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# **The Governance of Energy Poverty in Southeastern Europe**

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**Stefan Bouzarovski**

**Robert Sarlamanov**

**Saska Petrova**

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**South-East Europe  
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IFRI  
27, RUE DE LA PROCESSION  
75740 PARIS CEDEX 15 – FRANCE  
Tel: +33 (0)1 40 61 60 00  
Fax: +33 (0)1 40 61 60 60  
Email: [ifri@ifri.org](mailto:ifri@ifri.org)

IFRI-BRUXELLES  
RUE MARIE-THERESE, 21  
1000 – BRUSSELS – BELGIUM  
Tel: +32 (0)2 238 51 10  
Fax: +32 (0)2 238 51 15  
Email: [info.bruxelles@ifri.org](mailto:info.bruxelles@ifri.org)

WEBSITE: [ifri.org](http://ifri.org)

# Summary

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This report presents the outcomes of a recently-completed research project<sup>1</sup> aimed at uncovering the different ways in which energy poverty – understood as a condition wherein the domestic energy services available to a household are below socially and materially-necessitated levels – is produced by, and mitigated through, the interaction of relevant decision-making institutions in the energy, social welfare, health and housing domains. The project focused on conditions in Southeastern Europe, where energy prices have been recently on the rise despite falling incomes and poor access to efficient and adequate energy services. We explored the legal frameworks and governance practices that underpin energy poverty-related policies the Republic of Macedonia and Bulgaria: two neighboring countries at different development stages in terms of the state's regulatory capacity to support households vulnerable to energy deprivation. Data was gathered and analyzed with the aid of interviews with decision-makers, as well as a review of written legal and policy documents. The broad-level patterns of energy poverty in both countries were established with the aid of analyses of published statistical data, and findings from the secondary literature.

The findings of the study revealed that both states have moved from a reactive policy regime - entailing a slow process of energy liberalization and privatization due to social welfare concerns, gradual energy price increases, and the inadequate development of targeted social welfare programs – towards a more proactive approach, which has involved the strengthening and expansion of social safety nets, accompanied by the introduction of comprehensive measures such as block tariffs and direct earmarked support. Even though the shift from one regime to the other has taken place at a much faster and stronger pace in Bulgaria, both states still lack targeted residential energy efficiency programs for vulnerable households, and the flow of knowledge and expertise towards and among state institutions remains narrow and untransparent. In the Republic of Macedonia and Bulgaria alike, the state has found it difficult to determine which households need energy poverty-related social support, and to what extent. State housing policy remains

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underdeveloped and poorly co-ordinated, and there is inadequate co-operation with local government and NGOs, especially in the Republic of Macedonia. At the same time, the state institutions that have traditionally had a strong institutionally embedded role in setting social policy have a disproportionately powerful role in formulating and implementing energy poverty support. In addition to these issues, which are more or less common for both states, the Republic of Macedonia suffers from a bureaucratized, overregulated and politically ineffective decision-making process, characterized by a lack of effective co-operation among state and non-state actors.?

Birmingham, February 2011

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## Introduction

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Energy poverty can be defined as a condition whereby a household is unable to access energy services at the home up to a socially- and materially-necessitated level (Buzar 2007a). Although it has become commonplace to refer to this problem in the context of developing countries in the global South, there is much less theoretical and empirical coherence when referring to issues of inadequate thermal comfort and domestic energy deprivation in the global North. The UK – and to a lesser extent, Ireland – are the only countries that have developed a distinct set of policy debates and scientific research programs around questions of ‘fuel poverty’, largely thanks to public advocacy about the health problems faced by households living in inefficient and poorly heated homes (Roberts 2008, Boardman 2010). Knowledge about energy poverty in the rest of Europe is at a nascent stage, despite the recent completion of a pan-European research project which emphasized that ‘retired people, those out of work or in poorly paid jobs, and those dependent on social security benefits’, as well as ‘elderly, disabled or single parent families’ are at the highest risk of falling into fuel poverty ([www.fuel-poverty.org](http://www.fuel-poverty.org)). Previously, the only academic contribution that had provided an integrated perspective on the issue was Healy’s (2004) book on housing, fuel poverty and health in the European context.

The post-communist states of Eastern and Central Europe (ECE), particularly those located in Southeastern Europe (SEE), are particularly vulnerable to energy poverty due to the combination of cold winters, higher-than-average rates of inefficient housing, inadequately developed and/or decaying infrastructure, large income differentials and economic/political restructuring issues (Buzar 2007a, 2007b, 2007c). Many countries in this region have undertaken significant energy price increases during the past 20 years, with the aim of removing the price structure inherited from the centrally planned economy. Before 1990, tariffs were set at below cost – recovery levels and there were extensive cross – subsidies from industry to the residential sector. The problem that has emerged in

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Dr. Stefan Bouzarovski is Senior Lecturer, School of Geography, Earth, and Environmental Sciences, University of Birmingham, Visiting Professor, Department of Social Geography and Regional Development, Faculty of Science, Charles University in Prague, External Professor, Department of Economic Geography, Faculty of Oceanography and Geography, Gdańsk.  
Robert Šarlamanov is Monitoring and Evaluation Consultant.  
Dr. Saska Petrov ais Environmental Consultant.

the post – communist transition, however, is that most governments have been unable to develop the necessary social safety net to protect vulnerable households from energy price increases. This has left many families with no option other than cutting back on their energy purchases. International organizations have emphasized that energy affordability is therefore a problem for many consumer groups in SEE, including ‘pensioners, unemployed, low income households’, especially in the states that ‘have not yet developed adequate social safety mechanisms to protect energy poor consumers’ (EBRD 2003).

In light of the general deficiency of empirically-informed research on the organizational and political underpinnings of inadequately heated homes in this part of the world (but see Lampietti 2002, Kovacević 2004, Buzar 2007a, 2007b, 2007c, 2008), the aim of the field research that led to this report was to uncover the different ways in which energy poverty is produced and mitigated through the interaction of relevant decision-making institutions in its energy, social welfare, health and housing domains. This predisposed us towards unraveling the institutional dynamics that may generate and sustain the ‘geographies of energy poverty’ (Bouzarovski 2009). In particular, we focused on the organizational and political factors that drive the rise of energy poverty in the Republic of Macedonia and Bulgaria: two broadly similar SEE states at different stages in the development of their regulatory capacity to support households vulnerable to domestic energy deprivation. In particular, the research aimed to highlight the multiple ways in which socioeconomic legacies, spatial structures and policy decisions interact to give rise to domestic energy deprivation.

In addition to yielding improved information and knowledge about the effectiveness of existing energy poverty policies in SEE, the analysis’ comparative component was expected to provide further insights into the conduciveness of different institutional designs to energy poverty: to what end can national variation in patterns of domestic energy deprivation be attributed to the institutional and economic legacies of the transformation process in the two countries? The choice of SEE states facilitated the answer to this question, as the Republic of Macedonia and Bulgaria are broadly similar in terms of their economic and political features (GDP per capita, political priorities, former socialist regime). Yet there are significant differences between them in terms of energy production capacities, energy infrastructure, and the institutional character of the energy sector (as evidenced, not the least, by the existence of funds for ‘green energy’ and energy efficiency in Bulgaria). Also, Bulgaria is an EU member state, while Macedonia is only now beginning to enter the accession process. This divergence points to the fact that Bulgaria is at more advanced position in the energy restructuring path – particularly with respect to the governance of energy efficiency and social welfare – which might mean that its experience can be useful for the development of broader reform frameworks elsewhere in the region, especially Macedonia.

Considering the lack of a relevant baseline for comparing the extent and structure of energy poverty between the two countries, the research also examined the demographic depth of the problem with the aid of welfare economic methods such as the compensating variation and energy burden analyses (see Buzar 2007a, 2007b, 2007c). This helped provide a comparative basis against which to judge the effectiveness of different policy frameworks to deal with energy poverty. Having unraveled the institutional embeddedness of domestic energy poverty, the project also interpreted the broad-level path-dependencies, interests and constraints that have shaped the relevant institutions' development over time. The purpose of this review was to relate the institutional production of energy poverty to its wider temporal and spatial context, and to suggest measures for improved sectoral policies in the future.

## ***Theoretical framework***

We relied on political economy concepts in developing our analysis: they provided a valuable framework for understanding energy poverty-generating processes in the post-communist transition. Recent empirical work indicates that the economic success of a given post-communist country is more closely dependent on the institutional infrastructure than previously thought, while the reverse is true in the case of short-term macroeconomic policies (Amsden et al. 1994, Raiser et al. 2000). Econometric studies also tend to confirm a positive link between institutional cultures, and economic growth (Blanchard et al. 1992). Such findings point to the importance of non-formalized systemic elements in analyses of post-socialist restructuring, as opposed to solely concentrating on the formal aspects of legislative reform.

One of the most useful political economy frameworks for analyzing post-socialist energy sector transformation has been developed by von Hirschhausen and Wälde (2001). They identify three institutional layers, which influence the stylized outcomes of the energy restructuring process:

- First: the 'set of formal institutions' includes the legal framework and the technical prerequisites to operate and control markets, the monetization of the economy, and budget constraints on independently operating enterprises. The functioning of formal institutions can be observed easily by surveying the legal regulations and strategic documents formulated by the given country
- Second: informal institutions, which include 'the non-codified legal, economic and cultural conventions... the civil service culture, with more or less explicitly defined incentive structures, the culture of

political, professional and academic debate' etc. In this layer, the evaluation of informal institutions is largely dependent on empirical observations on-site.

- Third: 'the societal consensus about the economic system', encompassing both the normative ('which system should govern?') and the positive aspect ('which system does in fact govern?'). Empirical evidence indicates that different post-socialist states have taken different views towards fundamental questions concerning systemic change.

In the theoretical framework of the proposed research, this classification was combined with Buchanan's (1975) distinction between the building of an institutional infrastructure ('choice of rules') and the day-to-day policymaking process ('choice within rules'), to yield an analytical framework for the institutional aspect of energy poverty.

## ***Research evidence and methods***

In order to determine the extent of energy poverty in the two countries, we used a combination of the compensating variation method combined with an analysis of energy burdens (see Buzar 2007a, 2007b, 2007c). The compensating variation quantifies 'the price a consumer would need to be paid... to be just as well off after... a change in prices of products the consumer might buy' (Economics Glossary, 2005). It expresses the percentage by which a given household's income would have to rise in year  $y$ , in order for it to be able to purchase the amount of energy that it was buying in a previous year  $x$ , before prices were increased. The higher the compensating variation for a given group of households, the greater its loss of welfare during the period between  $x$  and  $y$ . Comparing the compensating variations for different income strata can lead to an estimate of the size and type of populations affected by energy price increases over the given period.

The project relied on national-level statistical data to estimate the compensating variation on the basis of an 'equivalent-income' classification, where households are categorized into deciles based on their total income per an 'equivalent' member. National statistical agencies obtain this figure by dividing total household income with the number of 'equivalent consumption units' in each family, to account for the economies of scale achieved in household consumption. We sourced data directly from the national statistical offices for this purpose, aiming to assess the extent and development of energy poverty in two sample years: 2002 and 2009. This allowed us to assess the temporal growth of domestic energy deprivation during the post-communist transition. The

extent of domestic energy deprivation was also judged by looking at the results of national surveys of subjective well-being.

The institutional background of energy poverty was scrutinized with the aid of semi-structured interviews with policy-makers, experts and professionals. A total of 25 government officials, company representatives, and NGO activists were interviewed in both countries<sup>2</sup>. The interviews were of a semi-structured character: only the general framework was pre-set, with the exception of a limited number of precise questions, where necessary.

The interview questions can be categorized into four broad groups:

- Brief factual questions about the operations of the given institution
- Fact-seeking queries dealing with the decision-making process behind the formal legal acts and policies ('choice of rules')
- Where applicable, we were interested to know whether and how institutions are developing a non-

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<sup>2</sup> Interviews were undertaken in Skopje, Sofia and Brussels during April and September 2010 and included representatives of the following Bulgarian organizations:

- The National Statistical Office
- The Energy Policies, Strategies and Projects Directorate of the Ministry of Economy, Energy and Tourism
- The Energy Supply Directorate of the Ministry of Economy, Energy and Tourism
- The Social Protection and Social Inclusion Directorate of the Ministry of Labor and Social Policy
- The Sofia Energy Center
- The Federation of Consumers in Bulgaria
- The *Dnevnik* newspaper.

