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TRAINING MATERIAL No. 5**

**Meeting Low-income
Consumers' Needs**

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***INFORMATION EXCHANGE AND PEER ASSISTANCE PROGRAM BETWEEN
LOCAL GOVERNMENT OFFICIALS AND ENERGY REGULATORS***

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The ERRA/LGI Training Material 5. "Meeting Low-income Consumers' Needs" was prepared, along with four other materials, to support the training of public sector experts, especially at sub-national levels. In compiling the materials we have drawn on ERRA workshop proceedings and the written responses of the ERRA members to the questionnaires, and S. Mitric: "Price and Subsidy Policies for Urban Public Transport and Water Utilities in Transition Economies". Preparing the training materials we used the comments and advises of Robert Archer (United States Agency for International Development), Pál Lángfy (Hungarian Energy Office), and Gábor Péteri (Open Society Institute).

1. INTRODUCTION

Utility subsidies can serve many objectives. Sometimes governments want to ensure that all households receive a basic level of service because of the perceived positive externalities associated with it, or in an attempt to "buy" support from the electorate. Subsidies to certain classes of consumers may facilitate a systematic effort to strengthen payment discipline and reduce the stock of outstanding receivables. Finally, subsidies may enable the poor to receive utility services without having to sacrifice other essential needs.

The present paper should represent a tool for highlighting issues to be considered by local government units related to low-income customers, indicating areas where further efforts are needed.

At the same time the paper serves other more general purposes such as:

- To review the extent to which the water and district heating sectors can be reasonably expected to address the problem of low-income consumers;
- To identify approaches used in the OECD countries and the CEE/Eurasia region for addressing low-income consumer needs; and,
- To share among local governments from CEE/Eurasia countries experience in addressing low-income consumer needs, learning from others' mistakes in the hope of finding the best solutions.

Until the early 1990s, utility prices were set artificially low for residential consumers in most countries in Central and Eastern Europe and the former Soviet Union. When the cost of these across-the-board price subsidies became unaffordable, one government after another decided to bring residential tariffs closer to supply costs. The principle of cost recovery in the public sector is one of the principal elements in the macroeconomic structural changes. The starting point was an inefficient public sector, where the prices (utility charges and tariffs) did not reflect the production cost of the services. Consequently the level (quantity and the quality) of the services has not closely connected to the economic potentials of the country. The resulting price adjustment process, however, turned out to be more painful than originally expected. First of all, the demand for the services declined as consumers in both households and institutions could not pay the economic cost of the services. As the demand decreased the unit cost of the services increased and caused more losses for the utility companies. Because of the rigidity and inflexibility of the service providers in the adjustment process, the utility companies had to increase the tariff more to cover production costs, which again had a negative effect on demand and efficiency. The required large increase in the prices of utility services coincided with a decrease in household incomes due to the general contraction of economic activity. As a consequence of these processes arrears and non-paying consumers become a huge social problem. Thus the strategy for dealing with low-income households is one of the basic questions of the transition.

2. Reform in the sector and low-income consumers

Under socialism, services such as water, sewage and district heating were provided to citizens by public-sector organizations, at low or even zero prices. Low-priced services were generally considered non-cash components of wages and pensions; some groups were given further discounts. The gap between service revenues and the costs of provision was made up from the government budget or more directly from turnover taxes on local enterprises. Subsidies were endemic, the public sector controlled the greatest part of the national income, and cash wages were low. As the 1990s began, the accumulated pathologies of a system in decline intersected with the consequences of the first wave of reforms to produce difficulties, even crises on both supply and demand sides of urban services.

On the macro scale, the key developments were a multi-year fall in the aggregate output of goods and services, and high inflation. Measured at its lowest, relative to 1987, the real GDP had fallen by 15% in Poland (1991) and 35% in Russia (1995); in the latter country, GDP fell for 7 consecutive years. This considerably reduced the overall public expenditure capacity, with complicated downstream effects on different levels of government, sectors of economy, and splits between investments and current expenses. A concurrent decentralization meant that city governments suddenly had huge expenditure responsibility with poorly-developed funding sources and mechanisms.

On the demand side of urban services, there was a dramatic fall in real wages and pensions. In the 1998-1993 period, real per capita income fell by 12% in the Czech Republic, 26% in Hungary, 42% in Russia, and more than 60% in some Central Asian Republics. Poverty increased from 14 million (region-wide) in 1989 to 140 million in 1996. Especially affected were unemployed workers with large families and some retirees. Concurrently, poorly implemented privatization and the rise of the gray economy led to much higher inequality.

