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Perspectives on Energy Poverty in Turkey

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Perspective on energy poverty in the policy debate

Given the fact that energy poverty started to be discussed in the UK at the end of 1970s, Turkey is considered to have recently joined this debate mostly through academia, energy experts and union of chambers of Turkish engineers. In 2012, the Union of Chambers of Turkish Engineers and Architects (TMMOB) reported that energy poverty arose as an urban problem in Turkey. According to Seyhan Erdoğdu, who made a presentation in the 8th Energy Symposium held by TMMOB, energy poverty has gradually become prevalent in Turkey and the most important problem in Turkey is the lack of sufficient affordable electricity. Therefore, she emphasized the importance of the welfare system and publicity on this subject in Turkey (TMMOB 8th Energy Symposium, 2012).

In 2015, Barış Sanlı, who is an energy expert from Bilkent University Energy Policies Research Center, and others argued that Turkey's first action should be building a framework on the subject of energy poverty (Sanlı et al., 2015). According to him, the first task being to determine energy poverty criteria so as to gain insight into the characteristics of the energy poor. Since the criteria for being identified as energy/fuel poor have not yet been determined in Turkey and since official statistics regarding energy poverty situation in Turkey are published by the Turkish Statistical Institute (TURKSTAT) in compliance with the EU definitions of energy poverty, a future framework for targeting/identifying energy-poor people might rest on low-income groups and those who have green cards, which are used by deprived people who have no social insurance and adequate income. The green card enables people to access to health services (Cumhuriyet

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newspaper, 2019) with energy consumption below a certain threshold. Those who are poor and have no insurance can benefit from the green card system under the condition that these people provide evidence about their income to the government (The Council of Europe, n.d.). Besides his suggestions, Sanlı et al. (2015) highlights that law should become prominent in drawing a legal framework in the country.

At this point, Sanlı et al. (2015) mention the importance of setting an objective for energy poverty policies. The main questions relevant in doing so are related to identifying the beneficiaries of energy poverty policies, combining energy poverty measures with other policies and types of energy to be included in the framework (Sanlı et al., 2015). According to Sanlı et al.'s (2015) argument, subsidies should not be given to those who need energy assistance for more than two years and it should be targeted that these people will break their way out of energy poverty in the meantime. The main objective should be to lower the number of people who need energy assistance instead of focusing on managing energy poverty in the long run

While considering how to subsidize energy use for those who need it, village schools and hospitals might also be included in this framework because these are the public buildings that are currently most used by the population. Choosing the right schools and hospitals for these subsidies is essential, so it is important to filter based on very low-income regions. In some of these regions, there are students who cannot do their homework because they are cold or who cannot listen to their teachers at schools. Such situations put low-income students at a disadvantage in their educational development. In addition, there are also patients who are not income-poor but have to maintain his/her life with a respiratory equipment (Sanlı et al., 2015). Therefore, according to them, these people, though not income-poor, need more energy and thereby, are regarded as vulnerable customers in Turkey. Since Regulation of the Customer Service does not define who are vulnerable to energy poverty in Turkey, they think that "vulnerable customers" who are subscribed to electricity and natural gas would be better to be defined by authorities in this regulation.

An energy poverty framework that is integrated into the existing policies in energy and other domains will be much more successful than frameworks that are not. For instance, after providing some coal in one year, government could provide necessary materials for insulation to those who need energy at their homes following year. But the basic problem is to respond to the question about which energy sources will be supported. Is it electricity, coal or liquefied petroleum gas (LPG)? Thus, the Turkish energy poverty debate should focus on the following topics:

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- Drawing an 'energy poverty' framework;
- Deciding the groups which cost the most to the health sector in cold periods from among who are ill and elderly in terms of adequate heating;
- Including schools and hospitals, which are used by the groups mentioned above;
- Creating action plans to help energy-poor people escape from energy poverty problems (through energy efficiency support programmes);
- Monitoring the energy poverty support system through quantitative and surveys and finally,
- Calculating the efficacy of government fuel allowances on total public expenditures which consist of all of the expenditures made by the government and in this way, deciding on the continuation of the program mentioned in previous steps by the policymakers in the country (Sanlı et al., 2015).

In 2017, Turkey's The Economic Policy Research Foundation (TEPAV) reported on energy dialogue between the European Union and Turkey again emphasized the importance of the topic of energy poverty (Vladimirov and Ozenc , 2017). The EU and Turkey have closely intertwined energy policies regarding common energy security positions and challenges, so it is valuable to create policy synergy and deeper integration between the two areas. The report, prepared in coordination with Center for the Study of Democracy and Economic Policy Research Foundation of Turkey (TEPAV), characterized energy poverty as a "wide-spread phenomenon" even while living standards had substantially improved since the early 2000s. The European Union provides some measures such as the promotion of energy efficiency and social benefits for vulnerable groups in order to deal with high levels of energy poverty. Energy poverty can stem from low levels of energy security. Turkey's energy consumption has increased in the last decade due to expansion of its economic performance and to increasing population. Therefore, it is predicted that the country's supply of natural gas may shorten in the future due to increased demand. Therefore, careful policies and rigorous implementation will be required to avoid sharp increases in energy poverty. Otherwise, Turkey will experience energy poverty as a top energy security risk in the region with its pervasive political and economic implications (Vladimirov and Ozenc, 2017).