Representatives of the following Macedonian organizations were included:

- The State Statistical Office
- The Assembly of the Republic of Macedonia
- The Macedonian Center for Energy Efficiency
- The Energy Department of the Ministry of Economy
- The Sector for Social Protection of the Ministry of Labor and Social Policy
- The Energy Economy Department of the EVN utility company
- The Institute for Public Health within the Ministry of Health
- The Analytica Thinking Laboratory
- The *Toplifikacija* District Heating Company
- The Department for Housing, Utilities and Infrastructure of the Ministry for Transport and Communication.

As many of the interviewees wished to remain anonymous, we have decided not to cite their names in this report. When quoting the words of a particular interviewee, his or her institutional affiliation, and date of the interview are noted.

formal implementation framework inside the formalized strategies ('choice within rules')

- The power relations stemming from, and produced by, the nature of intra- and inter-institutional relations.

Interviews were held in the native language of the interviewees and later transcribed. Parts of the interviews were also translated into English. We also relied on formal policy documents, government decrees, strategic papers and other legislative acts relevant to energy poverty amelioration, as well as the secondary literature on the subject, including independent policy reviews (the results of the analyses of some of these documents are provided in Annex 1).

## European Policies on Energy Poverty: Setting the Context

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The European Union (EU) has become increasingly committed to tackling energy poverty through direct and indirect regulation, even though many uncertainties remain unresolved in its attempts to addressing the complex needs of vulnerable groups. The enlargement process has increased the demand for new policies in this domain, partly as a result of the pronounced existence of energy poverty-related problems in the new member states.

Energy poverty first entered the vocabulary of EU institutions in the process of drafting the Third Energy Package, when political action within the European Parliament led to a the integration of energy poverty concerns within the Directives 2009/72/EC and 2009/73/EC of the European Parliament and of the Council, 'concerning common rules for the internal market in electricity and natural gas supply'. The compromise text of the directives recognized the existence of a 'growing' energy poverty problem in Europe, requiring member states 'who are affected and which have not yet done so' to ensure the necessary energy supply for vulnerable customers, 'aiming at decreasing the number of people' suffering from this situation. National governments were subsequently asked to formulate 'appropriate measures' to address energy poverty, including the development of national energy action plans. It was noted that

'In doing so, an integrated approach such as in the framework of social policy, could be used and measures could include social policies or energy efficiency improvements for housing. At the very least, this Directive should allow national policies in favor of vulnerable customers' (European Parliament 2009).

The increasing prominence of energy poverty within the EU political sphere is also evidenced by the opinion on 'Energy poverty in the context of liberalization and the economic crisis', issued by the European Economic and Social Committee (EESC) on the 14th of July 2010. Having concluded that 'energy poverty affects the energy sector' while also impacting 'health, consumer affairs and housing', the Committee suggested that 'the EU adopt a common general definition of energy poverty that can then be adapted by each Member State'. It furthermore proposed that 'existing statistics should be harmonized so that the most rigorous assessment possible can be made of the energy poverty situation in Europe'. While emphasizing

that ‘the number of families affected by energy poverty in Europe could increase’, the Committee insisted that ‘it would make sense to set up a European Energy Poverty Monitoring Center, which could fit within an existing body such as the Agency for the Cooperation of Energy Regulators’.

Article 2.7 of the Committee’s conclusions pointed out that ‘energy poverty is caused by a combination of three factors: low income, inadequate building quality and high energy prices’. During an informal meeting of EU energy ministers on the 6th of September 2010, the European Commission agreed to produce a report presenting a definition of vulnerable energy customers. According to a subsequent news item:

‘The meeting, convened by Paul Mignette, Belgian climate and energy minister, saw a rare debate on energy poverty... “This was the first time in 10 years that the issue of consumers was directly addressed by energy ministers”, said Mignette... Energy poverty is an everyday problem for over 50 million Europeans who are estimated to be unable to pay their energy bills and maintain comfortable living standards, Mignette said... The idea is not to harmonize social policy, which is for the most part a national competence, Mignette told journalists after the two-day meeting. But he said the EU must acknowledge the problem and see whether there is a need to propose a new piece of legislation or change existing measures’ (Euractiv.com, 8th September 2010).

The Commission report, published at the end of November 2010, listed existing and future EU energy policies which are likely to affect the manner in which consumers’ interests are taken into account in energy policy. It emphasized the importance of mechanisms such as energy ombudsmen, complaint boards and consumer protection authorities in dealing ‘efficiently with complaints and facilitate out-of-court dispute settlements’ (European Commission 2010). It also encouraged ‘Member States to adopt appropriate long-term policy solutions, and not only temporary relief’ so as to ‘replace direct subsidies for high energy bills with a support for improving the energy quality of the dwellings’ (ibid). While pointing out that ‘energy efficiency measures should be an integral part of welfare policies’, the report also underscored the following:

‘There is no consensus on what actually constitutes energy poverty... One possible way to quantify the number or proportion of households struggling to settle their energy bills is to try to count the households that spend more than a predefined threshold share of their overall consumption expenditure on energy products. An alternative method could focus on those households that have (or have had in recent times) payment difficulties or are in arrears with energy bill payments. Given the diverse situations of energy consumers in different parts of the EU, the Commission does not consider it appropriate at this stage to propose a European definition of energy poverty or of vulnerable customers’ (ibid).

The findings of the report were to be followed up at a subsequent Energy Council meeting, when the Commission Report would be scrutinized. However, as pointed out by Europe's main co-operative housing advocacy organization:

'While the Informal Energy Council in September was dedicated to the most vulnerable energy consumers as well as the phenomenon of energy poverty, the formal Energy Council of December 3rd has adopted conclusions on "an Energy Policy for Consumers" which does not fully recognize the complexity and accurateness of the phenomenon of energy poverty (CECODHAS Housing Europe 2010)'

In this context, it should be pointed out that the European Commission recently adopted a communication titled 'Energy 2020 - A strategy for competitive, sustainable and secure energy'. It defines the energy priorities for the next ten years and sets the actions to be taken in order to tackle the challenges of saving energy, achieving a market with competitive prices and secure supplies, boosting technological leadership, and effectively negotiating with the EU's international partners. While issues surrounding intra-EU energy co-operation are left open, current policy proposals within the document include a number of energy-poverty relevant topics such as:

- The management of internal energy markets, such as the strengthening of regulation to increase competition, consumer protection and increase of security of supply
- Infrastructure, such as gas pipelines and interconnectors between national electricity and gas networks, simplified procedures for permissions and financing, as well as.
- Energy efficiency, which could include strengthening ecodesign regulation, financing, and revisions of the Energy service and CHP directives.

Although 'Energy 2020' is described as more consumer-friendly document, since it refers to the establishment of safety nets for vulnerable consumers, the strategy does not explicitly mention energy poverty as an issue. This is contrary to the 15th December 2010 European Parliament resolution on the Revision of the Energy Efficiency Action Plan, where it is stated that the Parliament... 'believes it is essential that the homes of energy poor households are improved to the highest possible energy efficiency standards and without raising the daily costs for the energy poor; Stresses that this will often require substantial investment in homes but will on the same time generate a lot of non energy benefits, e.g. by reduced mortality, improved general well-being, lower levels of indebtedness and reducing healthcare costs by reducing indoor pollution and thermal stress (European Parliament 2010)'

## ***Indirect action to address energy poverty***

Despite the lack of direct action to resolve energy poverty, the EU has been addressing the issue through a distinct set of indirect social welfare, energy and housing measures. The bloc has developed appropriate regulation in the following energy-related directives:

- Directive 2010/31/EU on Energy Performance of Buildings (a recast of the Directive 2002/91/EC), which addresses housing conditions through better energy efficiency of buildings. Each member state is obliged to develop its own methodology to implement the goals of this Directive
- Directive 2010/30/EU on the labeling and standard product information of the consumption of energy and other resources by energy-related products
- Directive 2006/32/EC on energy end-use efficiency and energy services, repealing Council Directive 93/76/EEC
- Directives for labeling various household appliances (94/2/EC, 95/12/EC, 95/13/EC, 96/60/EC, 97/17/EC, 98/11/EC, 2001/40/EC and 2002/31/EC),
- Directives 2003/54/EC and 2003/55/EC, which provide for the right of consumers to have a contract with their energy provider, the right to receive transparent information on prices, and the right to be given adequate notice if contractual conditions are changed
- Directive 2005/29/EC, which outlaws unfair commercial practices, also including the energy sector.

Alleviating poverty and social exclusion is primarily a responsibility of the EU's member states. Nevertheless, the EU has set goals and initiated certain innovative approaches in order to reduce the disparities among its regions. The Lisbon summit in 2000 provided an important political push towards poverty amelioration. At this summit, a decision was made for member states to co-ordinate their policies for combating poverty and social exclusion on the basis of the 'open method of co-ordination'. As a result of the summit, an increased number of legal and policy instruments has been adopted by relevant EU bodies. The EU's commitment in this context was reflected, for example, by the launch of the 'European Year Against Poverty and Social Exclusion' in January 2010.

One of the most recent and relevant EU policy documents is the Commission's Communication titled 'Europe 2020 – A Strategy

for Smart, Sustainable and Inclusive Growth', which is strongly focused on social cohesion and fighting poverty through, inter alia, measures in the energy sector (mainly energy efficiency and renewable energy sources). The key element (one of the seven flagships) of 'Europe 2020' is the 'Platform Against Poverty and Social Exclusion', through which a set of innovative approaches for fighting poverty and social exclusion are promoted in the member states and candidate countries. The Platform is aimed at creating a joint commitment among the Member States, EU Institutions and the stakeholders to fight poverty and social exclusion.

Of relevance to the European energy poverty sphere are also the activities of the Council of Europe (CoE) in the domain of housing policy. They are comprehensively reflected a recent CoE report on this issue, drafted by the Group of specialists on housing policies for social cohesion. The report aims to aid the improvement of housing access among vulnerable social groups in Europe. It has resulted in a set of specific guidelines, which stipulate the key prerequisites for an effective housing policy in this domain, while listing a range of potential policy tools. In this context, it is also worth mentioning the increasing role of the European Court of Human rights and case law under the Revised European Social Charter, and its associated collective complaints mechanism. As stated by the above mentioned CoE report, 'it is the Revised European Social Charter which gave a special emphasis to the housing problems of vulnerable social groups, which were reinforced by the CoE's Revised Strategy for Social Cohesion' (Council of Europe 2008).

While acknowledging the significant – and relatively fast – progress that European states have made in terms of addressing the structural causes and consequences of energy poverty, the participants in our Brussels workshop stressed that a more coherent and focused approach is necessary in order to develop existing instruments, and create new ones. It was observed that energy poverty-related policy measures in the EU context vary drastically from country to country, while lacking inter-sectoral co-ordination in terms of energy (affordability and accessibility), social welfare and housing policies. Although energy poverty measures are principally applied at the level of national and regional governments, it was emphasized that the EU should work on developing central guidance and a strategic impetus that member states would consider in designing appropriate instruments. In this respect, it was felt that the main gaps in addressing energy poverty revolved around:

- The need for the creation of policy initiatives that would specifically tackle energy poverty as a multidimensional and cross-sectoral phenomenon
- The development of regulation to fight energy poverty, including a definition of energy poverty (at the EU or national level) and vulnerable consumers

- The incorporation of energy poverty indicators in monitoring and evaluation mechanisms at the EU and national level
- The recognition of the need for extensive research and development, mainly due to the complexity of energy poverty. Further analytical work should foster an improved understanding of this novel multidimensional problem, helping formulate solutions that can be proposed to relevant policy makers.

It was also pointed out that the EU should make efforts to incorporate energy poverty-relevant objectives in the formulation of the new cohesion policy framework, so as to alleviate regional disparities in the provision of energy services. This is of particular importance for new and forthcoming member states, in terms of the improvement of relevant energy infrastructure and housing conditions.

### ***Energy poverty in Southeastern Europe***

SEE is possibly Europe's most energy poverty-vulnerable region. Not only are the climates of the countries in this part of Europe characterized by cold winters (despite being located in southern latitudes), but they have also been disproportionately affected by the typical legacies of the centrally-planned economy – indirect energy price subsidies, reliance on polluting sources of energy, state interference and ownership of energy enterprises – as a result of the slow post-communist restructuring process. Most countries in the region, however, have managed to successfully implement neoliberal energy reforms, such as upward price rebalancing, the unbundling, liberalization, marketization and privatization of the energy sector, as well as the establishment of independent regulators. As in other parts of ECE, however, the liberalization and privatization process has been stalled by welfare concerns, and the inadequate development of social welfare programs to support energy-poor households. The main consequence of such policies has been that electricity prices have been kept artificially low, resulting in the expansion of electricity for heating, and the widespread decline and abandonment of DH networks. Still, the fact that even modest rises of electricity prices have made this resource too expensive for many rural households has meant that fuelwood is becoming an increasingly important method of obtaining energy services in the home.