On the supply side, there were several pre-existing structural problems. The technological backwardness of urban utilities was evident in equipment with high levels of energy consumption. Also in evidence was a strong preference for building large structures. Organizations were unwieldy and overstaffed with low-skilled workers. In an enterprise, core functions were often swamped by in-house auxiliary ones, reflecting the drive for self-sufficiency typical of rigid economic systems. When the funding squeeze came, expansion and replacement plans were affected first, then maintenance and repairs, and eventually the services provided by utility enterprises. The adjustment process and the outcome for services varied widely between countries, cities and utility types, depending on the initial conditions and the depth of the crisis.

The key economic reforms associated with transition included liberalization of prices and foreign trade, removal of barriers against private sector economic activities, and fiscal stabilization. In addition to these, the fragmentation of the Soviet Union and the cessation of economic agreements between EE and FSU countries had an enormous impact on prices and the availability of factor inputs and consumption goods, terms of trade and so on. Depending on the country, the reforms were introduced fully or partially, suddenly or gradually. Either way, things had to become worse before they could become

better. The most important consequences of the breakup and reforms in this initial stage of the transition process were the following:

- a fall in the aggregate outputs of goods and services for several consecutive years;
- a relatively modest rise of unemployment from near-zero levels beforehand to 3.2-9% in Russia (registered and actual), and 12-15% in Eastern Europe, except the Czech Republic, where it remained low until 1998; the exodus into (early) retirement, however, has been considerable in some countries;
- a fall in real wages of about one-third in Eastern Europe and one-half in Russia and other USSR successor states;
- a similar fall in government revenue, given the tax systems were based on payroll taxes, reducing the capacity to subsidize enterprises, make income transfers, and undertake capital investments;
- high inflation, varying in the 17-29% range in advanced reformers like Hungary, but reaching hyper-inflation in inverse proportion to the speed and depth of reforms: 131-256% in Romania, 92-1353% in Russia, 1610-1980% in Kazakhstan and 969-2200% in Belarus (data are for the 1989-94 period);
- an explosion of poverty¹, from 14 million in 1989, to 140 million in 1996, nearly 40% of the total population in transition countries;
- an increase in inequality in some countries, notably Russia, Lithuania, Estonia, Ukraine and Bulgaria. The bottom quintile of the population in these countries lost up to two-thirds of real income, making income distribution more unequal than in OECD countries.

In addition to changes in the economic sphere, yet another development has been taking place in transition countries: decentralization of political and economic power. Local, and in some countries, regional governments are now elected, have gained jurisdiction over many local services and ownership of land and infrastructure; have taxing and spending authority, and subsidy responsibility; and benefit from new financing arrangements in which transfers from the state are a diminishing proportion of total revenue. As with economic reforms, countries differ as to the speed and scope of decentralization: Poland, Hungary and the Baltic States being in the forefront, while the FSU countries lag behind. Even in the advanced cases, where cities like Budapest, Warsaw and Krakow have been called asset-rich but cash-poor, the financial capacity of local governments has been slow to build. In less fortunate cases, cities are badly strapped for cash.

3. Policy approaches to address low-income consumer needs

Governments and specialists in the sector have to answer the following question: what sort of policy mechanisms can be used to ameliorate the problems of low-income consumers to help them achieve a basic level of utility service? There are two fundamental approaches.

¹The poverty threshold used here is an expenditure of \$4 per capita per day in international dollar (based on purchasing power parity).

A serious problem for the CEE/Eurasian nations is the status of the economy and the stage of its reform. This is highly evident in the extent of poverty and the limited ability of some households to pay for even the most basic of provisions, such as utility services. The reform in water and district heating sectors is also affected. Indeed, the problems of low-income households can be seen as a barrier to various reform initiatives, such as eliminating or reducing cross-subsidization, tariff reform and even privatization. At the same time, it should be recognized that this is not a problem unique to these sectors.

Specialists admit the existence of various facts that indicate the degree to which sector reform has advanced (i.e. the more functional unbundling, the more likely the progress in reform). Thus, one can presuppose that the number of suppliers is correlated to some degree with the reform done in the sector. The amount of involvement of the private sector in the ownership and management of the utilities is also a likely indicator of the reform progress witnessed. In many ways, privatisation highlights the need to address low-income consumer issues. The trend towards increasing private sector involvement in the water and district heating sectors makes it necessary to deal with the problem of low-income consumers more explicitly and transparently.

In this section, the "micro" aspects of the affordability of household water services will be examined ("macro" aspects means comparing the average – or typical – water bill in a country with some average household's financial strength or "ability to pay"). The notion of "affordability" refers to the extent to which some households (or households in general) can afford the water services that they either choose or are obliged to purchase (depending on the tariff encountered).

