it is willing to provide in this direction or whether it is pre-decided by the EU. In the first case, the government should demonstrate a willingness to reach the highest level of financial support possible, while in the second case,

failure to meet the EU requirements regarding securing financing might lead to a delay in strategy implementation.

Although Greece tends to delay acting according to European strategies, there might be a chance for a slight head start this time. Europe was at the time faced with an unknown threat, while in Greece, energy poverty had already emerged as a result of the economic crisis several years ago. This means that a lot more information and experience can be extracted regarding when and how vulnerable households can be supported. There is very recent research and published results on the subject that can contribute to strategy formation. In addition, there has been a funding mechanism reaching out to households for energy upgrades for over a decade now. The proper and strict evaluation of the SaH program can indicate flaws and weaknesses in the strategy formation and secure a just funding distribution and resource absorption among the most affected by the energy crisis and the most vulnerable during the European green transition.

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