The post-communist transition has seen the removal of energy service – related social support from the auspices of energy companies, where it was traditionally located during the planned economy. Various schemes aimed at providing state social assistance to vulnerable households have been developed instead. These

currently include block tariffs in Albania, Kosovo and Croatia; and targeted social support in Serbia, Montenegro, Bosnia, Croatia, Bulgaria and Romania. The fact that electricity prices have risen above 10¢ in Romania, Bulgaria, Croatia on Montenegro means that energy affordability is now the subject of political attention across the region; especially in light of evidence that energy poverty encompasses both low- and middle-income strata (Buzar 2007a). Still, social support measures remain largely 'residual' and often serve as political instruments, as is demonstrated by the fact that another form of energy subsidy inherent to the post-communist transition – the tolerance of non-payment and arrears – is still widespread across the region. It should also be noted that the policies of governments and energy companies rarely address structural problems in the fuel mix, despite the fact that several SEE countries have seen the establishment of more cohesive housing policies, partly as a result of EU and donor efforts.

In addition to the energy poverty-relevant policies arising as a direct consequence of EU-level actions and the influence of multi- and unilateral financial institutions and donor organizations (such as the World Bank and European Bank for Reconstruction and Development), a key impetus for government policy in this domain has been provided by the mechanisms stemming from the Energy Community Treaty. The initiative to establish the treaty dates back to 2002 and 2003, when two subsequent Memoranda of Understanding for the development of a regional electricity market in SEE were signed in Athens. A forum meeting in Athens, held in 2004, resulted in a specific name for the process: 'Energy Community'. During the same year, the European Union decided to open negotiations with SEE states in order to conclude a legal agreement covering network energy and the creation of a regional market. This was followed by the formal signing of the treaty by Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Macedonia, Romania, Serbia and UNMIK on behalf of Kosovo. The treaty came into force and was subsequently enlarged to include Moldova and Ukraine as full members. The original signatories that joined the EU since the establishment of the treaty became 'participants' alongside numerous other EU states, while Norway and Turkey have the status of 'observers' in addition to Georgia.

'Social issues' are one of the key areas of work of the Energy Community, since: 'The establishment of a single Energy Community market, the ultimate aim of the process, will enhance working conditions and standards of living in general. As a result of the liberalization and deregulation process, legal and institutional framework as well as tariff and pricing policies undergo substantial changes. Should no accompanying measures be taken, the reform process might bring about adverse effects on people's every day life. Such social implications vary from direct and indirect employment, effect on skills and qualifications, to energy affordability for households' (Energy Community 2011a).

Activities in this domain have stemmed from the drafting of a 'Memorandum on social issues' which has been signed by all parties to the Treaty. The memorandum, which stems from the Implementation of the Directives 2003/54/EC and 2003/55/EC, outlines the signatories' political intent to appropriately consider the 'social dimension' within the context of the Treaty. It covers issues such as public service obligations, workers' rights, health and safety and equal opportunities, in addition to committing its members to 'assess the need and the form of a social platform for dialogue, explicitly targeting social impacts of energy market reform'. Interestingly:... 'the Contracting Parties invite the European Commission to develop strategies to deal with the wider social dimension covering the issues of affordability, energy poverty, district heating reform, rural distribution, isolated systems and societal impacts of reforms. They also welcome financial support on behalf of the European Commission and of the Donors' Community for activities supporting the aims of the Memorandum' (Energy Community 2011a).

Social action plans have provided a key policy approaches for addressing the social dimension of the Treaty. Albania, Montenegro, the Republic of Macedonia, Bosnia and Herzegovina, Croatia and Serbia have already drafted such plans following an agreement to establish working groups for their drafting in 2008. Some countries have also identified and transposed the necessary EU regulation into their national legislation.

## Governing Energy Poverty in the Republic of Macedonia

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The Republic of Macedonia occupies a territory of 25 715 sq. km in the central parts of the Balkan Peninsula. Its estimated population reached just over 2 million inhabitants in 2007. The country borders Greece, Bulgaria, Albania, Kosovo and Serbia. The largest contribution to national GDP is made by the service sector at 57.9 percent, followed by industry at 29.5 percent and agriculture with a further 12.6 percent.

Macedonia had only one hydropower storage and several small run-of-river and coal-burning plants prior to World War 2. The late 1950s, 1960s and 1970s saw the rapid development of its energy sector, resulting in the construction of several hydropower plants in the western parts of the country. The total installed hydropower generation capacity currently stands at 520 MW, accounting for approximately 30 percent of total production. It is estimated that this is less than a third of the technically available installed hydropower potential.

As far as fossil fuel energy is concerned, it is worth noting that the first of the three blocks of the Bitola thermal power plant – the backbone of the country's electricity generation network, responsible for approximately 70 per cent of total production – was put into operation starting from 1982. Smaller thermal electricity generation plants had already been commissioned in 1978 and 1980, the former being notable for burning heavy fuel oil. A 230 MW gas-fired CHP plant in the city of Skopje entered operation in 2010, but has yet to start feeding power into the national grid. The plant is part-owned by the Topfikacija company, which generates heat for the city of Skopje; the city's district heating system was built in several stages starting from the 1960s, and currently has a capacity of 487 MW for generation of hot water 26 MW for steam production. It is worth noting that the Republic of Macedonia also has a significant renewable potential in the form of geothermal, solar, biomass and wind energy. However, this is insufficiently exploited at the moment: only 543 TJ of heat were generated from a potential of 220 MWt in 2003.

The country's total primary energy consumption amounted to 115.78 TJ in 2006, even though most the resources necessary to meet primary energy demand (49.84 per cent) are imported. For example, the Republic of Macedonia imports all of its needed gas from Russia, although the only pipeline is presently working at less

than half of capacity. Services and households account for the lion's share (40 per cent) of energy demand, followed by transport and industry. Although it has been estimated that primary energy consumption per capita has decreased since the early 1990s, an increase of electricity demand is projected for the future.

The main co-ordinator of strategic planning and legislation development within national energy policy is the Sector for Energy and Energy Efficiency (SEEE), which operates under the auspices of the Ministry of Economy. The SEEE also regulates contract licenses and agreements for energy activities and exploitation, while creating tariff systems and prices for energy products and services. In part, the SEEE implements the wide range its activities through the State Energy Agency (SEE) and the Energy Regulatory Commission (ERC). While the SEE is mainly responsible for the formulation and implementation of national energy policies – with a special focus on energy efficiency – the ERC's activities involve the establishment of tariff systems and prices, as well as authorization procedures and customer protection. The impact of the energy sector on environment, including climate change issues, falls under the remit of the Ministry of the Environment and Physical Planning. Energy activities related to road, air and water traffic and infrastructure are the responsibility of the Ministry of Transport and Communications.

Following the restructuring, unbundling and part-privatization of the formerly state-owned and integrated monopoly 'Elektrostopanstvo na Makedonija' (ESM) in 2005, three companies (the state-owned ELEM and MEPSO, and the private EVN) have been in charge of, respectively, electricity generation, transmission and distribution. The OKTA Refinery, owned by Hellenic Petroleum, dominates the oil derivatives and gas production market, even though another privately owned company (Makpetrol) is the largest distributor of such products. The GA-MA company was established by the Macedonian Government as a public enterprise for the supply, transport and distribution of natural gas.

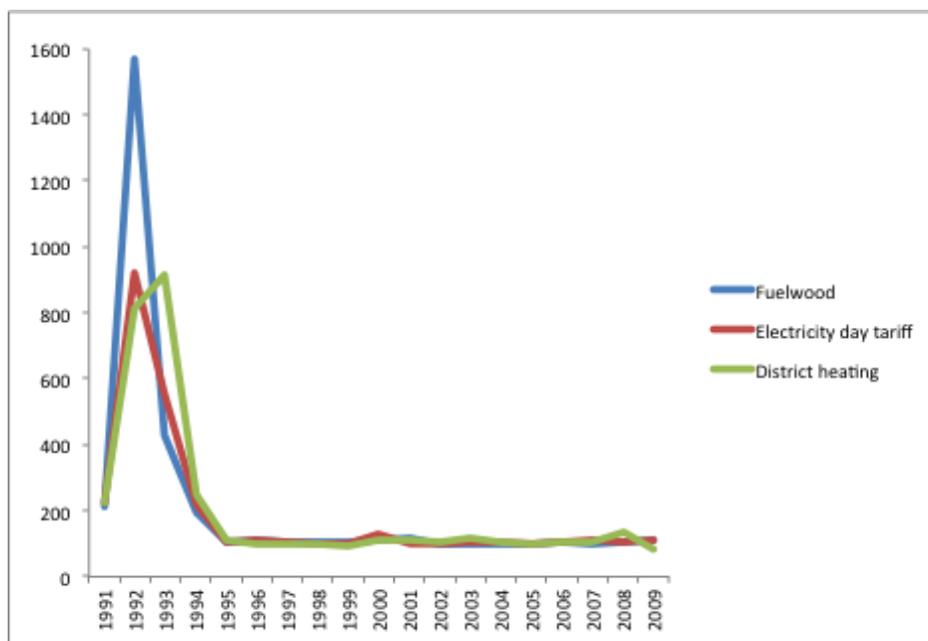
Other state actors relevant to energy poverty include the Ministry for Labor and Social Policy, which has a specialized Sector for Social Protection entrusted with managing the distribution of social support to vulnerable households. Policy measures in the housing domain fall under the aegis of the Ministry for Transport and Communication's Sector for Housing, Utilities and Infrastructure. An Institute for Public Health operates within the Ministry for Health; the monitoring and governance of the health impacts of energy poverty fall under its remit. It should also be pointed out that the country has a developed NGO sector, where there are a number of organizations (most notably the Association for the Protection of Consumers) that are indirectly interested in matters of energy use as they relate to poverty. Last but not least, various multilateral organizations operating in the country – including the European Bank for Reconstruction and Development, the World Bank, the US Agency for International Development, German Technical Co-operation, the Austrian

Development Agency – have often focused their work on the relationship between energy prices, social support and housing conditions.

## **General features of energy-poor households**

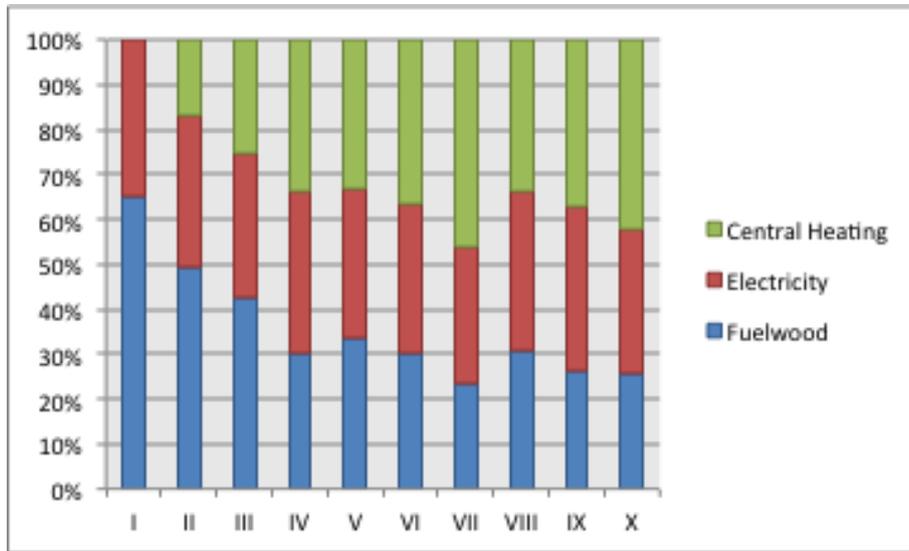
The post-communist transition in Macedonia has resulted in the restructuring of the energy sector, leading to increases in energy prices. Tariffs for heat and electricity have went up by more than five times compared to 1990 levels, with further electricity price rises expected in the coming years. As can be seen from Figure 1, the prices of all household energy sources have been consistently on the rise since 1991.

