

**UKRAINE MULTI-DONOR MUNICIPAL HEATING AND CHP
MODERNIZATION STRATEGIC ASSESSMENT REPORT
MARCH, 2007**

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OVERVIEW

The USAID/Ukraine mission sponsored a Strategic Assessment of Municipal Heating and Combined Heat and Power (CHP) Modernization in Ukraine. The Assessment was organized and led by USAID's Europe and Eurasia Bureau Energy and Infrastructure Division (EE/EI). The Assessment team obtained input from World Bank and EBRD. The parties agreed upon a Terms of Reference for the Assessment (see Appendix 1).

The Assessment team visited Ukraine from March 12 – 30, 2007. The team members fluctuated somewhat over this period (see Appendix 2). The USAID core team was led by Ira Birnbaum (EE/EI) and included Andres Doernberg (EE/EI), Mike Keshishian (EGAT), and Mark Schlagenhauf (EGAT). For most of the Assessment period the team was joined by World Bank representatives Pekka Salminen (WB/Washington) and/or Dmitry Glazkov (WB/Kiev). During the final week an expanded Assessment team also included Bob Ichord (EE/EI), Jonathan Elkind (EastLink Consulting), Alex Lega (EBRD/London), Sergiy Maslichenko (EBRD/Kiev), and Grzegorz Gajda (EBRD/Kiev). The Assessment team was supported by the USAID Ukraine mission, and frequently included participation from the U.S. Embassy (Doug Kramer, Patrick Slowinski, Oksana Sukhina).

The Assessment team held over 40 meetings. Meetings were held in Kiev with Government and Parliamentary officials from the Ministries of Construction, Architecture, Housing, and Communal Services (reorganized during the visit into Communal Services and Housing), and Fuel and Energy; the Verkhovna Rada Subcommittee on Communal Services Chairman; NERC; and NAER; with the NGOs Association of Ukrainian Cities (AUC), the District Heating Association, and ARENA-ECO (energy efficiency center); gas companies; and USAID implementers. The team also met with municipal officials and district heat company officers in Lviv, Ivano-Frankivsk, Chernihiv, Odessa, Illichivsk, and Severodonetsk. A list and schedule of the meetings appears in Appendices 3 and 4, respectively.

Additional donor coordination discussions included representatives of EC; the embassies of Netherlands, Sweden, and Japan; GTZ and KfW; NEFCO; and a CIDA implementation contractor (see Appendix 5).

The output of the Assessment, in addition to this Assessment Report, included a concept paper discussing Priority Areas of Policy Reform and Potential Technical Assistance (see Appendix 6). Consensus was reached and preliminary interest in providing assistance was indicated among the donors and IFIs about the Priority Areas discussed in the concept paper.

PURPOSE AND OBJECTIVES

The higher imported gas prices in the Ukraine have focused attention on energy pricing issues and the potential to reduce dependence on gas imports and increase energy efficiency. The recently released IEA Ukraine Energy Survey focuses significant attention on these challenges and the need for reform and investment. USAID, IFIs, and others in the donor community are now considering further interventions in the Municipal Heating and CHP area. This sector appears to account for as much as one-third of gas use and is highly inefficient. The implications of the heating sector problems range widely, including balance of trade and fiscal deficits; reliance on energy imports; social affordability problems; and environmental impacts.

USAID has been working with municipalities on strategic heating plans and communal service issues for many years and has close relations with relevant Government Ministries, municipal organizations, and NGOs. The World Bank and EBRD have experience in working with municipalities on district heating and CHP projects and EU-TACIS is planning activities related to regional infrastructure financing.

To address the heating and CHP sub-sector in a meaningful way, the donors are interested in working together on the issues and opportunities to work with interested national and local authorities to develop a comprehensive framework for reform, financing and investment.