The "micro" issue concentrates on affordability for lower-income groups. The ways in which governments and water utilities have chosen to address this issue can be divided into two broad groups, emphasizing either the **tariffs themselves** or **certain individual households**. These can be termed either **tariff solutions** or **target group solutions**. The tariff solutions are to be found either in tariff specification, in tariff amendment, or in tariff innovation. In the second group of solutions, the focus is on assistance to either individual households or specified groups of households. This assistance may be provided in two ways: via tariff discounts (lower prices) or via income support (higher incomes). Beside these solutions there is a third one to **increase the end use efficiency**. End use efficiency, which reduces the use of water, electricity, gas or heat, has a long term social impact by reducing the waste and consequently the cost to the poor (and others). It needs to be considered more systematically in the future in social assistance designs. Only the first two approaches will be addressed in this material.

For both groups of solutions, funding may originate from government bodies (local, regional, and national), although the tariff-based approach is more likely in practice to be self-financed by the utility (i.e. through some form of cross-subsidization). Such cross-subsidization can and does occur both between the household sector and the non-household sectors (e.g. industry and commerce) and also within the household sector (i.e. from rich to poor). Similarly, for target-group solutions, price reductions can be funded by the government (although in practice, they too normally involve cross-subsidisation between water consumers instead), and income transfer might originate from the utility itself (although social security is the more usual source).

The two solutions however are not mutually exclusive. A new tariff could be reserved for certain groups of consumers (e.g. those in receipt of social security benefits), or it could be partly geared to some indicator of low income, such as poverty value or poverty type.

The **tariff solution** is to use energy and water sector regulatory mechanisms. This approach is likely to be a "second best approach" due to a number of potential disadvantages such as:

- 1) distorting energy and water use and having an impact on the economic efficiency of the sectors;
- 2) continuing the tendency of the government to use the energy and water sectors for short-term social and political objectives is inconsistent with achieving viable energy and water systems.

To some extent, this has been a common approach used in the past in CEE/Eurasia in that through inadequate tariff structures and a no-cut-off policy, utilities have had a financial burden imposed upon them due to the social objectives of the government. This has contributed to decapitalisation, low investment and profitability and decreased system reliability.

The **target group solution** is based on the premise that the government, not the energy and water sectors, has the responsibility for addressing the needs of low-income households. A primary mechanism to achieve this approach is a sustainable, targeted and affordable social safety net program (e.g., income supplement) that helps low-income consumers to pay for their basic needs, not just energy. In addition, the government may consider other targeted programs to support payment of energy and water bills or measures to reduce costs.

3.1. Tariff-based solutions to affordability problems

Three types of solutions to micro affordability problems can be distinguished; they are:

- conventional tariff specification,
- tariff amendment,
- tariff innovation.

3.1.1. Tariff specification

The term "tariff" specification alludes to the justification frequently offered for referring to increasing-block tariffs as social tariffs. Certainly in some OECD countries (Italy, Greece, Spain, Portugal, Belgium) the familiar increasing-block schedule is often claimed to be advantageous to the relatively poor, granting these consumers the opportunity to buy "early" blocks of water at low (and sometimes very low or even zero) prices.

Of course, it is not so simple as this in actual practice. Increasing-block schedules do not necessarily reflect large equity gains for the poor. A relatively small "first block" range may simply mean that nearly all households of average size or above are forced into higher (and more expensive) blocks, so the consequent welfare distribution may be small, as compared with a uniform volumetric rate

(depending on the width of the blocks and the steepness of the rise of the rate). Large poor families may therefore end up in much more expensive blocks, and could pay significantly higher average volumetric rates than the smaller (but higher income) households.

Nevertheless, there is an underlying social appeal to such tariff structures, and recognizing the significance of one- and two-pensioner households among the emerging poor in a number of countries, there is a sizeable reservoir of income redistribution opportunities available via increasing-block tariff systems, as long as the width and prices of these blocks are carefully chosen.

One general caveat is in order, however. This comes into play when a minimum charge is levied that covers a relatively large block (rate) of initial consumption. Thus, in Japan, it has been common for utilities to specify a minimum charge covering 10 m³ per month. A similar situation has existed until recently in Korea. In Taegu City, for example, the 1974 minimum charge "paid for" the first 15 m³/month, even though estimated consumption was such that only households with nine or more people were likely to be facing a non-zero price for water. In 1997, just before the abandonment of the basic rate, only a three-person (or larger) household in Taegu would normally have expected to face a non-zero price at the margin.

The justification for this type of minimum charge is difficult to understand, unless it is seen as a way of recovering customer costs, akin to the fixed element of the familiar two-part tariff. But if so, it often seems to be too large for that purpose. In general, it would be better to eliminate the minimum charge, thereby removing its potential to dampen conservation messages, and to replace this charge with a more carefully-sculpted fixed customer charge, aimed specifically at households.

3.1.2. Tariff amendment

Amending tariffs is best seen as an attempt to make increasing-block structures more "friendly" to households with below-average incomes, but of average or above-average size. It may be pursued by relating either the fixed charge element or one or more characteristics of the cheap blocks (size, price) to the "needs" of households.