**Figure 1: Year-on-year price changes of the main household energy services in Macedonia, 1991-2009 (data supplied by State Statistical Office)**

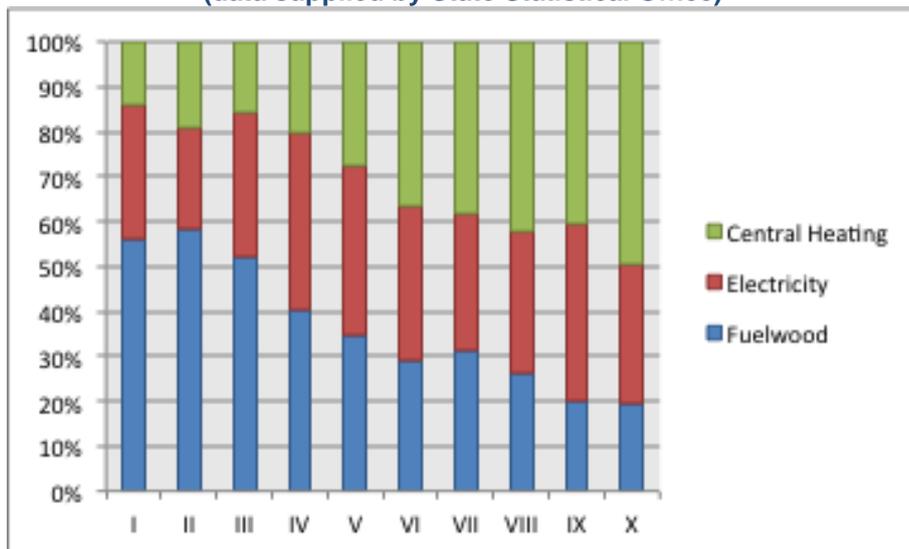


At the same time, the incomes of the population have remained unchanged. The country has underwent mass disconnection from district heating networks, and a move towards electricity for heating as a result of below-cost pricing of the latter. This has transpired despite the fact that a limited form of targeted social support for energy consumption – administered by the electricity utility – was abolished in 2002 as a result of the liberalization process. Nevertheless, low-income households have increasingly come to rely on fuelwood for heating (note the difference between Figures 2 and 3)

**Figure 2: Primary methods for heating the home among Macedonian households, per income decile, 2002**  
(data supplied by State Statistical Office)

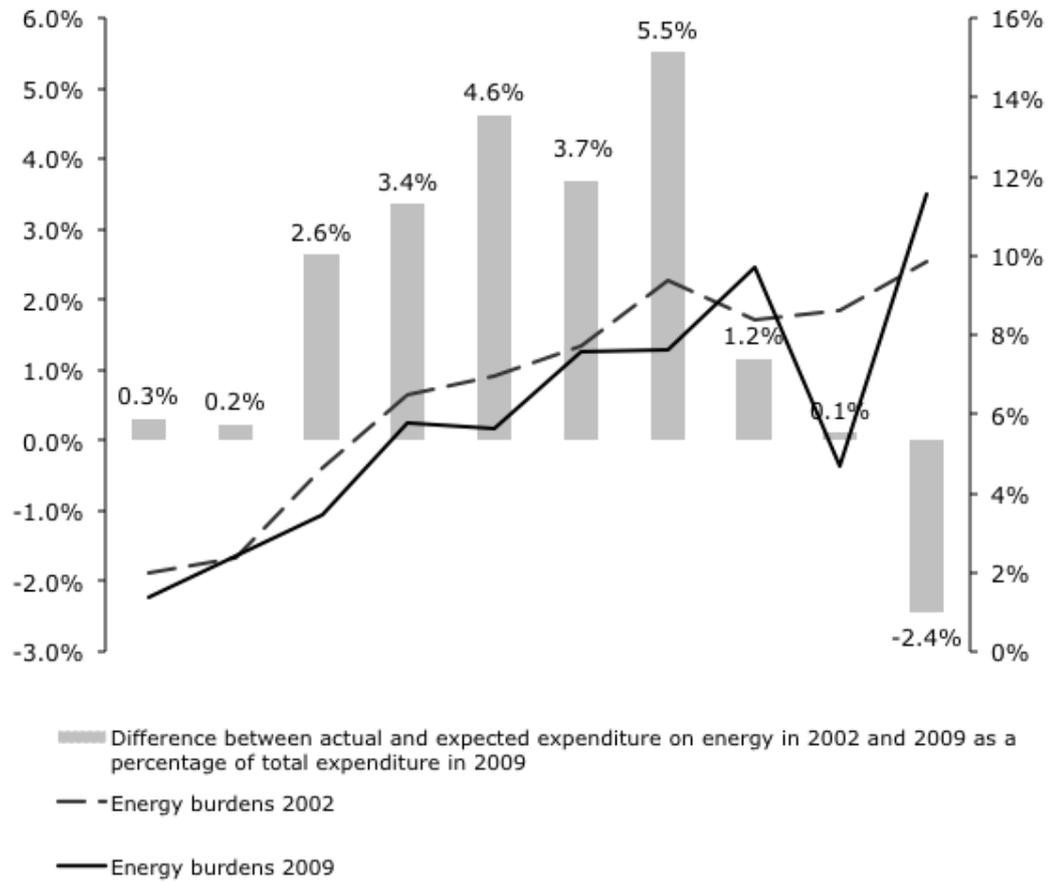


**Figure 3: Primary methods for heating the home among Macedonian households, per income decile, 2009**  
(data supplied by State Statistical Office)



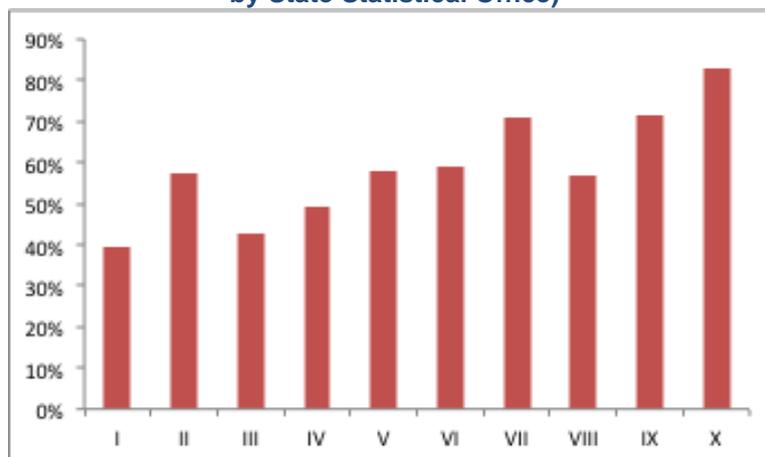
Previous studies have estimated that energy poverty in the country may include up to 61 percent of all households (Buzar 2007a). Our analysis of the compensating variation indicated that up to 80 percent of households have been facing a loss of welfare as a result of the rise of energy prices (Figure 4). According to the State Statistical Office’s annual poverty survey for 2009, only 58.4 percent of households reported that they could keep their home ‘adequately warm’. This figure was significantly lower among households in the first three income deciles (Figure 5).

**Figure 4: Values of the compensating variation on energy expenditure and energy burdens (share of energy expenditure in total household expenditure) among Macedonian households per equivalent income decile, 2002-2009.**



Note: A positive value of the compensating variation indicates a loss of welfare (data supplied by State Statistical Office).

**Figure 5: Share of households who stated that they manage to keep their homes 'adequately warm', per income decile, 2009 (data supplied by State Statistical Office)**



### ***Formal regulation and institutional structures: 'choice of rules'***

The main formal responsibilities of the institutions managing Macedonia's energy policy and related activities are currently defined by the Energy Act, which was adopted in 2006. This Act also regulates energy security, energy efficiency and the use of renewable energy resources. The creation and implementation of energy policy is mainly a result of the '2010-2030 National Energy Strategy', which, inter alia, guides energy efficiency interventions based on Article 10 in the Energy Act. It is worth noting that Macedonia ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1998, and the Kyoto Protocol in 2004. A bill to replace the current Energy Act with a new one is currently being considered by the country's parliament, containing numerous provisions aimed at, inter alia, increasing the statutory role of the ERC, unbundling services related to the transmission and distribution of natural gas, and establishing a fully liberalized electricity market by 2015. The revised Energy Act also mentions the problem of energy poverty, foreseeing the adoption of by-laws to regulate its amelioration.

Matters of social welfare support are regulated by the Act on Social Protection, which was adopted in 2009. It was followed by the adoption of a 'National Program for the Development of Social Protection Between 2011 and 2021' and a 'National Strategy for the Reduction of Poverty and Social Exclusion Between 2010 and 2020', both of which demonstrate a commitment for policy change thanks to, in part, viewing poverty as a multidimensional phenomenon that requires multiple areas of intervention. The two documents refer to energy poverty, emphasizing the importance and range of measures to tackle the problem. The National Strategy for the Reduction of

Poverty and Social Exclusion even provides a broad-level definition of energy poverty. It foresees the 'determination of indicators for monitoring the variables that cause energy poverty and the index of energy poverty as measures for the reduction and/or elimination of the causes for energy poverty'.

National policies and strategic directions for the housing sector have been articulated by the Ministry of Transport and Communication in the 'Housing Strategy of the Republic of Macedonia between 2007 and 2012'. The strategy has provided the basis for the 2009 Act on Housing, as well as the Act on Social Housing, which is currently under preparation by the Ministry of Labor and Social Policy, together with the Ministry of Transport and Communication and other relevant stakeholders. The relationship between social welfare and energy poverty, however, is not mentioned within any of the formal documents and initiatives in this domain.

Even though measures to address energy poverty in Macedonia were only introduced in 2010, it should be emphasized that plans to institute them date back to 2002. The declining affordability of energy services in the country, accompanied by the rapid expansion of income poverty per se, resulted in the creation of an inter-governmental working group on energy poverty comprising representatives of the relevant state ministries, private companies and NGOs. International pressure also played a role in this process – not the least due to the need to harmonize national policies and laws with EU legislation, and incorporate the provisions stipulated by the Energy Community Treaty – although the government did not always take into account the findings of previous international energy poverty-relevant studies undertaken in the country in its policies. Our interviews indicated that the government has relied on four pillars in formulating policy in this domain:

- Addressing the needs of vulnerable groups through a targeted universal support program
- Promoting social dialogue and partnership in the provision of energy services, via collective agreements and the prospective establishment of a socioeconomic council
- Managing social changes arising from energy market transformation, including active measures for the provision of employment; and
- Respecting the fundamental rights of workers.

As a result of this process, the Government announced a strategy and an action plan to alleviate energy poverty through earmarked social support at the Third Social Forum of the Energy Community, held in Skopje on the 10th and 11th of June 2011. The

Action Plan provided the basis for the ‘Program for Subsidizing Energy Consumption’, which led the state to start reimbursing the electricity bills of vulnerable households by a monthly amount of 10 Euro from October 2010. It was reported that the state would dedicate approximately 7 million Euro for this purpose.

The Republic Macedonia has clearly come a long way in terms of devising a coherent and comprehensive set of formal policies and legal acts to address the various components of energy poverty (see Table 1). Yet numerous questions about the effectiveness of their implementation – particularly in the housing domain – remain open. Also, regulation that would address energy poverty over the long run, particularly in terms of residential energy efficiency improvements, is still insufficiently developed.

**Table 1: Institutional and regulatory framework for addressing energy poverty in the Republic of Macedonia**

Institution in charge	Ministry of Economy	Ministry of Labor and Social Policy	Ministry of Transport and Communication
<b>Policy documents</b>	<p>National Energy Strategy, 2010-2030</p> <p>National Energy Efficiency Strategy 2010-2020</p> <p>National Energy Efficiency Action Plan 2010-2018 (currently being fine tuned before adoption)</p>	<p>National Program for the Development of Social Protection 2011-2021</p> <p>National Strategy for the Reduction of Poverty and Social Exclusion 2010-2020</p> <p>Social Action Plan (according to Memorandum for Understanding for Social Issues in context of the Energy Community)</p>	Housing Strategy 2007-2012
<b>Regulation and operational documents</b>	Act on Energy	Act on Social Protection	Act on Housing
	Program for Subsidizing Energy Consumption	Act on Social Housing (under preparation)	
<b>By-laws</b>	Energy Performance of Buildings (under preparation)		

## ***Informal dynamics of the decision-making process: 'choice within rules'***

The interviews that we undertook in this country indicated that energy poverty lies at the tip of a wider iceberg of unresolved issues in the energy sector, linked to the ability of decision making to respond to structural trends in society and the economy, the nature of intragovernment co-ordination, and the balance between short- and long-term policy priorities. None of these issues, otherwise common in SEE, have been adequately addressed by state and private organizations to date.

