

The impact of changes in the energy industry on the urban poor

COUNTRY REPORT - MOLDOVA

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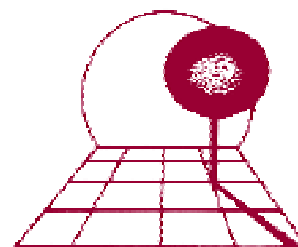
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1 Introduction

The electricity supply industries in former soviet economies have been identified as a priority for economic development. Governments, supported by incentives of loans and investments from international institutions, have implemented policies of liberalisation and privatisation. Such policies are primarily based on macro economic considerations, but the authorities recognise the gravity of the potential consequences of increased electricity costs, especially on the poor.

In a DFID¹ funded project bringing together NGOs and energy institutions in Albania, Kyrgyzstan, and Moldova, Gamos, EEC (Albania), Alga (Kyrgyzstan) and Agape (Moldova) have conducted field research aimed at helping policy makers and CSOs understand the likely impact of changes in energy supplies on the urban poor.

The research uses statistical analysis to identify how people's behaviour with respect to energy use has already changed, and how they are likely to cope with forthcoming changes. The purpose of the workshop is to explore the implications of these findings on energy reform and social protection policy.

2 Research Methodology

The project process comprised preliminary surveys in Tirane (Albania), Biskek (Kyrgyzstan), and Chisnau (Moldova), which provided opportunities to interview policy makers and stakeholders. Focus group discussions with residents were held in subsequent visits, and helped identify salient issues in each country context, which were used in the design of household questionnaires. Detailed household surveys have been conducted in each city; this paper presents findings from the analysis of the data from the survey in Moldova.

The original questionnaire comprised the following sections:

- Household descriptors, including employment and housing status
- Household energy use
- Changes and consequences since the introduction of reforms

A supplementary questionnaire was then designed to make the survey compatible with surveys in the other countries; this concentrated on:

- Impact of tariff reforms, including likely coping strategies and outcomes.

The analysis aims to assess how people will react to changes in energy markets – increases in prices, and enforcement of payment (electricity). The options are illustrated in Figure 1:

- Pay more
- Change to cheaper fuels
- Reduce energy consumption

It goes on to consider the possible implications of each of these.

¹ UK Department for International Development (DFID)