In the Flanders region of Belgium, the first 15m³ per annum per person (equivalent to 41lhd) in each household has been provided free, since 1 January 1997. This has the virtue of being

- a.) small enough to ensure that very few households will face a zero price for their water
- b.) politically defensible, in that it covers a certain core of basic ("essential") water use in the home
- c.) equitable, especially between households of different sizes.

In Spain, two innovations for Barcelona have already been noted: a "blunter" version of the Flanders size-of-household amendment (in this case, extending the width of the second block in line with household sizes exceeding five persons), and a progressive variation in the fixed charge, depending on the type of property occupied by the household. Similarly, Madrid and Seville have introduced new, amended social tariffs in recent years.

A further example comes from the US, where the Los Angeles Mayor's Blue Ribbon Committee on Water Rates created a radically different rate schedule between 1992 and 1994. This abolished the old minimum charge; introduced summer premia (to increase volumetric prices up to long-run marginal cost levels); and created a two-tier rate structure, in which the of the first tier is in line with important determinants of what a "responsible" household would be expected to consume. In this way, economic efficiency, equity and environmental concerns are all addressed (see Box 1).

Box 1. Los Angeles Tariff Reform in the early 1990s

The main drawbacks of the former tariff system of the city were identified as:

- it failed to inform customers of future rising costs;
- water shortages, and hence appeals to conserve, were inevitably associated with rate increases (due to the size of short-run fixed costs);
- low-income group and "lifeline" assistance was unreasonably restricted to single-family homes (SFHs), whereas needy groups were increasingly locating in multi-family residences (MFRs);
- the existence of a fixed minimum monthly charge encouraged waste of the resource;
- in order to receive full benefits of water at discounted prices, low-income consumers had to consume more than a certain quantity, which led to water waste.

To remove these disadvantages the Mayor's Committee, following extensive public hearings in 1994, proposed:

- the abolition of the minimum charge;
- the payment to low-income customers of credits in cash terms (and independent of water usage);
- relating the size of the first tier of water use (at base price) for SFH users to household needs. These needs were to be determined by lot-size (five categories), temperature zone (three in all), and family size (there would be an extra first-tier allowance for each resident in the household in excess of six).;
- additionally, an inexplicably small summer premium for all users of first tier was introduced, ranging between 2 and 4 percent.

All additional (or second-tier) water for SFH users is priced at higher levels: in the winter, at a price 37 percent higher than the first-tier, in the summer (June to October) at a price 72 percent higher. For MFR consumers, all winter water is priced at first-tier-rates, but in summer, first-tier usage was fixed at 125 percent of the average consumption of the preceding winter. Any consumption after that has a price that is 72 percent higher. The summer second-tier rate for both SFHs and MFRs is set to reflect the forward-looking unit costs of Los Angeles having to add new supplies (i.e. marginal costs)

see <http://www.ladwp.com/water/rates/index.htm> for further details.

3.1.3. Tariff innovation

In some circumstances, there is no tariff amendment capable of capturing the degree of change required. In this case, completely new tariffs may be needed. Examples of such tariff innovations are available from two very different types of water utilities: one from Anglian Water in the UK (population served: 4 million), and one involving a group of initiatives from the over 100 communes supplying water services in Luxembourg (average population served in OECD countries is 3500)

In recent years, Anglian water has chosen to introduce completely new tariffs to meet the concerns of those who object (on social equity grounds) to any sudden shift from flat-fee charges (based essentially on property values) to metering (and the associated volumetric charging that goes with it) which is not accompanied by complete freedom of choice in tariff selection. Opponents were particularly concerned about compulsory metering programs which Anglian proposed in "resource-stretched" areas. Anglian's reaction to a determined opposition campaign was:

- to abandon its compulsory programs other than those centered on new homes and the use of certain high-water-use luxury appliances, and
- to introduce a new tariff, termed the SoLow rate, which has no standing charge, but which includes a volumetric rate some 25 percent higher than in the "normal" tariff. As Table 1 illustrates, a very low-water-use household (a single person household, using 100l/hh/d), receiving both water supply and sewerage services from Anglian, would (in 1998-99) save about £20 a year by electing to go on the SoLow tariff.

Although benefiting all households using less than 72m³ per annum, the SoLow rate was of no help to households of average-or above-average size, especially those in which the breadwinners are unemployed or in low-paid work. Specifically for these groups, therefore, Anglian has introduced for 1998-99 the Plus4 rate, combining a high standing charge with a low volumetric rate. Table 1 illustrates that annual savings associated with Plus4, relative to the normal tariffs, rise from about £5 to about £15, as consumption rises from 100 to 200 m³ per annum.