Most of the decision-makers who spoke with us emphasized that the post-communist transition has led to the phenomenon of 'energy degradation' in Macedonia, as a result of the movement towards less sustainable practices of energy service provision. In essence, an increasing number of households have been choosing to heat their homes with electricity instead of primary fuels, creating supply bottlenecks in winter. This trend is due to the comparatively lower price of electricity in relation to other sources of energy. One of the general managers of the EVN electricity distribution company pointed to some of the problems faced by his company as a result of fuel switching towards electricity for heating:

'We certainly face these risks – they are the result of working in a liberalized market... we are aware that in the recent past there were many reasons, which I would rather not mention now, keeping electricity prices down and leading to the them not reflecting costs... further liberalization of the market will certainly lead to rises in electricity bills... We are therefore very interested in the issue of using electricity as a source of heating. Unfortunately at the moment there is no infrastructure for piped gas, and district heating is properly developed only in the capital Skopje, which means that consumers don't have much choice in terms of the energy they can use – they are left with either fuelwood or electricity. Since for a number of reasons electricity is cheaper than fuelwood, this means that consumers have no incentive to use other sources of heating' (Interview held on 20th April 2010).

Below-par electricity pricing has also affected the district heating company in Skopje, which has been experiencing rising rates of disconnection. Its problems, however, are the result of a wider set of contingencies. According to one of its key policy-makers:

'The fact that consumption is metered at the level of apartment buildings means that flats in poorly insulated buildings – or those in which significant numbers of households have decided to disconnect from the network – have higher unit costs. This may prompt even higher numbers of households in such buildings to disconnect, this creating a vicious circle of disconnection... We have had increasing rates of disconnection over the past few years, but we still don't think

this is a significant problem. The exception is the Northern district heating network, where prices are more expensive because it uses gas. You should talk to them – they have had a significant rate of disconnection... The losses in our network average 12 per cent – this is within the legally prescribed limit. It changes from month to month. I am giving you an average rate. Losses in the network are difficult for us to control, since we do not own the transmission and distribution pipes – we have a concessionary arrangement to operate the transmission network, which is old and we tried to maintain. The distribution network is owned by the tenant communities, and we have no control over it. This is an additional source of problems, as there are many situations where tenants illegally add radiators inside their apartments. We have no right to enter the apartments without the owners' permission and accordingly adjust the level of heat we deliver to the given building. In the end, the neighboring flats receive less heat' (Interview held on 20th September 2010).

The electricity distribution utility clearly lacks a clear strategy to address the problem of switching towards electricity for heating, even though the forthcoming significant rise of electricity prices is likely to affect its ability to recover bills from the rising number of households who are now financially trapped in practice, due to investing in domestic appliances and systems that use it. Likewise, the district heating company in Skopje has failed to develop a forward-looking and proactive policy in response to the disconnection problem. At the same time, state authorities, while being aware of these issues – thanks, in part, to widespread media coverage – have shown practically no initiative and leadership to resolve them.

Energy degradation also applies to the housing stock: aside from non-systematic effort to improve the energy performance of newly-built social housing, the country has lacked a state-led investment program to improve the efficiency of existing residential dwellings, appliances or heating systems. It should be noted that more than 95 per cent of dwellings in Macedonia are owner-occupied, which makes it particularly difficult for the state to intervene in the housing stock through standardized measures. Officials in the Department for Housing, Utilities and Infrastructure of the Ministry for Transport and Communication ascribed this situation to a combination of institutional and structural factors:

'Unfortunately article 11 of the Act on Construction gives responsibility to the Ministry of Economy in terms of setting standards and norms for thermal insulation... I don't suppose there are any policies to address the thermal efficiency of existing residential housing in Macedonia... People do not have the financial power to implement improved insulation in their homes... Thus there no measures for existing objects are foreseen, at the moment we are now in the first phase – new objects. What happens with existing objects is to be decided by the Ministry of Economy, whose responsibilities in this domain should probably fall under our remit' (Interview held on 20th September 2010).

Some of the interviewed experts were frustrated by the inability of the highly formalized legal framework of the country to respond swiftly and effectively to energy poverty-related problems. The overall impression emerging from the interviews was of an over-bureaucratized and -regulated but generally ineffective state apparatus in the domains of energy affordability and residential efficiency. The fact that state institutions relevant to these fields have been gradually improving the level of inter-organisational co-operation and co-ordination doesn't mean that they now have an adequate capacity to deal with the country's pressing energy poverty problem. With only a small team responsible for dealing with the entirety of Macedonia's energy sector, the Ministry of Economy is clearly under-equipped to formulate the complex and comprehensive policies needed to address energy poverty. At the same time, the structural problems of the country's housing stock seem to be sidelined within the Ministry of Transport and Communication – the energy efficiency of residential buildings seems to be at the lower end of its long list of priorities – while the Ministry of Health has been marginally involved in state discussions and decisions regarding energy poverty amelioration. The only source of strong policy guidance in this domain has come from the Ministry of Labor and Social Policy, which has a highly coherent and well-developed social protection system and tradition, prioritizing short term assistance to address the needs of low-income households. According to one of the officials there:

'Given that we are the Sector for Social Protection, we still see things from the aspect of social issues and our users. The Ministry for Economy is focused on the consumption of energy. The goal [in the energy poverty working group] was for things to be more horizontal... We are thinking of at two levels: a program that will cost the least in terms of administrative capacity and other fiscal outlays, and a program that will provide the least opportunities for abuse. Basically the question is whether to introduce vouchers or not, how to motivate households who regularly pay for electricity to receive a subsidy, whether to introduce support for multiple sources of energy, and so on' (Interview held on 20th April 2010).

The Program for Subsidizing Energy Consumption, which was a direct consequence of the work of the group described above, represents the first attempt to support households vulnerable to energy poverty in Macedonia. Our interviews indicated that the Program fails to provide a systematic approach that would address the causal factors of energy vulnerability. This is because it distributes social assistance on the basis of the same means testing method used to distribute all other kinds of social support, which means households who are not on benefits are not eligible. Considering that housing conditions and energy needs are a major part of the demographics of energy poverty, it is clear that the program is poorly targeted, and that additional and/or different criteria should have been developed. It is evident the officials did not want to consider more complex support schemes that would provide more

comprehensive coverage of vulnerable and households at risk of energy poverty, choosing to focusing on short-term financial aid instead. The other concern with the program is that it fails to support energy efficiency, as a result of providing low-income households with an incentive to use electricity – the least sustainable source of energy in the country.

The general feeling about the newly-instituted program for energy poverty support was that it arose as a result of short-term political pressure, rather than a long-term vision for the resolution of the problem. Despite the considerable commitment and energy invested by government officials in the development of the program, it appears that the initiative has mainly been driven by Macedonia's external obligations towards the Energy Community and the Social Memorandum signed with the Energy Community Secretariat. It also emerged that the Social Action Plan resulting from the Memorandum was has failed to establish criteria for vulnerable consumers beyond the boundaries of social protection system, while lacking an integrated approach: measures other than social support have not been considered as potential mitigating measures for energy poverty. Lacking clear targets and objectives, the plan does not include details on the budget and timeframe – as well as monitoring and evaluation mechanisms – while failing to clearly define the participation of social partners.

The Energy Community Treaty seems to have provided the main source of best-practice examples and policy knowledge regarding the creation of energy poverty amelioration measures. All policy documents that mention the problem are somehow related to the Treaty, as 'energy poverty' was not in the vocabulary of Macedonia decision makers in the early 2000s. What is more, the recommendations of various international energy poverty-related studies have not been incorporated in the Social Action Plan or the Program for Subsidizing Energy Consumption; this has also been the case with a parliamentary initiative, dating back to 2009, to develop an comprehensive energy poverty amelioration program.

## ***Country-specific summary and recommendations***

The reviewed evidence indicates that Macedonia has seen the development of a wealth of legal documents, policies and strategies to address energy poverty in the last few years, after an almost complete lack of formal regulation throughout the transition. Still, the country is characterized by a formalized, overregulated and politically ineffective decision-making process. Many relevant policies fall under the remit of an understaffed team at the Ministry of Economy, with the Ministry of Labor and Social Policy playing a key role in developing the specific programs to support vulnerable households, using poorly

targeted means-testing methods and an inadequate understanding of residential energy efficiency. Expert knowledge seems to be insufficiently incorporated in the formulation of relevant strategic documents, with the entire process being riddled by inadequate state cooperation with utilities and local government. Interventions in the housing stock are also constrained by the predominance of owner-occupation, the inadequate development of distribution infrastructure for gas and district heating, and the overall low housing conditions and incomes of a large part of the population.

Future state efforts in this domain will need to focus on creating an integrated approach for dealing with the problem, with measures that will address immediate and long term goals, while creating and strengthening the appropriate institutional structures for implementation. The improved involvement of regional and local administrations as well as paying greater attention to the structural issues surrounding energy consumption might be a useful first step in this regard. The country could also benefit from a more robust and inclusive definition of energy vulnerability, associated with a comprehensive set of indicators, monitoring and evaluation mechanisms.

## Governing Energy Poverty in Bulgaria

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Bulgaria is a Southeastern European country with a territory of 110.910 sq. km. and a population of 7.3 million inhabitants. Thanks to its highly developed energy power sector, the country is currently a net exporter of electricity, occupying the fourth place in Eastern and Central Europe in terms of per capita production of this resource.

The large-scale mobilization of energy resources in this country commenced only after World War 2, as the use of coal, fuel-wood and hydropower prior to this period was almost exclusively subsistence-orientated. The 1950s, in particular, saw an acceleration of energy generation investment; this resulted in the construction of several large hydropower ‘cascades’ in the southern parts of the country, consisting of multiple storage and run-of-the river plants. The country currently contains more than 80 hydro power plants with a combined capacity approaching 2000 MW, and accounting for almost 10 per cent of total electricity generation.

More significantly, numerous coal-fired power stations were built during communism, thanks to the country’s extensive lignite reserves. The largest among these was the Maritza Istok power plant, whose construction commenced in 1952; it eventually became the largest of its kind in the region, with a total installed capacity exceeding 3000 MW. The country also developed a nuclear program in the late 1960s, resulting in the commissioning of the first VVER-440/230 pressurized water reactor of the Kozloduy power plant in 1974. An additional 5 units entered operation at this station until 1991, only the last two of which – with a total installed capacity of 1920 MW – are currently operational, having been subject to safety upgrades. The remaining units were shut down in 2002 and 2006, largely as a result of Bulgaria’s EU accession process.

The national electricity utility, NEK (Natsionalna Elektricheska Kompania) was the main actor in the electricity market until the mid-2000s. The company owned all nuclear, hydro and pumped hydro power plants and was responsible for power generation and transmission, as well as energy trade in Bulgaria. However, after the restructuring in 2001, NEC is now only in charge of electricity transmission. Even though the production of electricity is covered by seven private companies, the Kozloduy and Maritza East 2 plants are still in public ownership. Since 2007, the seven electricity distribution companies have been privatized as well. Three privately owned

companies control the gas market: while Bulgargaz is responsible for gas imports and sales, Bulgartransgaz covers its transportation and storage, and Toplivo manages its distribution to households.

Coal is responsible for 43 per cent of thermal electricity generation, with nuclear energy contributing a similar share. Nevertheless, the country imports most of its oil and gas from Russia, while serving as a corridor for the transit of the latter towards neighboring states. Households and industry are the largest energy consumers.

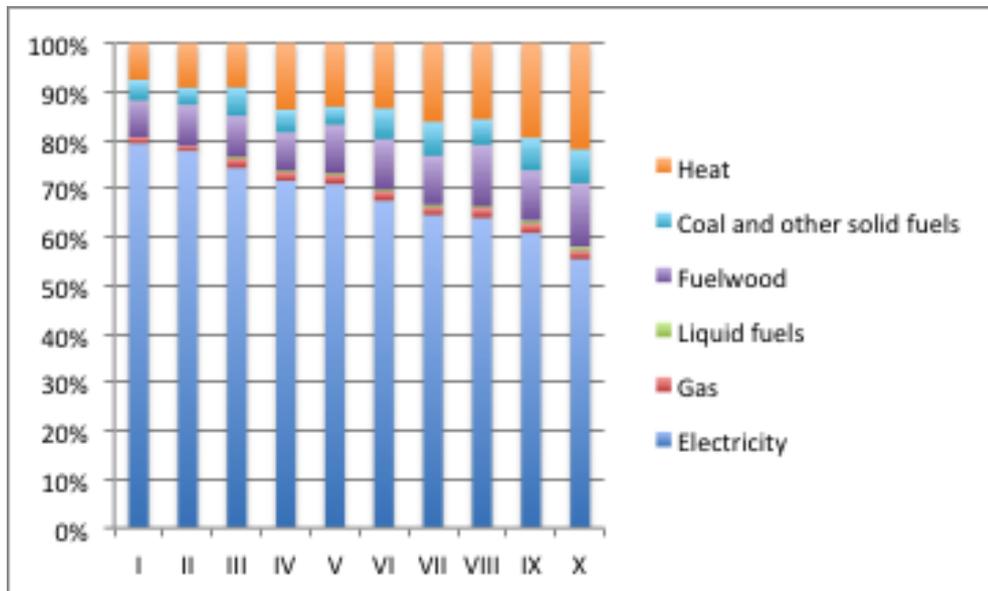
### ***General features of energy poor households and trends***

During the transition period, Bulgaria stopped the flow of indirect subsidies to energy utilities, increasing the price of energy for residential consumers. Electricity tariffs increased from 1998, with a 10 per cent increase in daytime prices beginning in 2001.