Therefore, USAID organized an Assessment team that visited Ukraine during March 12-30 to prepare a strategic assessment. This Assessment report discusses the Strategic Approach toward the Heating sector; the key findings in the various Priority Areas agreed to by the Assessment team; and provides recommendations for reform that would serve as the basis for a coordinated donor dialogue with the Government of Ukraine on actions needed to stimulate critical investments.

STRATEGIC APPROACH

District Heating (DH) is a critical subsector with significant social implications and with huge investment needs – in the hundreds of millions of dollars. DH provides heat to about 2/3 of Ukrainian homes and buildings through about 900 municipal companies. Heating through DH and through autonomous boilers represents the largest use of natural gas in Ukraine. The sector is old and inefficient, with up to 60% of energy wasted through the network of generation, transmission, and end-use (IEA, 2006). The worst-case scenario of DH deterioration was dramatized in 2006 when the system in Alchevsk failed with the network's pipes freezing and cracking. The system remained out of service for months, and residents had to be relocated to areas where they could receive heat. The entire system had to be replaced, at significant expense, in a nationally-declared emergency.

An underlying problem with the sector is that heat is treated as a social good and is therefore seen by many as being exempt from market conditions. This is at the root of many of the problems we are seeing -- such as tariffs which don't cover costs -- that make it difficult to establish commercially viable and sustainable heating enterprises.

Several critical barriers must be overcome before meaningful investment will come to the heating sector. Rehabilitation and modernization is beyond the means of the DH companies and municipalities, and their ability to borrow for the necessary investments is constrained by their poor financial condition. The financial situation reflects heat tariffs that in many cities fail to recover all operating costs. Municipalities are obligated to compensate DH companies for tariffs that do not recover costs, but this puts a great strain on the limited amount of the budget raised from local revenues (under 5%) that can be used for discretionary purposes. In many cities the financial situation is compounded by consumer nonpayment of bills.

Until the recent price increases, progress was being made in some cities that succeeded in implementing cost-recovery tariffs that covered operating costs (but not capital investment costs), and bill payment was strong. However, the sharp increases in gas prices, doubling in 2006 and rising another 50% in 2007, increased the deficits of the DH companies and led to a spike in consumer nonpayment. While many cities reached collection levels of 90-100% before the current winter, tariff increases necessitated by the gas price spike resulted in collections as low as 30% and even the best cities dropped to 70%. Nonpayment was exacerbated this winter when some national political leaders challenged cities with cost-recovery tariffs to justify the tariff levels, and told consumers not to pay their bills. As a result, some cities were compelled to roll back their tariffs to below-recovery levels.

Many cities now have significant gas debts, and even the financially stronger cities have taken out short term (three-to-six month) loans to pay for the gas. As of March 20, 2007, DH companies had a payment rate of only 52% to Gaz Ukrainy. The debt since the beginning of 2007 -- in a mild winter -- is UAH 1.37 billion (about \$275 million). Debts of around 45-60% of the gas costs were accrued by Donetsk, Kharkiv, Luhansk, and Zaporizhia. As of March 22, Gas Ukrainy has shut off gas supplies to 10 DH companies for nonpayment (Interfax, March 22, 2007).

The financial problems facing the sector are complex and inter-related. The weak financial position is caused by insufficient revenues that are a product of inadequate tariffs and nonpayment. The tariff and nonpayment situations are closely linked to consumers' inability to pay, which in turn is a function of inefficient end-use and the lack of ability to limit consumption, as well as poorly targeted social safety nets.

Efforts to attract investments are constrained by poor creditworthiness of the DH companies and municipalities, a function of lack of revenues from tariffs and other sources, and the need to restructure the significant gas debts. Private capital is constrained by legal and financial barriers. Any significant investment by IFIs or the

Government requires a comprehensive strategy by DH companies and municipalities to determine the best opportunities.

The following strategic objectives must be met to improve the environment for investment in the sector:

- Strengthening the legal, regulatory, and institutional framework to improve heat service to customers.
- Reducing losses and improving efficiency in the production, delivery, and use of heat.
- Increasing the capacity of municipalities to plan and manage the development of the heat systems in their areas.
- Mobilizing financing and investment to modernize systems and improve energy efficiency
- Improving the social protection system and ensuring adequate support to low income citizens.