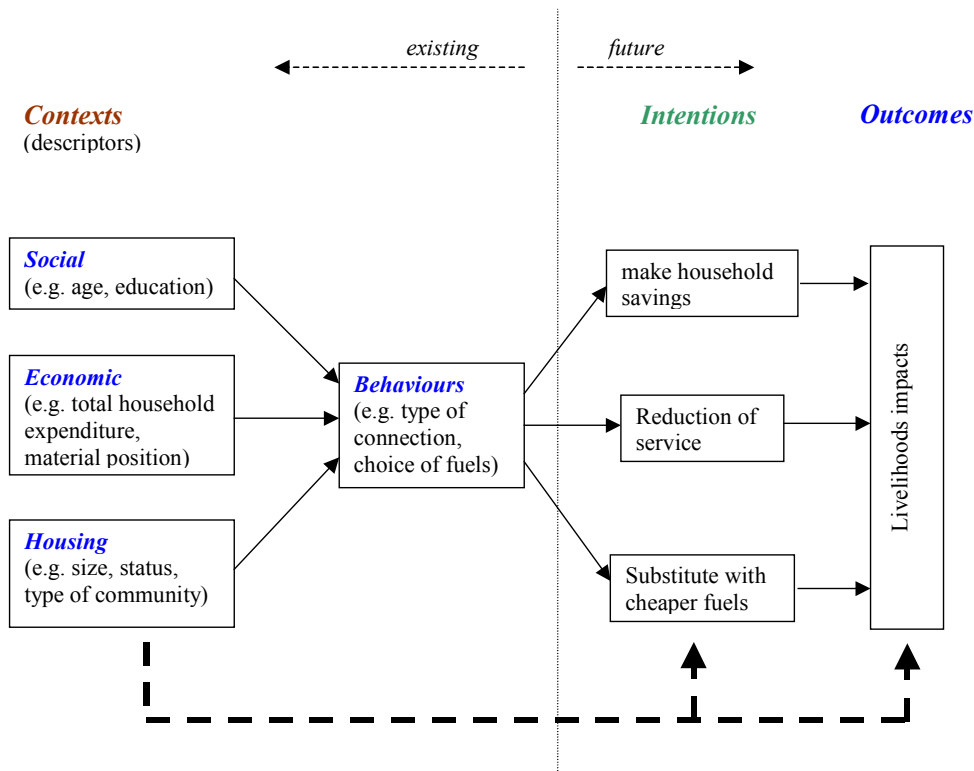


Figure 1 Links between indicators and behaviour

In Moldova, a sample of 400 households was surveyed within 5 districts of Chisnau. The sample was targeted towards poor families by sampling from the register of the Department for the Protection of Children’s rights; within this group households were selected at random. The analysis uses non parametric statistical tests to look for the influence of various social groupings on behaviour and coping strategy². The supplementary questionnaire was run with a subset (N = 198) of the original sample. The supplementary sample appears to be reasonably representative of the whole sample, although slightly less vulnerable than those included in the main sample only.

3 Findings

3.1 Description of sample

An understanding of the types of communities sampled can be gained by the following key figures:

- The respondents were predominantly female (74%).
- The average age of all respondents was 47; The majority of respondents (33%) were between 35 and 45 years of age

² The Mann-Whitney U test has been used to test for differences between two groups, and tests present the probability (p value) that differences between two groupings have occurred by chance - differences with a probability of less than 0.05 have been taken to indicate a relationship. Similarly, when considering correlations between two variables, only where the p value associated with a Spearman Rank Order Correlation Coefficient is less than 0.05, and the correlation coefficient itself is greater than 0.2, has it been assumed that a valid relationship exists.

- The majority of respondents have achieved the equivalent of high school level of education (up to 18 years old)
- The largest group of respondents is pensioners (24%); 20% work in ‘other’ occupations (e.g. vendors, tailors, occasional workers),
- Only 9% of respondents claim to be unemployed;
- The average size of household was relatively small (mean = 3.6).
- The majority (65%) of the respondents live in flats (one third state owned and two thirds privately owned) and hostels (14%); only 19% live in houses;
- 40% of the respondents live in two rooms, 28% in 3 rooms and 22% in only one room;

People were asked to rate their family income on a subjective scale, and most claimed they did not have enough for essentials (47%). People were also asked how pleased they are with their quality of life, and there is a good correlation between these two indicators.

3.2 Choice and consumption of fuels

The three main fuels used are gas (piped), district heating, and electricity (see Table 1). Vulnerable groups (e.g. those having difficulty paying energy bills) are more inclined to use electricity and wood than as for cooking, and those in hostels are more likely to use electricity. Only those in private houses have the option to use solid fuels (wood). Although most households use district heating irrespective of poverty status, vulnerable households tend to use solid fuels rather than gas for heating. Only private houses have flexibility in their choice of fuels, and use gas (30%) and solid fuels (35%).

Table 1 Main choice of fuel

| | Percent | Cooking | Space heating | Lighting |
|--------------------------|----------------|----------------|----------------------|-----------------|
| Central heating | | | 69.5 | |
| Autonomous system | | | 11.5 | |
| Gas | 89.22 | | 9.2 | 0.5 |
| Wood and coal | | | 7.2 | |
| Electric range | 8.02 | | 2.1 | 98.0 |
| Manufactured woods range | 1.50 | | | |
| Other | 1.25 | | 0.5 | 1.5 |

Household consumption of gas and electricity is lower amongst poor households, indicating that the poor conserve energy. However, no difference is noted in district heating, which indicates that where the poor are served by district heating they enjoy a quality of service comparable with most households (73% of households in the lowest material position category). The proportion of income spent on energy has only a weak link with poverty indicators – households with high occupancy density (people per room) spend a lower proportion of their income on energy, and those living in hostels spend a lower proportion than those in private houses, both of which indicate that the proportion of income spent on energy is directly related to wealth. However, households with meters (linked to ability to pay) tend to spend a lower proportion on energy (but differences are marginal).

3.3 Payment Patterns

People appear to have most difficulty paying for heating bills – see Table 2; electricity bills appear to cause least problems. This is probably because they are relatively low, as people do not use electricity for energy intensive activities. The length of time over which people had

been unable to pay bills was split roughly equally between less than a year, and over four years, and this pattern was similar across all utilities.