The Council of Europe Development Bank (CEB, 2019, p.25) argues that an increase in energy efficiency measures leads to a decline in household energy spending levels. This is especially the case for CEB target countries, including Turkey. They estimate that the same increase in energy efficiency measures

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(energy efficiency index) leads to 1.15% decrease in energy spending levels in these countries, and to a 0.21% decline in energy poverty rates, which is measured by the percentage of people who cannot keep their home adequately warm.

Research perspective on energy poverty

Quantification of Energy Poverty in Turkey

Anadolu Agency (2014) reported that Turkey's then energy minister highlighted the importance of efficient energy use for eliminating the problem of energy poverty. According to the report, Turkey has a potential for saving up to $15 billion each year in its energy bills. However, the country still has a long way to go. Adopting policies that help develop wind, solar, hydropower, geothermal and cleaner biomass resources such as agricultural wastes (Calik, 2019) for the country is especially important to reducing the risk of energy poverty.

The 2017 TEPAV report estimates (Vladimirov and Ozenc, 2017: 8) that over 40% of Turkey's population are energy-poor and more than 50% still use wood and solid fuels so as to heat their homes. In part due this combustion of fossil fuels, Turkey has the worst air pollution levels among all OECD countries. Though they do not define energy poverty explicitly, they approach this issue in terms of "uninterrupted availability of energy resources sufficient to meet energy consumption demand at affordable prices" (TEPAV, 2017: 23). Energy security, energy poverty and energy dependency are the terms, which are used inter-relatedly. Focusing on energy efficiency and on developing alternatives to the inefficient fuels that predominate in energy poor households are very important options in the sense that they may lead to lower energy prices or at least check the rise of them. In this way, energy security risks for Turkey in the future can be reduced. Delivering clean, competitive and secure energy can all be aligned with these options.

In addition to the data above, Eurostat data also shows energy poverty situation of Turkey compared to the other countries in the European Union and Euro Area. In the EU, the percentage of population living in homes unable to keep their home adequately warm ranges from 0.3% to 30.1% with only 4 out of 33 EU or Euro Area countries having higher rates of Turkey in 2019. In 2006, the percentage of population living in homes unable to keep their home adequately warm ranges from 0.6% to 69.5% in EU or Euro Area countries with only 2 out of 29 countries having higher rates than Turkey. EUROSTAT (2020) data refer to income situation in relation to the risk of poverty threshold and show the development of poverty and social inclusion in the EU as well as in Turkey. Data for Turkey are available

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starting in 2006. The reason for showing the data for both Turkey and some of the EU countries is because we would like to highlight the fact that there is really a huge difference between these countries and Turkey in terms of percentage of energy poverty. On the other hand, energy poverty levels in Greece are quite like Turkey's energy poverty levels. For instance, in 2019, the percentage of population unable to keep home adequately warm by poverty status was 17.9% in Greece while the percentage of population unable to keep home adequately warm was 19.2% in Turkey in the same year. It is also important to note that Turkey's percentage of energy poverty, defined as the inability to keep home adequately warm, is lower than that of Bulgaria. For example, while this percentage was 30.1% in Bulgaria in 2019, the percentage was 19.2% in Turkey for the same year.

There are also books, articles, reports and blogs outside of Turkey which include Turkey in their discussions of the issue of energy poverty. They also refer concrete policies to deal with the problem. A list of studies follows.

- Atiyas et al. (2012) point out that the reasons behind the problems of energy poverty and affordability in Turkey are unequal distribution of income and regional dimensions of this inequality. They emphasize the importance of a direct policy to solve energy poverty and affordability issues. They also argue that tackling energy poverty through cross subsidies across consumer groups is not efficient because income inequality is very high in Turkey and any upward adjustment in prices affects poor households. In the context of the implementation of electricity prices, cross subsidy is bearing some or all the cost for an activity, region or subscriber group by other activities, regions or subscriber groups.

- Bouzarovski et al. (2012) touch on the status of Turkey about energy poverty. According to this, Turkey gained the status of 'observers' in the Energy Community Treaty together with Norway and Georgia.

- Thomson et al. (2017) examine the relationship between health, well-being and energy poverty for 32 European countries, including Turkey. It was found that Turkey was among the countries with the highest prevalence of poor emotional well-being; in addition, the energy-poor population in these countries (including Turkey) have higher prevalence of poor well-being compared to non-energy poor population.