Based on the meetings in Kiev and six cities, the Assessment determined that a coordinated donor/IFI approach is needed, and recommendations were made concentrating on the following four areas:

1. Revising the tariff setting and regulation process.
2. Promoting Residential Energy Efficiency: Creating a system of consumption-based billing and helping consumers lower their consumption levels.
3. Enhancing municipal planning and using it as a basis for subsequent DH system rehabilitation and modernization investments.
4. Attracting investments to the heating sector from IFIs, Private Investors, and GOU.

These four areas contain multiple components, which are further discussed below. For each component there is a discussion reflecting the findings from the Assessment visit in the following areas: the policy or investment issues; recommendations for reform; the benefits to be gained; the current status in Ukraine; support for reform; potential donor assistance; the level of importance (either essential to meet the strategic objectives, or important but not a pre-requisite); and whether it can be accomplished in the near-, medium-, or long term.

Since many of the recommendations are for changes in laws and government policy, the issue of whether a component can be achieved is a matter of political will, as the preparation of the necessary reforms are within the capability of the donors and IFIs. However, the Assessment team is encouraged by the level of agreement on priority policy reform areas expressed by the most relevant prospective counterparts in the Government and Parliament. It was fortuitous that while the Assessment was taking place, a Government reorganization created a new Ministry that is responsible for addressing the specific areas that are the subject of this assessment – the Ministry of Communal Services and Housing. The new Minister expressed his interest in the concepts expressed in this

document to the Assessment team both before (as Deputy Minister) and after being named Minister. Progressive policy makers are developing several initiatives and draft laws on revising the existing heating tariff setting and regulatory process, underscoring the timeliness of donor and IFI participation and support at this time.

The overall magnitude of the components may appear to be daunting. However, as indicated Ukraine faces a complex and serious problem in the heating sector. A concerted effort is needed to overcome the situation, hence the emphasis on a coordinated donor approach that includes using the comparative advantages of all partners. With the situation in the heating sector reaching dire conditions as a result of the gas price increases, and with the receptivity expressed by prospective Government and Parliamentary counterparts, this may be an opportune time to undertake the significant challenges facing the heating sector.

RECOMMENDED PRIORITY AREAS OF ATTENTION

Priority Area 1: Revising the Tariff Setting and Regulatory Process

Policy Issues: Heat tariffs generally are below cost-recovery levels, resulting in deteriorating financial viability of DH companies and making them unattractive to lenders or private investors. The inadequate tariffs are primarily a function of the way the tariffs are proposed and approved by municipalities. In some cases efforts to establish cost-based tariffs have been challenged by political leaders. Structural changes are needed.

Recommendations:

- A national tariff methodology should be established that requires cost-recovery tariffs, including both operating costs and capital investment needs. The methodology should also encourage adoption of 2-tier tariffs, automatic fuel price adjustments, and replacing cost-plus tariffs with price caps.
- Heat tariff regulatory responsibility should be shifted from municipal councils to an independent regulatory authority, with implementation at a more local or regional level.
- Gas tariffs to residential consumers and district heat companies (now under NERC jurisdiction) should be flattened among different classes of residential and nonresidential consumers – including DH companies -- to end pricing distortions.

Benefits Of A Tariff-Setting And Regulation Reform Effort

The lack cost-recovery tariffs leads to poor quality of service, as district heat companies lack the revenues to properly maintain the system and make modernization improvements. Reforms in both tariff-setting authority and in methodologies for heating tariffs will result in a) having a tariff-setting authority that is independent of political pressures and which will strive for cost-recovery tariffs that are necessary as a first step

in attaining a financially viable heat sector in Ukraine; and b) applying a consistent national methodology for setting heating tariffs will, in addition to restoring the financial soundness of heating companies, also be a tool for implementing strategies for improving the quality of service, and for implementing policies regarding competition of central heating with decentralized options such as natural gas.