Table 1. Household Metered Charges in Anglian Water (1998-99) (litres/household/day – l/hh/d)

		Normal tariff	(a) f	Plus 4 tariff*
Standing Charge	(L/year)	36.00	-	137.00
Volumetric rate	(L/m ³)	2.12	2.62	1.04
Annual bill	36.5 m³/yr. (100 l/hh/d)	113.39	95.56	175.13
	50 m³/yr. (137 l/hh/d)	142.01	130.90	189.23
	100 m³/yr. (274 l/hh/d)	248.02	261.80	241.47
	150 m³/yr. (411 l/hh/d)	354.03	392.70	293.70
	200 m³/yr. (548 l/hh/d)	460.04	523.60	345.94

Consumers receiving social security benefits (income support, job seekers allowance or family credit) may choose any of the three tariffs. All other consumers may choose between Normal and SoLow)

Source: (<http://anglicanwater.co.uk/customer/charges.html>)

These new tariffs serve two main purposes. First, in a general sense, they demonstrate that the water utility can be responsive to different social contexts (in a country where the complete privatization of the water industry remains the subject of considerable public debate). Second, by "carving out" new tariff structures, they give real benefits to otherwise disadvantaged consumers. In Luxembourg, there are examples of communes charging households increasing-block tariffs, but gearing the width of the blocks to the number of people in the household. Table 2 shows one such example.

In Luxembourg, there are examples of communes charging households increasing-block tariffs, but gearing the width of the blocks to the number of people in the household. Table 2 shows one such example.

Table 2. Variation in Block Size: Luxembourg Commune (1996-97)

Water price in Flux per m ³	Consumption in m3 per year in households consisting of:						
	1 person	2 person	3 person	4 person	5 person	6 person	7 person
40	<_ 60	<_ 100	<_ 140	<_ 180	<_ 220	<_ 260	<_ 300
50	61-70	101-120	141-170	181-220	221-270	261-320	300-370
70	>71	>121	>171	>221	>271	>321	>371

In another commune, the water tariff is gradually reduced, according to the increase in the number of children in the household (see Table 3.)

Table 3. Volumetric Rate dependent on Number of Children: Luxembourg Commune (1996-97)

Standard household tariff	38.0 Flux/m ³
Family with 3 children	26.6 Flux/m ³
Family with 4 children	22.8 Flux/m ³
Family with 5 or more children	19.0 Flux/m ³

These socially-driven variations inspire significant differences in basic tariff structures, with 118 communes charging for water at 118 different prices. There are increasing-block, decreasing-block, and constant volumetric rate schedules for water supply, while for sewerage and sewage treatment, a similar variety of arrangements can be found, combining one or more elements of fixed charges (per household, per person or per person-equivalent) and charges per m3 supplied (with or without different maxima and minima, or only coming into operation with supplies over a certain limit).

What these examples of tariff innovation show is that it is quite possible to design tariffs – with entry being either restricted or unrestricted – that protect the interest of particular well-defined groups, be they low-income households, large households, households with children, etc. In each case, there will, to the tariff designer who seeks an optimal structure, normally be a trade-off arising from the innovation. But what is lost in efficiency, to be set against the gains in equity, depends very much on the starting-point for the comparison. In Anglian Water, if the "start" is considered to be an unmetered context (and therefore some sort of flat-fee system), the gains from the transition (a positive marginal price, leading to improved economic and environmental signals) have to be set against not only the familiar extra costs of establishing and operating a volumetric charging system, but also against the upset and hardship which may arise from the resulting complex matrix of gains and losses for individual households. Implicitly, Anglian tariff innovators must believe that the extra gains in equity from the introduction of the two "new" tariffs (reducing the hardship in many cases) outweigh the more subtle efficiency

losses, which may occur because the volumetric rate is not exactly "right" (i.e. perhaps drifting further away from a marginal cost base, such as is presumably true of very low price attached to the Plus4 tariff).

Support for this "implicit" view is provided by the consistently low price-elasticity for household use and the further argument that the beneficiaries of the restricted Plus4 tariff are unlikely, by definition, to have significant luxury uses for water.

3.1.4. Tariff choice

In some circumstances it is tempting to regard the gains from tariff innovation as resulting not so much from the introduction of a new tariff as from the choice of alternative tariff structures water users have as a result. In terms of consumer welfare, adding a new tariff, and allowing genuine freedom of choice will always lead to some consumers being better off without others being worse off, so long as the number of consumers electing to "join" either one of (say) two tariffs has no feedback effects on the characteristics of the other (e.g. volumetric rate). It is precisely the importance of that qualification that has led Anglian Water to restrict entry to its Plus4 tariff. If it had not done so, all high-users of water would – rationally – have sought to subscribe to Plus4, and the company would then have had to replace its lost revenue by changing tariffs elsewhere. It is clear that important issues of public relations – and price discrimination – are therefore also bound up with this question.