Table 2 Material position of the household and ability to pay for utilities

| | Whole sample | Unable to pay for electricity | Unable to pay for gas | Unable to pay for heating |
|--|--------------|-------------------------------|-----------------------|---------------------------|
| It is not enough for necessary things | 181 | 70 | 74 | 115 |
| It is enough just for necessary things | 165 | 28 | 29 | 71 |
| It is enough for a decorous livelihood but we can't buy expensive things | 33 | 10 | 10 | 9 |
| We succeed to buy expensive things, but we economise | 8 | 2 | 1 | 2 |
| Total | 387 | 110 | 114 | 197 |

However, experience of disconnection (mostly from non payment of bills) is somewhat different. Electricity is the energy source from which households have most commonly experienced disconnection (30% of households); second is gas with 13%, and lastly heating with only 6% reporting being cut off in the past (Table 3). This illustrates the practical problems associated with disconnecting gas and district heating services on a household basis. It also shows that around a third of people have difficulty paying their electricity bills, to the extent of getting cut off at some point. As expected, disconnection (across all three utilities) is more common amongst the poor. Disconnection is most common amongst households living in hostels, which may not only reflect economic position but also problems associated with communal meters which are subdivided by landlords. Private flats are more likely to be disconnected than houses, which probably reflects the higher dependency of people in flats – houses can use a greater choice of fuels.

Table 3 Occurrence of being cut off from energy source

| Have you been cut off in the past? | Electricity | | Gas | | Heating | |
|------------------------------------|-------------|------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Yes | 116 | 29.0 | 53 | 13.3 | 24 | 6.0 |
| No | 276 | 69.0 | 291 | 72.8 | 278 | 69.5 |

It is electricity tariffs that appear to cause people most concern – 88% felt that electricity tariffs were too high, compared with 79% of the sample of the opinion that both gas and heating tariffs were too high. 57% of respondents are worried about being disconnected from energy sources.

The majority of respondents pay for their fuels at a post office or bank (46% and 48% respectively), confirming a preference to pay bills locally.

3.4 Changes to date

Use of heating appears to be most stable – of the main fuels, this has the highest number of people reporting no change in use over the last five years; there appears to be an overall increase in use. Overall there appears to be no change in the use of electricity (the number of households registering increased and decreased use are equal), and a modest drop in gas use. When looking at poverty groupings, the poor have made economies in their use of gas and electricity; only the better off feel they have increased their consumption of electricity.

Responses indicate that overall, people use domestic appliances less than five years ago. The main reason for reduced use of appliances was increased tariffs, followed by decrease in family incomes. The main reason contributing to increased use is families growing in size and age. Note that people feel that the frequency of disconnections has decreased, implying that their payment performance has improved.

98% of households use electricity, and most are metered supplies (93% of sample); approximately half of the households have a gas meter, and a third have heating meters. Over all three utilities (electricity, gas and heating) the majority of respondents claimed that costs had decreased since installing meters; this was most acute amongst gas users, where 89% of users claimed that costs had decreased. Amongst those who had not installed a meter, the cost of the meter was the main barrier. The installation of meters appears, therefore, to be related to ability to pay rather than choice of fuel.

When asked about sources of information on electricity reforms, over 40% of the sample indicated that they were not interested in the issue. Television is clearly the most common source of information on energy sector reforms, followed by radio and discussions with acquaintances. There is a roughly equal split between those who feel that privatisation of the electricity sector will have no affect, and those who feel it will have a negative impact – there is only a small proportion (16%) who feel the changes will be positive.

3.5 Impact of changes in the future

3.5.1 Responses to increased costs

When asked how they would respond to an increase in the cost of energy, reducing energy consumption was clearly the preferred of the three suggested options. Second was paying more or energy, which was marginally more attractive than changing fuels. This trend is more acute amongst the poor – they are more likely to reduce energy use, and less inclined to pay more.

When asked how they would **save energy**, the most common responses were through reduced use of appliances and lighting. When asked about energy conservation measures currently taken, preparation of windows (draught proofing and secondary glazing) and using less bulbs for lighting are clearly the main measures.