Status In Ukraine

Heating tariffs are set by municipalities and the methodologies and the level of cost recovery allowed varies greatly among hundreds of municipalities. The tariffs typically only cover operating costs, in part or in some cases in full. When cities deny recovery of operating costs, they sometimes provide subsidies to the heating company to cover the difference, as in Illichivsk. Heating companies with inadequate tariffs and unable to keep up with their gas bills, which have to be paid promptly to avoid cut-offs, have faced consequences. The IEA reports that in cities with gas arrears, a subsidiary of the gas company GasTeplo, created for this purpose, advances the gas and collects the heat payments, essentially taking over the heating company. This had not occurred in any of the six cities visited by the team.

Among the principal reasons for lack of desperately needed investments in district heating companies is the inability to recover these costs through the tariff. The perception that amortization for recovery of capital investments is a “profit”, which was mentioned repeatedly during field visits, including AUC’s representative in Odessa, is a barrier to its resolution that will require education and public information. The corollary is that “public services are not supposed to make a profit”, which is also deeply ingrained, even among municipal officials. The team also learned that there are income tax implications to inclusion of amortization of investments in the tariff. MDI refers to depreciation accounting as confusing, and in conflict with both tax legislation and accounting principles (PowerPoint of March 6, 2007).

Heating tariffs were increased in 2006 as a response to higher gas prices. A list of heating prices as of January 1, 2007 for all oblast capitals plus Kiev and Sebastopol, provided to the team by AUC, shows that heat tariffs with a few exceptions had been revised since September 2006, and most had been revised as recently as November and December 2006. The exception was Chernivsi, where in January 2007 the heat tariff dated to January 1, 2006. Since January 2007 heat tariffs have increased further. These latest increases were used by Tymoshenko’s party for political purposes, and their efforts to make cities justify tariff increases resulted in cuts to the planned increases of 5-10% in several cities. None of the six cities visited by team had to roll back their tariffs, from what the team was told, a result of their public information campaigns (all are MDI cities). The latest tariffs increases have resulted in a marked decrease in the level of collections.

Tariff Methodology. The Cabinet of Ministers sets broad principles for the heating tariff methodology. It also sets the price of gas for heating companies. The application of these broad principles, to the extent the process is followed, in reality results in a wide

variety of approaches. Operating costs vary from city to city, and in cases where there are two heating companies, as in two of the six cities visited (Severodonetsk and Chernihiv), they can also vary between districts within the same city. Further, cities may choose to charge for heat during the six heating months, or as in Severodonetsk, charge for heat over 12 months. In addition, cities set hot water and heating prices as package, and may decide to recover year-round costs by setting hot water tariffs during the summer months high, thus smoothing out the payments between winter and summer months. Two-tier tariff, covering fixed and operating costs, are only used in few municipalities including Lviv and Ivano-Frankivsk, and are challenged due to the aforementioned conflicts between depreciation rules and taxation and accounting rules. The variable component is mostly the fuel cost, which now ranges from 60-80% of the total cost.

Conclusion: at a minimum, a two-tier heat tariff methodology is required that includes recovery of operating costs and amortization of much needed investments. A better option would be a price cap methodology. Full cost recovery varies from heating company to heating company. The extent to which this methodology is applied uniformly in terms of whether it is on year-round payments or only on winter months, or whether to smooth out the winter / summer heat/ hot water payments, should be part of the discussion (and will depend on whether it is applied at a local, regional or national level).

Support for Reform

The issue of authority in tariff methodology and price setting authority is the subject of much discussion, and at least two draft laws reforming the existing laws are being proposed. New legislation that codifies the existing situation of local tariff setting for heat is proposed by a group that includes four MPs as authors, including Messrs. Tulub and Kluyeyv. Another, supported by MDI and also by Rada Committee member Kucherenko, would change the current arrangement and propose that a national regulator with strong regional offices at the oblast level be given this role. The envisioned national institution would be an independent body, with status similar to NERC, that would establish a consistent tariff methodology. Tariff approval would be the responsibility of Oblast level regional offices, which would provide for consistency with the national methodology while reflecting local economic conditions.