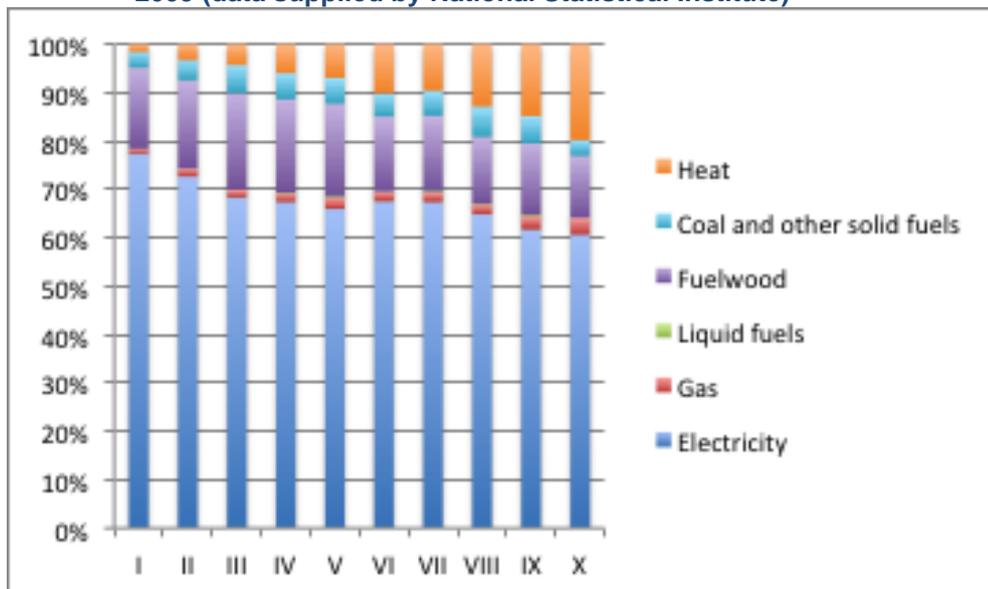
Since 2001 electricity tariffs have risen almost annually, as part of an agreement between the World Bank and the government of Bulgaria. By 2005, household daytime electricity tariffs doubled from 2002 levels. At the same time, there have also been reforms within the gas sector, with gas and heat prices undergoing significant increases in recent years.

These changes have meant that, just as in the Republic of Macedonia, Bulgaria has seen a shift towards fuelwood in household energy budgets. There has also been a movement away from heat. The role of electricity in household budgets – particularly among low-income households – has declined, possibly due to the more aggressive pricing policies.

**Figure 7: Share of expenditures on different sources of energy in the Bulgarian households' total energy expenditure per income decile, 2002 (data supplied by National Statistical Institute)**



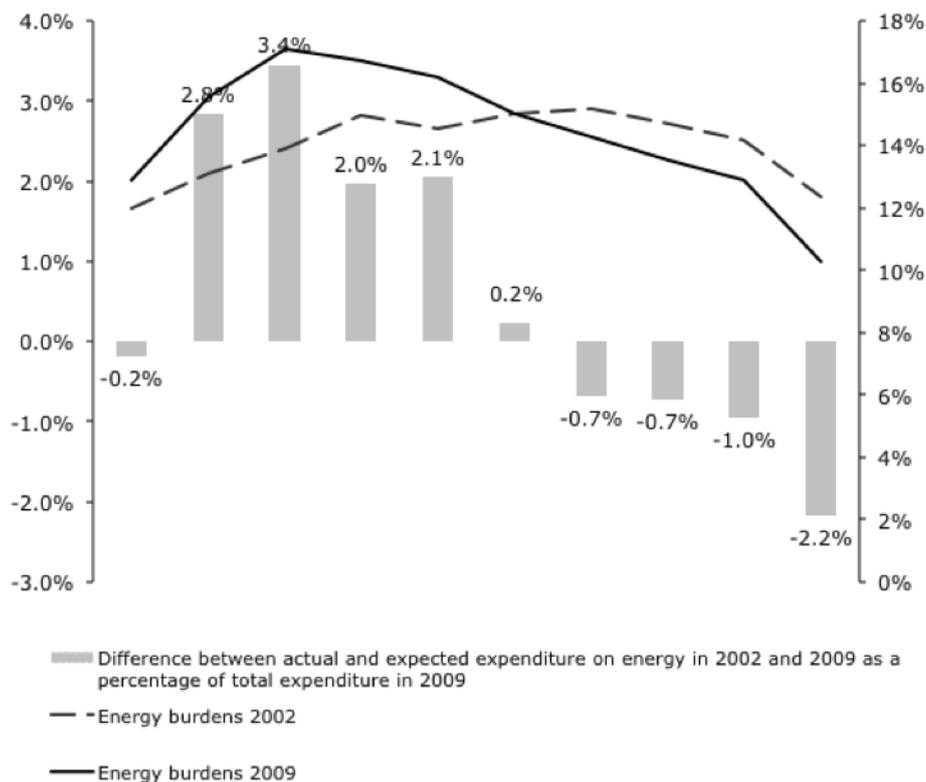
**Figure 8: Share of expenditures on different sources of energy in the Bulgarian households' total energy expenditure per income decile, 2009 (data supplied by National Statistical Institute)**



Even though this country currently has one of the lowest energy prices in the EU, it also has a considerable share of energy-poor consumers. While there is a paucity of energy poverty data for this country, there is little doubt that energy poverty is less pronounced than in Macedonia, thanks to, in part, the development and implementation of an institutional framework for energy poverty mitigation and amelioration. Approximately 360,000 households (out

of a total of 2.9 million) rely on social support for their energy needs during the five months of winter. On average, Bulgarian households currently devote approximately 14 per cent of their income for water and energy bills – up from approximately 11 per cent in 2002. This figure hides significant inequalities, however. The compensating variation indicated that up to 60 per cent of Bulgarian households have suffered welfare losses as a result of the increase of energy prices between 2002 and 2009 (see Figure 8). This is consistent with the outcomes of the EU’s Statistics on Income and Living Conditions survey, which reported that 64.5 per cent of Bulgarian households couldn’t keep the home ‘adequately warm’, while 32.1 said that they were facing arrears on utility bills. The Bulgarian figures were by far the highest within the EU-27, where the respective averages were 8.9 and 10.

**Figure 9: Values of the compensating variation on energy expenditure and energy burdens (share of energy expenditure in total household expenditure) among Bulgarian households per equivalent income decile, 2002-2009**



A positive value of the compensating variation indicates a loss of welfare (data supplied by State Statistical Office).

## **Formal regulation and institutional structures: 'choice of rules'**

The 2001 Energy Act is the main pillar of Bulgaria's energy policy. In order to underscore the need for improved energy efficiency and comply with EU accession requirements, the Energy Act was supplemented by an Energy Efficiency Act in 2004. The Bulgarian Ministry of Economy, Energy and Tourism is responsible for setting national energy policies. Its main priority is to create a stable and fair energy market, while supporting energy efficiency and the use of renewable energy resources. The State Energy Regulatory Commission (SEWRC) issues and monitors permits and licenses granted to companies in the energy sector. Moreover, SEWRC develops and implements the national tariff and price systems for electricity gas and heating. The relationship between energy and climate change is part of the responsibilities of the Ministry of Environment and Water, while the regulation of nuclear energy falls under the remit of the Agency for Nuclear Regulation.

Social welfare matters are regulated by the Ministry of Labor and Social Policy, which operates under the framework of the Act on Social Assistance, itself the result of a range of policies and strategies (see Table 2). The Ministry of Regional Development and Public Works is responsible for the housing sector, thanks to the 2005 National Housing Strategy. The aim of this document is to support and encourage the refurbishment of the housing stock by creating the necessary legislative framework, providing housing subsidies, offering methodological and technical support and developing information campaigns.

One of the key results of the National Housing Strategy has been the '2005-2020 National housing renewal program' aimed at improving the physical and social durability of residential buildings by adding to their use qualities and living comfort, guaranteeing the safety of house ownership, providing for better housing energy efficiency and higher market value, creating a more accessible urban environment, fostering sustainable practices of residential building management and the maintenance of apartment blocks, in addition to improving the exterior and interior of residential buildings. Much of the program has been focused on enabling the renewal of prefabricated panel apartment buildings, which constitute a significant part of the housing stock and face the worst energy efficiency problems (it is estimated that there are 18900 such buildings without any insulation, inhabited by 707,441 households and 1.77 million people).

The state's recognition of the importance of effective co-operation with the owners' associations of the blocks, as well as the cross-sector integration of the relevant energy efficiency programs in this process, was underscored throughout the interviews we undertook. This is also evidenced by the fact that the program made provisions for enabling residential building renewal based on

agreements between owners' associations and companies active in energy-efficient services under Article 21 of the Law on Energy Efficiency. The policy-makers sensitivity to such issues may stem from the nature of the housing stock, which is more than 95 per cent privately owned and 63 per cent urban. Another the reasons for the state's interest in establishing close co-operation with owners association lies in the fact that present housing legislation does not allow for energy efficiency interventions in collective apartment buildings without the full consent of all apartment owners.

In addition to such indirect measures, Bulgaria is said to contain one of the best winter supplement programs in Eastern Europe, including payments for district heating bills, electricity, coal briquettes or wood; this is commonly referred to as the 'Winter Supplement Program' (WSP). The aim of the program has been to provide earmarked support for socially vulnerable households – determined in relation to a guaranteed level of minimum income – in order to aid their heating expenditures during the winter season, thus allowing them to meet their basic living needs:

'The Bulgarian government's basic social safety net program for poor households is the Guaranteed Minimum Income (GMI) that was established immediately after the transition in 1991. This program provides income transfers to poor households based on means testing. Energy assistance payments are provided through the Winter Supplement Program (WSP), a national program which was established with EU support through the PHARE II program beginning with the 1996-1997 heating season. This program allows households to receive payments for district heating bills, electric (heating) bills or provides for delivery of coal, coal briquettes or wood, depending on how an eligible resident heats their apartment or house. These two programs, along with child assistance, are currently the main poverty protection programs aimed at helping low income households in Bulgaria. All households making less than the guaranteed minimum wage are eligible for heating assistance including some families above this line. The Winter Supplement Program is therefore intended to benefit a larger group of beneficiaries than the GMI program alone' (Cain 2010: 6)

The country also has non-targeted energy assistance schemes, such as a reduced tariff rate for electricity usage up to 75 kWh, a reduced night-time tariff for those not connected to district heating in winter months. There has also been a ceiling on gas prices and a general tolerance non-payment. The formal regulation for addressing energy poverty has been in place for almost two decades, after the start of the energy transformation process.

The WSP currently falls under the remit of the Ministry of Labor and Social Policy, which has an extensive network of offices to distribute the aid, while maintaining a database of vulnerable consumers. Its implementation is also aided by the Ministry of Economy and Energy, which calculates the amount of required

heating by determining a standard based on the amount of energy needed to heat one room measuring 3.5 × 4 m with a standard ceiling. The final purpose of the Program is to support, inter alia, low-income households consisting of older and disabled people, as well as children, young people, single parents and multiple-child families, ethnic minority households, migrants, refugees, and so on. Unlike the Republic of Macedonia, the support is provided only during the heating season (November - March). Its selection criteria have been continuously revised and improved, since the 'differentiated minimum income for heating' is calculated as a percentage of the guaranteed minimum monthly income for the different groups of persons and families. The definition of 'vulnerable' groups has often been updated, resulting in changes of the relevant bylaws in some instances.