In OECD countries two types of choice can be seen. First, the flat-fee/metering choice, which is clearly appropriate where the demand-supply balance in a particular location is such that no case for universal metering can yet be established. The other type of choice is the one provided by Anglian Water in its desire to see metering become much more widespread. In public relations terms, this choice has been presented essentially as a measure to smooth out the transition process. A separate question then emerges. Looking ahead, if Anglian arrives at a more-or-less fully-metered situation, would it then be desirable to maintain the choice(s) that were originally on offer? The case for some assistance with water bills for lower-income groups will, it may be assumed, still be strong.

The ideal would presumably be a single charging structure that attempted to be fair to all consumers, and here the initiatives made in Flanders, Barcelona, and Los Angeles enter into the picture. All these innovations have in common the fact that they represent attempts to improve the equity attributes of increasing-block tariffs. All incorporate changes in either the sizes ("widths") of one or other of the initial blocks in the structure, or in the fixed charge, according to perceived household "needs". They are therefore important models for steady-state fully-metered residential scenarios.

When a discounted price is offered to one set of consumers, thus lowering the price below the full costs of the product, there is a negative impact on economic efficiency. Ways to limit the potential negative impact on economic efficiency include:

- 1) ensuring that the structure of the tariff remains aligned with the marginal cost structure seen in the sector;
- 2) keeping any subsidization intraclass rather than interclass;

- 3) having the subsidy for the tariff provided directly by the government to the utility or consumer;
- 4) identifying ways to reduce the cost of service for the low-income consumer to justify a lower tariff.

3.2. Target group solutions to affordability problems

In most of the countries there are direct subsidies targeted to low-income consumers. For heat, the subsidy is given only during the winter season. In the OECD countries the most common types of assistance are rebates based on income, percentage discounts on water bills for certain groups, waivers of the fixed charge, and fixed allowances (or credits) on each bill. Most of this assistance is funded by individual utilities, although occasionally local authorities and voluntary community organizations (using donated funds) are also involved. In CEE countries the target group solutions are generally part of the social assistance program of local governments.

Households in CEE receive the following types of target group subsidies:

- no disconnection of delinquent residential customers;
- compensation for the share of utility expenditures that exceeds a notional burden limit set as a given percentage of monthly household income (based on actual utility expenditures or expenditure norms);
- other earmarked cash transfers helping low-income households to pay for utility services;
- non-earmarked cash transfers to low-income households.

The following country summary shows some of the Government assistance mechanisms in place in some CEE countries:

Albania

- no assistance programs from government.

Armenia

- there are direct subsidies for residential heating during the winter;
- there are no plans to eliminate direct subsidies;
- power companies receive subsidies from local governmental budgets to cover a portion of heating costs during winter;
- there is a system of family aid payments introduced by government for families who live below the poverty level. These aid payments are paid from the national budget;
- the method to determine who has the right to receive assistance is as follows: the higher a family's need, the higher number of points assigned to that family and the greater the likelihood of it receiving aid. The right to receive aid is granted to families whose degree of need exceeds a minimum established by the government for each year. The information about a family remains valid for 12 months; any changes must be reported to the social service within one month.

Bulgaria

- the government has social programs for the poorest users; they receive cash according to their income and number of persons in the household;
- the assistance is limited to 15 USD per month during the cold season and is decreasing each

- year;
- the social programs are conducted by the Ministry of Labour and Social Policy;

Hungary

- for municipal subsidies, the living circumstances of specific families are reviewed to determine eligibility.

Kyrgyz Republic

- about 65% of the total number of consumers (privileged) have a discounted rate for electricity and heat, paid for in part by the state budget (15%) and through subsidization by other consumers;
- there is no mechanism presently in place to eliminate the "double subsidy" for the privileged (veterans, National Heroes, police, army, participants at the Chernobyl accident, low-income retired and disabled). The government intends to eliminate it during the next five years.

Moldova

- the new Social Protection Law reduces the number of privileged residential and communal services from 47 to 9;
- there is another subsidy for hot water during the colder five months of the year.

Romania

- there is a direct subsidy for all of the heat supplied to residential consumers; the price with the direct subsidy is 14.35 USD per Gcal; without the subsidy, the price would be differentiated by generation all over the country;
- the government introduced a direct subsidy (coupons for winter) for the heat supplied for low-income consumers (income under 30 USD per month per capita; the maximum amount is 20 USD, depending on how low the income is; the subsidy covers part of the bill, depending on how large the living space may be).

Ukraine

- the subsidy is 20% of total sales; there is a discount rate of 35% for payments in cash;
- the state budget compensates for the subsidies by providing payments directly to the service providers;
- there are also direct payments made to low-income consumers by the Ministries of Finance and Labour and Social Protection.

Table 4 presents a summary of the countries with direct subsidies.