The National Security and Defense Council of Ukraine resolved, in a Decree on the situation in the housing and communal services signed by the President December 16, 2006 (Decree No. 1093/2006) that the Cabinet of Ministers should draft laws, among other, “on state regulation in district heating services, cold and hot water, waste water, maintenance of buildings, constructions and courtyards with required improvement of state regulation systems organs, specification of their functions and authority” (Article 5b).

Support for a consistent national tariff methodology was expressed by AUC, the Verkhovna Rada Communal Services Subcommittee Chairman, and municipal officials in Lviv, Ivano-Frankivsk, Chernihiv; these officials referred to regulatory models in place

in Germany, Poland, and the Baltics. The team heard from municipal officials that they want to maintain control over setting heat prices, but some of the heating company managers maintained their willingness to give the national/ regional approach a try. According to the Chairman of the existing national electricity and gas regulator NERC, some 10,000 people across Ukraine are involved in heating tariff-setting across Ukraine, and contrasted this work-load with their current staff of 350. It is understood by this comment that NERC as currently constituted is not able or willing to be the heating regulator. At the Association of Heating Companies based in Kiev, its director suggested a national authority setting maximum and minimum heating prices and local authorities fixing heat prices within this band according to their cost recovery needs.

Conclusion: The level of interest during early 2007 in introducing competing proposals among various stakeholders points to the urgency for the donor community to enter the dialog, either through the joint task force or through technical assistance or both. Were this not be done soon it could be too late.

Comments received by the team by local officials point to a generally strong bias towards keeping heating tariff authority with the local authorities, implying that a concerted effort is needed by reformers in Ukraine as well as by the donors of public information on the benefits of the reforms..

Potential Donor Assistance: There will be a need for TA in developing the methodology, training the new regulatory authority and regional regulators including organization structure, decision making process, etc., and in preparing dissemination efforts including opinion research, public hearings, and public information campaigns explaining the reasons for tariff increases and advice on how to lower the impact of tariff increases and/or increase comfort through energy efficiency improvements.

Preliminary Donor Interest:

- ✓ USAID has indicated preliminary interest in providing TA for this area (e.g., developing the legal basis for new tariff setting and regulatory process; developing tariff methodology; developing regulatory rules and procedures; building capacity of the new regulator; training staff in central and regional offices; establishing public participation process).

Level of Importance: Essential

Time Frame: TA to help draft changes to laws can be provided in one year, with up to two additional years to provide advice and assistance through the approval process; enactment is up to GOU. TA to implement would require two to three years following enactment.

Priority Area 2: Promoting Residential Energy Efficiency: Creating a System of Consumption-Based Billing and Helping Consumers Lower Their Consumption Levels.

Component A: Metering

Policy Issue: Heat metering is necessary to provide consumption-based billing, which will provide financial incentives for consumers to respond to cost-recovery tariffs by becoming more energy efficient and to reduce their consumption to meet their individual trade-offs between affordability and comfort.

Recommendation:

- GOU should mandate the installation of building-level heat meters and apartment-level heat cost allocators and thermostatic control valves. Consultations with donors and counterparts will determine whether to implement in two phases (building- and apartment-level).

Benefits of Metering

The most basic level is metering at the apartment building level, which can provide a basis for splitting the bill among the apartment owners. This process is greatly facilitated by the existence of a Condominium Association, but it is not required. Newly constructed buildings have building-level meters, but they are less common in older buildings.

The next step in the process is the installation of Heat Cost Allocators, which can further divide the bill among the apartment owners based on the heat used by the radiators within each apartment. A further step that can lead to energy and bill savings is the installation of thermostatic control valves on radiators, which consumers can use to adjust the amount of heat to reduce costs or improve comfort.