- In the blog of International Master programme in Sustainable Development and Corporate Responsibility by the university of Escuela de Organizacion Industrial (EOI), it is pointed out measures and policies about energy poverty in Europe. The blog points out that energy poverty significantly

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> affects the south east of Europe, including Turkey. Proposed measures and policies can be divided into four categories. These are energy efficiency measures, information and awareness campaigns, financial interventions and additional consumer protection methods (Young, 2017).

In the first part of this section, I reviewed the issue with relevant data, and I included Bouzarovski et al.'s (2012) and Thomson et al. 's (2017) articles because their studies informed the readers about Turkey from abroad. Unfortunately, academic studies and national reports on energy poverty written in Turkey are limited. The paragraphs below summarize the research that is available.

Kaygusuz (2011) examines energy services and energy poverty problems for sustainable rural development in developing countries, including in Turkey. The author defines energy poverty as "the absence of commercially supplied energy in a society". The article mentioned that rural households in many countries, including Turkey, still use wood and other biomass fuels for their activities. The role of women in collecting and managing traditional fuels in these areas – and therefore the need to include a special focus on women in energy access programs – is especially highlighted in the article.

It is worth considering Emeç et al.'s (2015) article since it focuses directly on energy poverty and analyses it for the first time in Turkey. Though an official definition for energy poverty does not exist in Turkey, the authors approached this issue within the context of household energy preferences. They establish a relationship between poverty and access to modern energy sources that are clean, sufficient and economic. According to their article, low-income people cannot reach modern energy sources. Qualified energy consumption (e.g., consuming clean, affordable, and sustainable energy sources) is associated with active, efficient and fair energy policies. Their argument is also notable in the context of raising awareness for energy efficiency policies, thereby renewable energy sources and energy justice.

Eke (2018) discusses the importance of energy and energy poverty in the world, including Turkey. He also touches on the methods, which will be used in measuring energy poverty in the literature. He emphasizes the importance of low levels of income, energy inefficiency and rise of unit prices in energy as the main determinants of energy poverty as well as some problems which will be emerged as a result of energy poverty. He also examines social policies and intervention methods to alleviate energy poverty and emphasizes the importance of energy poverty in the context of Millennium Development Goals. In addition, case studies about energy poverty from various countries, including Turkey, appear in the book.

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Selcuk and Koktas (2018) estimate that in 2016, 22.3% of households in Turkey had heating issues in their homes, and that 24.2% of households could afford energy bills in 2016. These estimates were based on TURKSTAT Household Budget Surveys and were found to be nearly three times the level of the corresponding averages across the EU based on EU Income and Living Condition Surveys. and defined energy poverty regarding household energy consumption or inadequate warmth at homes. Their main aim is to point out energy poverty in Turkey and raise awareness for the need to tackle with this issue by comparing Turkey's data with the EU countries.

Kose (2019) examines the relationship between energy poverty and health using Turkish Statistical Institute's (TURKSTAT) nationally representative household survey data (i.e. Income and Living Conditions Survey) for 2014. The results suggest that health level of individuals is negatively affected by energy poverty in the country. In addition, physical deficiencies such as leaking roofs, damp walls etc. and insulation problems in houses negatively affect individual health status. It is also suggested that demographics and household-level factors have the main impact on individual health status rather than regional-level variables.

Selcuk et al. (2019) examine the issue of energy poverty in Turkey. Their results suggest that about one-quarter of households are energy-poor in Turkey and nearly half of the households are at risk of facing energy poverty. They also found that household energy poverty decreased from 2003 to 2017.

The Natural Gas Distribution Companies Association of Turkey explains what energy poverty is and refers to some data on energy poverty in the world and in Turkey. According to this report, TUIK states that housing and energy consumptions have decreased over time in Turkey. For instance, while households spent 29% of their income for housing and energy expenditures in 2008, they spent 24.8% of their total income for housing and energy expenditures in 2014. In other words, there is an improvement in these expenditures by 4.2%.

According to the Institute for Energy Economics and Financial Analysis, Turkey should decide whether to use traditionally used energy sources such as coal, wood, etc. or not. Renewable energy is called out as a more economically sustainable and less financial risky energy source. Since coal creates high levels of air pollution, renewable energy is also better for the environment and public health. Moreover, renewable energy can also alleviate energy poverty through the convergence of demand for capacity of energy use. Since the authors found that Turkey has not invested in renewable energy enough, their report also warns Turkey that the country may miss the opportunity to achieve energy transformation (Yenigün Dilek and Schlissel, 2016). Therefore the country needs to adapt to global energy transformation as done by China, India, and other emerging economies.

Source: EP-pedia Website

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