Table 4. Direct subsidies (as answered)

CRT. no.	Country	Direct subsidies	To:
1	Albania	no	- no assistance from the government
2	Albania	yes	- subsidies for residential heating during the winter
3	Bulgaria	yes	- poorest users receive targeted assistance during cold season not exceeding 15 USD per month
4	Georgia	n.a	n.a.
5	Hungary	yes	- targeted programs (e.g., families with children) - facilities for employees and retired workers in the energy sector
6	Kyrgyz Republic	yes	-15% subsidies from the state budget for low-income electricity and heat consumers
7	Lithuania	yes	- state subsidies for energy efficiency services provided directly to consumers (low-income or not)
8	Moldova	yes	- state subsidies for low-income heat consumers
9	Romania	yes	- state subsidies for heat suppliers- state subsidies for low-income heat consumers during the cold season
10	Ukraine	yes	- 35% discount for cash payments for privileged consumers

To assist low-income consumers in Georgia with winter heating, a two-year donor-funded program was implemented that provided funding to pay for the electricity bills for a number of low-income consumers. In the upcoming season, a similar program is expected.

In Armenia, the government provides a financial payment directly to each qualifying low-income consumer sufficient to cover 100 kWh of electricity usage each month.

In Romania during the cold season low-income families receive some coupon in order to pay their heating bills. The maximum price paid by the heat consumers (which is the same all over the country) is fixed by the regulatory authority and is called the National Reference Price. The difference between the real price and the National Reference Price is received by the supplier as direct subsidy.

4. Methods for identifying who should be assisted and ways to provide such assistance.

Regardless of the approach used (except for a universal life-line type of tariff applicable to all consumers), one complication that remains is the targeting issue. How does one confirm that a household is in fact low-income and qualifies for a special tariff or program? Can the eligibility criteria be categorical (e.g., pensioners) or case-by-case means-tested? In some countries, the low-income household is expected to demonstrate that it qualifies by providing proof of income or involvement in a government social program. This is made easier in nations that have other social programs and accurate household income reporting. In CEE/Eurasia, given widespread tax avoidance and inadequate government information, self-reporting may be difficult to verify.

Also, what agency should implement the recipient identification? Arguably, government social protection bodies (national, regional or local depending on existing structures) should be responsible, or at least closely involved. If the government is to be the source of the financial support, the government has a vested interest in accurately identifying recipients.

5. Customer Relations– The problem of non-payment

In institutional terms the definition of "the customer" is sometimes difficult because of the privatization of flats and unclear building ownership. This has many impacts on customer relationships: contractual counterpart, ownership limits and responsibilities, billing and collection.

Non-payment and payment delays are a general problem in many of the Central and East European countries. There are several reasons: low income households and affordability, generally deteriorating payment discipline, cash problems of budgetary organizations, low quality and unreliability of heat supply.

Basic methods for improving the collection rate are clarifying and enforcing the contractual relationship with heat consumers, rescheduling of debt payments and introducing legal procedures and sanctions. Shutting off the heat supply from non-paying customers is often technically difficult because of the one-pipe radiator system. Often it is not possible because of existing regulation and political reasons. In many countries, though, district heating companies do cut off hot water to non-paying customers.

In *Warsaw* collection has been enforced by cutting off non-paying customers in a selective manner, e.g. during milder weather, and supported by a simultaneous media campaign. Gradually the campaign has won the support of the paying customers. Budgetary organizations like schools, hospitals and kindergartens are most delicate in this respect but about once a month heat supply is reduced with respect to a selected defaulter, combined with a publicity campaign. The aim is to put pressure on

decision-makers and to start negotiations. Generally, direct discussion with customers is found to be most important, combined with notifying and taking care of the public opinion.

Selling of receivables is quite commonly applied practice among the district heating enterprises in **Poland, Estonia** and **Russia**. The procedure has the following main steps: checking the legal basis, public Invitation to Tender, public opening of the tenders, decision. In Poland, over 90% of the nominal value can be converted to cash.

In **Hungary** arrears represent a quite huge and complicated problem (see table 5). Local governments choose different strategies to relieve this situation. Possible instruments are:

- compensation;
- assistance;
- transfer of apartments;
- legal process in the case of non-welfare situation;
- bargain on charges with utility companies if local government has a competency in prices.

Table 5. Households in Arrears in Hungary, 1998

Type of Services	Number of Households in Arrears	Proportion to the Consuming Households (%)	Amount of Arrears (million HUF/year)	Proportion to the Whole Amount of Charges
Electricity	603 871	13.2	2 700	3.0
Gas	137 352	5.5	2 223	2.6
District heating	135 183	21.1	5 082	12.1
In sum			10 005	

Source: Ministry of Welfare

In **Tallinn** non-payment is not the worst customer-related problem anymore, but the hard competition of gas heat is increasing. The district heating price has gone up resulting in loss of customers and sales have decreased by one third. One reason is that the gas price is not properly cost based for smaller consumers. The customers who have moved to electrical heating will probably return to district heating whereas it will be difficult to attract consumers with new gas boilers back to district heating.