With this basic set of measures in place, there is motivation to install further energy efficiency measures, including insulation and weatherization. Without the set of metering and controls, energy efficiency measures don't reduce heat bills; they may improve comfort if apartments are underheated, but in other cases they will only serve to make warm apartments even hotter.

In many cases throughout the region (including pilot projects in Ukraine), the installation of metering equipment quickly leads to reducing heat bills by 10-20%, and the savings increase further when energy efficiency improvements are installed.

Status in Ukraine

Metering in Ukraine's older buildings varies widely. The Association of Ukrainian Cities indicates that meters are common only where there is a Condominium Association, which is less than 1% of buildings (the Condominium Associations find it in their interest to install meters to lower heat costs and obtain higher quality heating,

A few cities are fairly advanced in meter installation. Lviv has installed meters in 70% of buildings (this figure includes all buildings with Condominium Associations, which represent about 10% of the apartment buildings), with plans to install meters in the remainder by the end of 2007. Ivano-Frankivsk plans to install heat meters in all residential buildings this year, to be followed by heat cost allocators in the next three-to-five years. However, Chernihiv has few buildings with meters, and at the current rate of installation it will take 10 years to install them in all buildings.

Support for Reform

There is broad support among officials with whom the Assessment team met to mandate heat meters, including the leadership in cities visited, the Chairman of the Rada Subcommittee on Communal Services, and the Ministry of Communal Services and Housing.

Potential Donor Assistance: IFI lending to district heat companies or municipalities for some or all of the equipment. Donor-funded information should be provided to consumers on how to use the equipment to control their bills and comfort levels.

Preliminary Donor Interest:

- ✓ World Bank is interested in such lending.
- ✓ USAID has indicated preliminary interest in assisting with related TA (e.g., preparation and adoption of legislation; developing technical specifications for metering and regulation equipment; assist WB in loan preparation).
- ✓ EC indicated interest in public information

Level of Importance: Essential

Time Frame: TA to help draft changes to laws can be provided in less than six months, with up to two additional years to provide advice and assistance through the approval process; enactment is up to GOU. Meter installation under IFI financing would require two years following enactment of laws and loan preparation.

Component B: Housing Code and Condominium Association Improvements

Policy Issue: The Ukrainian Government does not have adequate policies or legislation in place to encourage the formation of condominium and homeowner associations. While legally possible, residents of multi-dwelling buildings are often reluctant to convert their building into a condominium because they would then become liable for the cost of over a decade of deferred maintenance which most of Ukraine's housing stock has undergone. Instead, residents often prefer to privatize only their apartments and to leave the upkeep of the common areas to the municipal government. This complicates the issue of placing meters in multi-dwelling buildings because without a condominium or homeowners association, there is no legal entity with which a DHC can enter into a contractual

agreement with or hold accountable for payment. Without meters, residents also have little incentive to be more energy efficient.

Recommendations:

- Significant resources, both from the GoU and from IFIs are and will likely be available for upgrading Ukraine's dilapidated housing stock. The GoU should create incentives for residents to convert their buildings into condominiums, form homeowners associations, and undertaking energy efficiency improvements, by making any improvements to a building conditional upon such a conversion.
- Municipalities should pass local ordinances that require the conversion of a building to a condominium with a homeowners association once a certain percentage of the apartments have been privatized.
- Public information campaigns should be launched to explain the benefits of condominiums and homeowners associations for residents.

The Importance of Condominiums and Homeowner Associations to District Heating

Home Owner or Condominium Associations (CAs) are an important component in promoting residential energy efficiency in apartment buildings. CAs provide maintenance services for the buildings, ranging from mundane garbage collection to heating-related services such as replacing or repairing missing or broken doors, windows, and roofs in common areas. In addition, CAs can contract directly with communal service utilities, facilitate the installation of metering and associated controls, and potentially borrow to make energy efficiency improvements.