**Table 2: Institutional and regulatory framework for addressing energy poverty in the Republic of Bulgaria**

Institution in charge	Ministry of Economy	Ministry of Labor and Social Affairs	Ministry of Regional Development and Public Works
<b>Policy documents</b>	National Energy Strategy 2010-2020 (under preparation)  National Energy Efficiency Program 2005-2015  First National Action Plan for Energy Efficiency 2008-2010	National Social Protection Policy  Joint Inclusion Memorandum  National Strategy for Demographic Development 2006-2020, and Implementation Plan for 2008  National Program for Improvement of Roma Living Conditions 2005-2015	National Housing Strategy
<b>Regulation and operational documents</b>	Act on Energy  Act on Energy Efficiency	Act on Social Assistance	Act on the Management of Flats in Apartment Buildings
<b>By-laws</b>	Bylaw on Energy Characteristics of Buildings  Bylaw on Issuing of Energy Certificates for Buildings	Ordinance for Provision of Targeted Social Protection for Heating to the Population With Low Incomes	National Program for the Improvement of Prefabricated Panel Buildings

## ***Informal dynamics of the decision-making process: 'choice within rules'***

The interviews that we undertook in Sofia pointed to some of the institutional nuances and complexities involved in the implementation of state policy. Overall, it appeared that the relevant government ministries had achieved a high level of co-ordination in devising energy poverty alleviation policies. In particular, interviews in the Energy Policies, Strategies and Policies Directorate of the Ministry of Economy, Energy and Tourism revealed a high level of awareness and sophistication in terms of the structural challenges in the energy sector and the various organizational barriers towards improved intragovernmental co-operation. Nevertheless, energy poverty related policies are currently dominated by the WSP, which, just as in the Republic of Macedonia, is led by the Ministry for Labor and Social Policy, with its strong welfare-orientated institutional culture. One of its key officials emphasized that:

'I would like to clarify that in Bulgaria and Bulgarian legislation, the term energy poverty does not exist. This means that questions linked to energy poverty are part of broader social policies. Energy assistance in this context is one of the spheres – or if it may be termed so – part of the social umbrella of the population that has the right to receive such assistance. I would like to give a general assessment of the foundations of the Bulgarian social support system. After 2003, when a major change of the main principles of social support was made, we have been working and concentrating on assisting people who cannot cover their basic needs in society with their current incomes. In order to judge to what extent a person has the right to be socially supported we have a long-established and well-developed system to assess these rights, accompanied by a set of criteria' (Interview held on 16th April 2010).

The WSP, therefore, is fundamentally an income support-orientated, end-of-pipe program that fails to address the causal factors of energy poverty, focusing on short term household budget support instead. Even though the targeting criteria of the scheme have been positively appraised by international organizations and experts (see, for example, Velody et al. 2003), the program is not based on criteria that take into account the nature of energy consumption in the home. In part, this is due to the fact that many energy-poor households, to quote a decision-maker, 'live in makeshift homes where even the basic housing standards are not met, let alone thermal comfort and efficiency'. Despite the excellent co-operation between social and energy policy-making state institutions, therefore, energy needs and housing stocks remain outside the remit of the program, and an absolute, rather than relative energy consumption standard is used in its formulation. As pointed out by the aforementioned official in the Ministry of Labor and Social Policy:

‘At the beginning we had a working group with colleagues from the Ministry for Energy, and we decided that households we would provide funds that will allow them to heat one normal room. The specialists established how much energy would be needed to ensure a normal level of heat. Social support does not help increase living standards. It helps people survive the winter. In one room only’ (Interview held on 16th April 2010).

Even though we observed the existence of a range of elaborate institutional co-operation mechanisms between state and non-state organizations, the interviews revealed a significant amount of tension between the main Federation of Consumers and the government. The Federation, basically, was accusing the government of colluding with the interests of energy suppliers, and raising energy prices unreasonably. At the time of the interview, it was taking legal action against the state in response to the 2003 price rise. According to its president:

‘When the electricity utilities were privatized in 2003, a number of clauses were inserted in the agreement which remained unresolved even today... it was foreseen that the capital stock of the companies would be doubled... that in itself is not problematic, but the problem is that fixed costs are a very large part of the price. There is more nonsense there, guaranteeing 16 per cent profits to the electricity companies... this is unprecedented... In 2003 the Bulgarian parliament adopted an energy strategy for the Republic of Bulgaria, including a graph for increasing electricity prices. That graph forecasts a rise of 20 per cent in the first year, and then 15 per cent in the following year. Who is the clairvoyant who can see how much we will raise electricity prices in three years?... We were once number five or six according to the price of electricity, but last in terms of population income. That may have changed a little bit, but we are still at the bottom in terms of income in Europe, and we pay one of the highest electricity prices. This is what motivated us to take them to court’ (Interview held on 16th April 2010).

Officials in the Ministry of Economy, Trade and Tourism critiqued the Federation for asking consumers to avoid paying their energy bills, and for urging its members to resist the introduction of meters that would render heat and gas services more affordable in the long run. This links to the officials’ wider concerns regarding energy bill arrears and non-payment, which are widespread among low-income households and sometimes may be geographically concentrated in Roma minority areas. It was also pointed out that current price levels don’t provide enough revenue for financing the investment necessary to improve the quality and security of supply, and meeting environmental standards.

The interviews also underscored the state’s difficulties in integrating housing and energy policies: it seems that this relationship is Bulgaria’s ‘weakest link’ in terms of both institutional capacities and structural challenges. Existing housing renewal programs are judged

to be insufficient in this regard, as a result of the inadequate integration of energy efficiency concerns, as well as the deep-seated nature of structural problems in the sector.

## ***Country-specific summary and recommendations***

Overall, Bulgaria possesses a diverse range of mechanisms and tools to support energy poor households. Apart from the relatively well-developed social assistance scheme, the country has introduced energy efficiency measures for a substantial number of residential buildings. These programs have been generally well co-ordinated and integrated across different governmental and non-state sectors. Despite having the lowest energy prices in the EU, however, the country faces serious problems as regards affordability among most vulnerable groups.

It is also worth noting the highly authoritative role played by the Ministry of Labor and Social Policy in setting the terms and principles of energy poverty-related assistance. Its activities are characterized by a strong focus on ensuring minimum subsistence through income support, accompanied by a lack of interest in the long-term energy efficiency dimensions of the problem. There is also a simmering conflict – with possible political overtones – between the main consumer rights organizations and relevant state institutions in the energy sector, regarding the setting of prices and the regulation of energy utilities. Finally, just as in the Republic of Macedonia, some of the processes through which government institutions solicit expert knowledge in formulating and implementing social safety nets in the energy sector remain unclear and untransparent.

## General Conclusions and Recommendations

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Overall, the evidence uncovered by the research project that led to this report pointed to the existence of widespread energy poverty related affordability problems among households in two SEE states – the Republic of Macedonia and Bulgaria. These difficulties can be attributed to broader structural problems in society, including low incomes (resulting in part from high unemployment and inadequate social protection), an insufficient and not always appropriate energy infrastructure, low quality of dwellings and housing conditions, as well as behavioral patterns and energy needs. In recent years, both states – and especially the Republic of Macedonia – have seen a rapid growth in the use of electricity for heating, with fuelwood becoming an increasingly important energy resource among low-income households. There has also been a widespread decline and abandonment of DH networks.

Both countries were initially characterized by a reactive policy regime, entailing a slow process of energy liberalization and privatization due to social welfare concerns, gradual energy price increases, and the inadequate development of targeted social welfare programs. Non-payment for energy services was widely tolerated. As energy prices inevitably went up and affordability became a matter for political concern among the local public and international community alike, a more proactive approach was adopted. This involved the development of new social safety nets, accompanied by the introduction of comprehensive measures such as block tariffs and direct earmarked support. At the same time, social assistance was removed from the auspices of energy companies where it resided during communism. Housing policies were strengthened and expanded – particularly in Bulgaria – partly as a result of EU and foreign donor efforts.

Even though the process of moving from a reactive to a proactive regime has taken place at a much faster and stronger pace in Bulgaria, both states still lack targeted residential energy efficiency programs for vulnerable households, and the flow of knowledge and expertise towards and among state institutions often remains narrow and untransparent. In Macedonia and Bulgaria alike, the state finds it difficult to determine which households need energy poverty-related social support, and to what extent. State housing policy remains underdeveloped and poorly co-ordinated, and there is inadequate co-operation with local government and NGOs, especially in the

Republic of Macedonia. At the same time, the state institutions that have traditionally had a strong institutionally embedded role in setting social policy have a disproportionately powerful role in formulating and implementing energy poverty support. In addition to these issues, which are more or less common for both states, the Republic of Macedonia suffers from a bureaucratized, overregulated and politically ineffective decision-making process, characterized by a lack of effective co-operation among state and non-state actors.

Clearly, future policy measures that can help improve the future institutional design of energy poverty amelioration and mitigation frameworks have to rely on detailed information about the types of income and demographic groups affected by the problem. Improving the transparency and width of scientific knowledge also needs to be a key priority, alongside the increased participation of local government in the formulation and distribution of state assistance in this domain. The gap between energy affordability policies and social housing support must also be urgently addressed. Otherwise, there is a danger that the inability of government agencies to identify and monitor energy-poor households will lead to a rise of a new energy underclass in the region.

Scientific challenges also abound: there is a need to establish to what extent other ECE and SEE countries have managed to develop an effective and comprehensive legal and policy framework to address energy poverty. It also remains unclear to what extent EU accession and other supra-national institutional frameworks have played a role in the formulation of energy poverty-mitigation policies in this part of the world.

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## Annexes

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### ***Annex 1 (Republic of Macedonia). Analysis of energy poverty relevance of policy documents***

**Table 1: Policy document: National Energy Strategy 2010-2030**

	<b>Question</b>	<b>yes/no</b>	<b>How if yes?</b>
<b>1.</b>	Is energy mentioned?	yes	The aim of the document is the development of the energy sector in the Country
<b>2.</b>	Is there a chapter on energy?	yes	All chapters are either on energy or are directly or closely inter-linked with energy.
<b>3.</b>	Is energy mentioned in the other chapters of the document?	yes	All chapters are either on energy or are directly or closely inter-linked with energy.
<b>4.</b>	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	yes	Macro-economic policy has been mentioned in a manner that not improved situation as regards import of energy can have negative impacts on inflation; the foreign currency reserves and in general on the entire Macro-economic stability of the Country.
<b>5.</b>	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	yes	Few chapters are referring to the insufficient energy distribution
<b>6.</b>	Is energy mentioned with reference to social aspects and social assistance?	yes	There is a separate chapter dealing with the social dimension as regards energy demand/supply.
<b>7.</b>	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	yes	There are chapters and parts dealing with the considered necessary energy efficiency measures
<b>8.</b>	Is energy mentioned with reference to housing policy?	yes	With regards to Government Project for social housing
<b>9.</b>	Is energy mentioned with reference to climate change issues?	yes	There is a separate chapter on CC and Macedonian obligations in this respect

10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	yes	In terms of access to thermal energy (natural gas, district heating). Access to electrical energy is not an issue in the country
12.	Does the document refer to the energy needs of vulnerable groups?	yes	Social memorandum, Athens protocol, South-East European Energy Community Treaty
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	yes	Social memorandum, Athens protocol, South-East European Energy Community Treaty
14.	Is energy discussed in a rural and urban context?	no	

**Table 2: Policy document: National Energy Efficiency Strategy 2010-2020**

	Question	yes /no	How if yes?
1.	Is energy mentioned?	yes	The strategy is dealing with energy efficiency of the 4 major sectors: industry, households, services and transport
2.	Is there a chapter on energy?	yes	The strategy is dealing with energy efficiency of the 4 major sectors: industry, households, services and transport
3.	Is energy mentioned in the other chapters of the document?	yes	The strategy is dealing with energy efficiency of the 4 major sectors: industry, households, services and transport
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	yes	Macro-economic policy is not explicitly mentioned, but the strategy is developing 2 scenarios for energy efficiency that would support macro-economic policy of the Country through reducing energy import and increasing energy security
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	yes	Few chapters are referring to the insufficient energy distribution and the necessity of a wider natural gas distribution network
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	There is a separate chapter dealing with the social dimension (vulnerable groups) as well as proposing different types of support

			for the most vulnerable households.
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc.)?	yes	There are chapters and parts dealing with the considered necessary energy efficiency measures
8.	Is energy mentioned with reference to housing policy?	yes	With regards to Government Project for social housing.
9.	Is energy mentioned with reference to climate change issues?	yes	Weekly and referred to obligations in this respect (MoEPP)
10.	Is energy mentioned with reference to health issues?	yes	As one of the sectors that would experience positive development due to improved energy efficiency measures
11.	Is energy mentioned with respect to the access among households?	yes	In terms of access to thermal energy (natural gas, district heating). Access to electrical energy is not an issue in the country
12.	Does the document refer to the energy needs of vulnerable groups?	yes	Social memorandum, Athens protocol, South-East European Energy Community Treaty, Government social housing Project etc.
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	yes	Social memorandum, Athens protocol, South-East European Energy Community Treaty, Government social housing Project etc.
14.	Is energy discussed in a rural and urban context?	yes	Promotion of new and innovative approaches for reducing energy dependence