When asked where they would make savings in household budgets in order to **pay more** for energy, the priority area is clearly household repairs, although some respondents could also make savings in travel, clothing, and telephone costs.

Overall reluctance to **change fuels** is confirmed by the fact that only a small number of households (approximately 5%) have changed their choice of main fuels in response to changes over the last five years. This is mostly due to the fact that most of the sample lived in flats or hostels where they have little choice over fuels. There is anecdotal evidence of people in flats installing wood stoves illegally.

As an alternative means of assessing how people are likely to respond to increased energy costs, respondents were given a number of statements regarding possible responses (which fit with the options discussed above), and asked to what extent they agreed with each statement. Most of the intention statements have negative responses, indicating a general reluctance to change behaviour. The least negative option is to pay more, rather than to reduce

consumption; it is proposed that this is likely to be a more accurate assessment, as people tend to be reluctant to declare themselves willing to pay more. This assessment confirms that changing fuels is the option of last resort.

The poor appear to be the group with the strongest intention to pay more. It is interesting to note that they appear reluctant to steal electricity (making informal arrangements, which is an additional option), although not as reluctant as they are to change fuels.

3.5.2 Impact of increased costs

Similarly, respondents were given a number of statements regarding possible ways in which people will be affected by increased energy costs, and asked to what extent they agree with each. Each statement fitted into a category of issues – family unity, security, health, education, or financial independence (avoiding debt). Results show that people clearly feel that increased costs will have the greatest impact on the health of their family (e.g. lack of heating, stress, not washing in hot water), and that the poor feel more vulnerable to adverse impacts.

4 Conclusions and Recommendations

Most of the sample live in flats or hostels, where their choice of fuels is restricted – most use piped gas for cooking and district heating for space heating. Nevertheless, there is a tendency for the poor to use solid fuels for heating, and the survey even captured a small number of households living in flats who use solid fuel for heating. However, most households accept the limitations on their ability to choose fuels, and are unlikely to change fuels in the event of increasing energy costs.

In the event of increased costs of piped gas and district heating (the present choices), the fuel of second choice is electricity, for both cooking and heating. Electricity is, therefore, seen as cheaper than LPG, so there exists an opportunity to promote the use of LPG through supporting the LPG industry, or by increasing electricity prices. If the cost of all of the main fuels increases, then there may be a growth in the number of people resorting to using solid fuels, with implications for health, safety, and environmental damage.

The poor have already taken steps to conserve electricity and gas energy, yet this appears to be a response to increased costs. Household electricity consumption is low (e.g. 50 kWh/month), and is probably used mostly for lighting, which is identified as an area where savings can be made. Costs could, therefore, be reduced by the introduction of low energy bulbs and options to overcome the high capital cost of these should be explored through government or utility subsidies.

In the event of increased energy costs, it is most likely that people will take measures to ensure that they can pay higher costs e.g. borrowing money, finding extra work. The poor show the greatest willingness to pay more. However, people are likely to reduce the amount spent on household repairs (and other items) in order to help pay more; this has implications on quality of life, and health in particular.

The greatest impact of increased energy costs is likely to be on family health; this will have implications for the government health services, as well as indirect consequences for education, employment and household income generation etc.

The installation of meters (gas and heating) should be continued, especially as it appears that nominal billing arrangements penalise consumers. The current policy of expecting consumers to pay for meters seems somewhat controversial, as the expense acts as a barrier to what could be regarded as good management on behalf of the utility company, and the concept of ‘owning’ a meter is flawed (e.g. can’t take it with you). Options for spreading the cost of the meter, or shifting ownership to the utility should be explored.

A third of households experience problems with paying electricity bills, which is linked to the insecure status of employment of most of the sample. There would, therefore, be value to consumers in the introduction of flexible payment mechanisms. Note that there is a preference for making local payments at post offices and banks, so this facility should be continued.

Consumers still have a negative (and ill informed) view of energy sector reforms, so there remains a need to develop a communications strategy to explain the reasons behind the process, and to report on the successes (and failures) of the policy. Information on energy conservation measures would be helpful, although information on changing fuel prices would be of value to only the limited number of consumers able to change fuels. Any such strategy should target television as an effective medium for communicating with consumers.