In the absence of CAs, building maintenance is the responsibility of the municipality through maintenance companies, or zhekhs. Due to the limited financial resources available to municipalities, even basic maintenance services are not provided, frequently resulting in, for example, common area staircases without functioning doors and broken windows, increasing the heating requirements in the apartments.

The provision of a utility service, such as district heating, ideally requires a legally identifiable provider and client. The relationship between the provider and the client should be defined in a legally-binding document or contract, which clarifies the rights and responsibilities of both entities. It is important that both the provider and the client be legal persons so that in the event of a breach of contract, somebody can be held accountable.

CAs are far more likely to install heat meters because the meters provide members with several significant advantages: they are assured they are billed for the heat delivered to the building, and the apartment owners are able to control their bills. Thus, the DH companies visited during the assessment reported that CAs have significantly higher bill payment and lower consumption levels than other consumers. With the motivation to reduce consumption, almost all energy efficiency improvements occur in

apartment buildings with CAs; ARENA-ECO reports that pilot projects have been replicated (without additional donor funding) in buildings with CAs.

The existence of a legal owner of a building, in this case, a condominium/homeowners association, facilitates the first phase of metering, when DHCs install one meter per building. The DHC needs to be able to enter into an agreement with an entity regarding the delivery and payment of heat as per the meter reading. The next phase of metering, the installation of heat cost allocators and thermostatic control valves, is also facilitated by the existence of a condominium/home owners association because heat cost allocation works best when all apartment owners, as represented by the homeowners association's board of directors, agree to participate.

Homeowners associations are also more creditworthy and able to more easily borrow because they have collateral to offer and collectively represent a legal entity. Borrowing will allow them to make energy efficiency improvements to the common areas of a building, which they will have an incentive to do once meters and heat control systems have been installed.

In short, the formation of condominium/homeowners associations creates effective owners and managers of building which are able to represent, negotiate, borrow, offer collateral and enter into legal agreements on behalf of all building residents. The form of ownership facilitates metering which then also creates incentives for conserving energy. Finally, privately-owned condominiums put more responsibility where it belongs; on the end-user, and less on the DHCs, thereby reducing the cost of DH.

Status of Condominiums and Homeowner Associations in Ukraine

In Ukraine, about 90% of apartments have been privatized since the early nineties. However, only about 10% of the multi-dwelling buildings which contain these privatized apartments have converted to a condominium form of ownership. The common areas, such as roofs and staircases, of the 90% of buildings that are not condominiums belong to local governments, and building maintenance is the responsibility of municipal companies called zhekhs; typically there is not enough funding for the zhekhs to perform basic building maintenance.

The Ukrainian Government does not have adequate policies or legislation in place to encourage the formation of condominium and homeowner associations. While legally possible, residents of multi-dwelling buildings are often reluctant to convert their building into a condominium because they would then become liable for significant the costs associated with over a decade of deferred maintenance which most of Ukraine's housing stock has undergone. Instead, residents often prefer to privatize only their apartments and to leave the upkeep of the common areas to the municipal government. This complicates the issue of placing meters in multi-dwelling buildings because without a condominium or homeowners association, there is no legal entity with which a DHC can enter into a contractual agreement with or hold accountable for payment. Without meters, residents also have little incentive to be more energy efficient.

Support for Reform

Most of the mayors and district heat officials the team met with mentioned the lack of condominiums as an impediment to being able to effectively provide DH and to implementing energy efficiency improvements in the apartment buildings. The Deputy Director of the Association of Ukrainian Cities told the team that municipal codes were needed that would require a building to convert to a condominium once a certain percentage of apartments had been privatized. The AUC is currently drafting a new version of the Housing Code, which it says it will submit to the Rada this summer. This version of the Housing Code would create incentives for the creation of condominiums. The new Minister of Communal Services and Housing has said he would prefer to see investments from the GoU going into condominium buildings as a way to reward those inhabitants for going through the conversion and in order to create incentives for others to do the same.