**Table 3: Policy document: National Energy Efficiency Action Plan, 2010-2018**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	yes	The strategy is dealing with energy efficiency measures in the 4 major sectors: industry, households, services and transport
2.	Is there a chapter on energy?	yes	The strategy is dealing with energy efficiency measures in the 4 major sectors: industry, households, services and transport
3.	Is energy mentioned in the other chapters of the document?	yes	The strategy is dealing with energy efficiency measures in the 4 major sectors: industry, households, services and transport
4.	Is energy mentioned from the perspective	yes	The utilization of energy efficiency indicators on a macro-economic

	of macro-economy, Public financial management (MTEF) etc.?		level. The Action plan is following the 2 scenarios for energy efficiency from the NEES.
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	Few chapters are referring to the insufficient energy distribution and the necessity of a wider natural gas distribution network
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	In particular with regards to the social housing project of the Government: 7000 social dwellings until 2020, with integration of the building energy efficiency best practices.
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	yes	The strategy is dealing with energy efficiency measures in the 4 major sectors: industry, households, services and transport
8.	Is energy mentioned with reference to housing policy?	yes	With regards to Government Project for social housing.
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	yes	In terms of non-accessibility (not this term) of households to natural gas.
12.	Does the document refer to the energy needs of vulnerable groups?	yes	In particular is referring to the Government Project for social housing
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	yes	Social memorandum, Athens protocol, South-East European Energy Community Treaty and Government Project for social housing
14.	Is energy discussed in a rural and urban context?	no	

**Table 4: Policy document: National Program for Development of the Social Protection 2011-2021**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	yes	In the context of socially deprived households and subsidizing scheme for energy
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	no	
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	yes	Not explicitly, though subsidizes are provided by the National budget
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	In the context of socially deprived households and subsidizing scheme for energy
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	no	
8.	Is energy mentioned with reference to housing policy?	no	
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	no	In terms of non-accessibility (not this term) of households to natural gas.
12.	Does the document refer to the energy needs of vulnerable groups?	yes	In the context of socially deprived households and subsidizing scheme for energy. The Strategy refers to energy poverty
13.	Is energy discussed from the perspective of household heating, especially	yes	Briefly, in the context of socially deprived households and subsidizing scheme for energy

	among vulnerable groups?		
14.	Is energy discussed in a rural and urban context?	no	

**Table 5: Policy document: National Strategy for reduction of Poverty and Social Exclusion 2011-2020**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	yes	Briefly, in the context of energy poverty. It even tries to define energy poverty.
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	no	
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	no	
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	no	
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	no	
8.	Is energy mentioned with reference to housing policy?	no	Though, basic infrastructure and communication is mentioned with regards to social housing
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	no	Though, basic infrastructure and communication is mentioned with regards to social housing
12.	Does the document refer to the energy needs of vulnerable groups?	yes	In the context of energy poverty
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	

14.	Is energy discussed in a rural and urban context?	no	
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**Table 6: Policy document: Social Action Plan**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	yes	The Document follows the template of the Energy community and is consisted of 4 pillars (ref. to the narrative part of the report).
2.	Is there a chapter on energy?	yes	The Document follows the template of the Energy community and is consisted of 4 pillars (ref. to the narrative part of the report).
3.	Is energy mentioned in the other chapters of the document?	yes	Subsidizing schemes, energy poverty, social dialogue, collective agreement.
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	no	
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	Yes, Subsidizing schemes, energy poverty, social dialogue, collective agreement and financial social analysis for correct targeting of the most vulnerable citizen categories
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc.)?	no	
8.	Is energy mentioned with reference to housing policy?	no	
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	no	
12.	Does the document refer to the energy needs of vulnerable groups?	yes	In the context of energy poverty and it calls for financial social analysis for correct targeting of the most vulnerable citizen categories
13.	Is energy discussed from the perspective of household heating, especially among	no	

	vulnerable groups?		
14.	Is energy discussed in a rural and urban context?	no	

**Table 7: Policy document: National Housing Strategy 2007-2012**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	no	
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	no	
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc.?	no	
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	no	
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	no	
8.	Is energy mentioned with reference to housing policy?	yes	Indirectly, through reference to the heating issue
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	yes	Indirectly, through reference to the heating issue

12.	Does the document refer to the energy needs of vulnerable groups?	no	
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	yes	Indirectly, referring to the necessity of wider public heating networks
14.	Is energy discussed in a rural and urban context?	no	

## ***Annex 2 (Bulgaria). Analysis of energy poverty relevance of policy documents***

**Table 1: Policy document: National Energy Strategy of Bulgaria 2010-202<sup>3</sup>**

	<b>Question</b>	<b>yes/no</b>	<b>How if yes?</b>
1.	Is energy mentioned?	yes	The aim of the document is the development of the energy sector in the Country
2.	Is there a chapter on energy?	yes	All chapters are either on energy or are directly or closely inter-linked with energy.
3.	Is energy mentioned in the other chapters of the document?	yes	All chapters are either on energy or are directly or closely inter-linked with energy.
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	yes	In a manner that energy sector has big influence on the economy
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	yes	Mainly with regards to the necessity of wider natural gas network
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	With regards to increase of energy services and the need for social assistance programs. Energy poverty and the need for its alleviation is mentioned
7.	Is energy mentioned with reference to technical items (energy efficiency,	yes	There is a chapter on energy efficiency (generation, transport and distribution and end users)

<sup>3</sup> Concept paper.

	insulation etc)?		
8.	Is energy mentioned with reference to housing policy?	yes	With regards to households and current inefficient consumption of energy.
9.	Is energy mentioned with reference to climate change issues?	yes	The EU and Bulgarian targets
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	yes	Mainly with regards to the necessity of wider natural gas network
12.	Does the document refer to the energy needs of vulnerable groups?	yes	Energy poverty is mentioned as well as the low-income households
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	yes	The upcoming increase of energy prices and the need for more flexible social support system for the low-income households
14.	Is energy discussed in a rural and urban context?	no	

**Table 2: Policy document: National Energy Efficiency Strategy, 2010-2020**

	Question	Yes/no	How if yes?
1.	Is energy mentioned?	yes	The strategy is dealing with efficiency aimed at saving energy resources
2.	Is there a chapter on energy?	yes	The strategy is dealing with efficiency aimed at saving energy resources
3.	Is energy mentioned in the other chapters of the document?	yes	The strategy is dealing with efficiency aimed at saving energy resources
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	yes	Linkage between energy intensity and macro-economic indicators
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	Promotion of projects with significant social effects
7.	Is energy mentioned with reference to technical items (energy	no	

	efficiency, insulation etc)?		
8.	Is energy mentioned with reference to housing policy?	no	
9.	Is energy mentioned with reference to climate change issues?	no	Emissions and environment are mentioned alone
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	yes	Promotion of economically more efficient heating solutions and their promotion
12.	Does the document refer to the energy needs of vulnerable groups?	no	Perhaps, the reference to the promotion of projects with significant social effects
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	
14.	Is energy discussed in a rural and urban context?	no	

**Table 3: Policy document: First National Action Plan on Energy Efficiency, 2008-2010**

	Question	Yes/no	How if yes?
1.	Is energy mentioned?	yes	The Action plan is dealing with type of actions/measures for efficiency aimed at saving energy
2.	Is there a chapter on energy?	yes	The Action plan is dealing with type of actions/measures for efficiency aimed at saving energy
3.	Is energy mentioned in the other chapters of the document?	yes	The Action plan is dealing with type of actions/measures for efficiency aimed at saving energy
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	no	
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and	yes	

	social assistance?		
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	yes	Only with regards to the potential for energy efficiency measures in households
8.	Is energy mentioned with reference to housing policy?	no	
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	no	
12.	Does the document refer to the energy needs of vulnerable groups?	no	
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	
14.	Is energy discussed in a rural and urban context?	no	

**Table4: Policy document: National Social Policy of Bulgaria<sup>4</sup>**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	no	The document is very general and focusing on the 5 major areas: employment, incomes, social insurance, social assistance and social dialogue
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	no	
4.	Is energy mentioned from the perspective of macro-economy, Public financial	no	

<sup>4</sup> Incomplete web based document:

<http://www.mlsp.government.bg/en/docs/strategy/index.htm>

	management (MTEF) etc..?		
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	no	There is a part on social assistance, which is very general and focusing rather on criteria for social assistance
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc.)?	no	
8.	Is energy mentioned with reference to housing policy?	no	
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	
11.	Is energy mentioned with respect to the access among households?	no	
12.	Does the document refer to the energy needs of vulnerable groups?	no	Vulnerable groups are mentioned in the context of social assistance (energy is not specifically referred
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	
14.	Is energy discussed in a rural and urban context?	no	

**Table 5: Policy document: National Demographic Strategy of the Republic of Bulgaria**

	<b>Question</b>	<b>yes/no</b>	<b>How if yes?</b>
1.	Is energy mentioned?	no	
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	no	
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc.?	no	
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	no	
6.	Is energy mentioned with reference to social aspects and social assistance?	no	
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	no	
8.	Is energy mentioned with reference to housing policy?	no	Housing and appropriate infrastructure are mentioned in a very general term
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	Health is mentioned with regards to appropriate housing conditions and basic infrastructure
11.	Is energy mentioned with respect to the access among households?	no	
12.	Does the document refer to the energy needs of vulnerable groups?	no	
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	

14.	Is energy discussed in a rural and urban context?	no	
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**Table 6: Policy document: National Program for Improvement of the Block Buildings in the Republic of Bulgaria**

	Question	yes/no	How if yes?
1.	Is energy mentioned?	yes	The objective of the program is to improve the living conditions in the block buildings by improving the energy performances of the related objects
2.	Is there a chapter on energy?	no	Though, the whole paper aims at reduced energy demand
3.	Is energy mentioned in the other chapters of the document?	yes	
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	no	But it refers to economies of scale (considering the large number of block buildings in Bulgaria) and it emphasis the potential of huge energy saving and rapidly decreased energy demand
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	yes	Just one remark to the necessity of wider natural gas networks
6.	Is energy mentioned with reference to social aspects and social assistance?	yes	The measures of improvement of the block buildings are to contribute to better social welfare of the citizens
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	yes	The measures proposed are in a direction of improved energy efficiency of the block buildings
8.	Is energy mentioned with reference to housing policy?	yes	The measures proposed are in a direction of improved energy efficiency of the block buildings. Hence, the housing quality would improve.
9.	Is energy mentioned with reference to climate change issues?	no	
10.	Is energy mentioned with reference to health issues?	no	Health is mentioned with regards to appropriate housing conditions and basic infrastructure

11.	Is energy mentioned with respect to the access among households?	yes	Just one remark to the necessity of wider natural gas networks
12.	Does the document refer to the energy needs of vulnerable groups?	no	Though, many of the referred block buildings are considered to be inhabited by large percentage of vulnerable households
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	
14.	Is energy discussed in a rural and urban context?	no	NA. The block buildings are located in urban areas

**Table 7: Policy document National Housing Strategy of Bulgaria**

	Question	Yes/no	How if yes?
1.	Is energy mentioned?	yes	In the context of consumption of thermal energy by the buildings and the importance of the improvement of the situation
2.	Is there a chapter on energy?	no	
3.	Is energy mentioned in the other chapters of the document?	yes	In the context of consumption of thermal energy by the buildings and the importance of the improvement of the situation
4.	Is energy mentioned from the perspective of macro-economy, Public financial management (MTEF) etc..?	no	Indirectly perhaps. The impact that energy efficiency buildings can have on the economy
5.	Is energy mentioned with respect to existing distribution infrastructure (any energy service and energy form)?	yes	It refers to the necessity of enlargement of the district heating and natural gas distribution network
6.	Is energy mentioned with reference to social aspects and social assistance?	no	Sustainable development wise and fighting energy poverty
7.	Is energy mentioned with reference to technical items (energy efficiency, insulation etc)?	yes	The importance of introducing energy efficiency measures in the buildings is emphasized
8.	Is energy mentioned with reference to housing policy?	yes	Through energy efficiency measures and distribution networks
9.	Is energy mentioned with reference to climate	no	

	change issues?		
10.	Is energy mentioned with reference to health issues?	no	Though, the conditions of the household are referred as very important for the health of population
11.	Is energy mentioned with respect to the access among households?	yes	In terms of thermal energy accessibility and in particular natural gas and district heating systems
12.	Does the document refer to the energy needs of vulnerable groups?	no	
13.	Is energy discussed from the perspective of household heating, especially among vulnerable groups?	no	
14.	Is energy discussed in a rural and urban context?	no	