6. Summary of Key Points

It is assumed that the objectives of the regulatory reform on the supply side are to help the municipal service sectors reach efficient production and financial sustainability, while providing service levels in line with their customer's demands and willingness to pay. This will call for a specific price structure and levels. There may be economic reasons justifying subsidies, such as the presence of "externalities". For example, access to water has direct health implications. The level of efficient subsidy in these cases can by and large be estimated numerically. On the other hand, it may be that sub-

sidies are largely driven by social considerations oriented towards redistribution and politically determined. They should be implemented using the most cost effective instrument, and the government should have expenditure capacity to pay for them. The subsidies in water and DH sectors as they are now applied in most transition countries have several problematic aspects.

First, and the simplest, the subsidizing authority may lack expenditure capacity, which leads to a funding gap. Or subsidy authority and expenditure responsibility may be vested in different institutions, as in Russia (or may be believed to be so).

Second, the subsidies which are nominally meant for low-income people are in fact based on categories which are not necessarily correlated with low incomes, much less poverty. Prominent among beneficiaries of subsidies are pensioners, but pensioners may be a small part of the poor. For example, only 3% of the poor in Hungary are pensioners; the majority of the poor (60%) are unemployed. In Bulgaria and Russia, pensioners account for more of the poor: 35% and 26%, respectively.

Third, the arrangement whereby service companies subsidize users and the government subsidizes service companies is evidently not a very good one, since it exacerbates the preceding two problems.

The subsidies to preferential price holders account for a lion's share of the revenue losses. Moreover, because of the uncompensated preferential prices, ordinary customers are asked to pay even more, an unfair and hard-to-afford cross-subsidy. In the light of all this, it may be tempting to conclude that a part of the price system for water and district heating services should be to eliminate subsidies for those people who "do not deserve" them.

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8. Appendix 1 How is the problem of low-income consumers handled? Is there a minimum level of access to utility service (water, sewage, district heating) defined?

Czech Republic

Support of low-income consumers is solved by household subsidies, and minimum level of access is mentioned in the Energy Act and Energy Charter Treaty.

Ukraine

No minimum level of availability to the utilities services (water supply, sewage, central heating) is determined in Ukraine.

Hungary

It depends on the local government. There is no minimum level of access to a utility service defined.

Lithuania

According to the law, if the expenses of a family for heating are more than 25 per cent of family income, the other expenses are compensated by municipalities. In the water and sewage sector this level is 2 percent of income. This order is applied in the whole country, not depending on place of residence. Municipality budgets contain provisions for this expenditure.

Romania

There are special funds included in the governmental budget in order to cover some of the costs to be paid by low-income householders. There is no minimum level for the access to the utility service.

Poland

Subsidies for the poorest. Level of poverty defined by the Ministry of Finance.

Slovakia

Lower income consumers pay the full price for the services provided. When a consumer is not able to pay for services, he can ask for a social subsidy at the district authority. If a consumer from a poor social background does not pay, the supplier of the heat and water will not disconnect him. The supplier will instead claim its money from the caretaker company or from the association of flat owners (depending on the parties in the contract).

It is possible to reclaim other payments for services through the court or move a bad payer into a flat of lower category.

Kazakhstan

Household allowances to the population with low income levels are provided for from the local budgets. Allowances are paid out if the total amount of payments for the utilities services exceeds 30% of the total income of the family.

9. Appendix 2 What kind of social assistance programs and subsidies exist for arrears and low-income consumers and what is the role of the different levels of government in this area?

Ukraine

The low-income consumer social protection mechanism in Ukraine ensures lower costs of utility services by the provision of privileges and targeted non-cash subsidies from the state and local budgets.

Hungary

This also depends on the local government, but there is no specific social assistance program for different utility services, although there is support for the utility bill.

Romania

There is a complex system of financial support that the central government and municipalities provide for low-income householders. The amount of money received depends on the income of the householder.

Poland

Low-income consumers can obtain what is called a "housing allowance"

Slovakia

The country preserves a minimum standard of living for its citizens by the social contributions. If a person does not reach the minimum income set by the law, social aid is paid in the form of contribution from the district authority.

10. Appendix 3 How are non-payments or arrears managed?

Czech Republic

This depends on agreement between consumers and suppliers.

Ukraine

Exaction of payment for debts is a very complicated problem. With respect to certain categories of debtors, some sanctions can be used including restrictions on the time water or heat is supplied until full or partial settlement of the debt.

Hungary

After a period of time the supply is interrupted (only in the case of water and electricity).

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