Significant resources, both from the GoU and from IFIs are currently and will likely continue to be available for upgrading Ukraine's dilapidated housing stock. The GoU, through the Housing Code and other legislation and policies, should create incentives for residents to convert their buildings into condominiums and form homeowners associations. This should be accomplished by making any improvements to a building through GoU or donor funds conditional upon such a conversion. Donor-funded technical assistance should work with the Ministry of Communal Services and Housing, the Verkhovna Rada Subcommittee on Communal Services and the Association of Ukrainian Cities to modify the Housing Code and other relevant legislation, and to draft model local ordinances to promote the formation of condominiums and homeowner associations. IFI and donors should make use of their funds earmarked for housing stock upgrades conditional on the conversion of any benefiting residential buildings to a condominium with a homeowners association. Public information campaigns should be launched to explain the benefits of condominiums and homeowners associations to residents.

Potential Donor Assistance:

IFI and donors should make use of their funds earmarked for housing stock upgrades conditional on the conversion of any benefiting residential buildings to a condominium with a homeowners association. The international community should encourage the GoU to do the same with funds it has set aside for residential building upgrades. Donors can design a mechanism in conjunction with IFI financing for building improvements to stimulate formation of Condominium Associations and implementation of energy efficiency upgrades.

Donor-funded technical assistance should work with the Ministry of Communal Services and Housing, the Rada Subcommittee on Communal Services and the Association of Ukrainian Cities to modify the Housing Code and other relevant legislation, and to draft model local ordinances to promote the formation of condominiums and homeowner associations.

Donor-funded technical assistance and resources should be made available to develop public awareness campaigns to educate the public on the advantages of condominiums and homeowner associations.

Preliminary Donor Interest:

- ✓ EBRD has indicated its interest in a new credit line to provide lending to Home Owner Associations in conjunction with additional capacity building.
- ✓ USAID has indicated preliminary interest in facilitating and stimulating creation of condominiums and homeowner associations, potentially including: developing legal framework for condominium associations and changes to Housing Code; drafting model ordinances to promote the formation of condominiums and home owner associations; development of public awareness campaigns to promote condominiums; assistance to some pilot cities to prepare EBRD loans.
- ✓ CIDA/Peoples Voice indicated interest in Housing Code reforms and training Condominium Associations.
- ✓ Netherlands indicated interest in working with NAER on lowering building consumption levels.
- ✓ EC indicated interest in public information and building energy codes/standards.
- ✓ GTZ/KfW indicated interest in the new construction building sector.

Level of Importance: Essential

Time Frame: TA to help draft changes to laws and ordinances can be provided one year, with up to two additional years to provide advise and assistance through the approval process; enactment is up to GOU. TA to implement would require three to five years following enactment.

Component C: Social Safety Nets

Policy Issue: Current policy provides subsidies to any consumers spending over 20% of their household income on utility costs (15% for pensioners). The subsidies are paid by municipalities using funding provided by the State.

Recommendations:

- Social safety net utility payments should be means-based.
- Payments should be made directly to recipients rather than to utilities, thereby giving recipients incentive to reduce consumption (as opposed to the current system, which encourages *increased* consumption).
- The Ministry of Labor and Social Protection should be informed about previous experience showing that energy efficiency upgrades can reduce heating bills by a similar amount as the subsidy payments, at lower lifetime costs. The Ministry should be encouraged to switch from targeted subsidies to targeted energy efficiency.

Importance of Targeted Social Safety Nets

The recommended reforms related to tariff-setting policy reforms and metering will increase bill affordability problems, particularly among vulnerable low-income households. The reforms are necessary to establish commercial viability within heating enterprises and to stimulate energy efficiency, but concerns over affordability make it politically difficult to enact the reforms. Properly targeting the social safety net program will allow the most vulnerable households to afford heat bills and provide incentive to reduce consumption.

Status of Ukrainian Utility Social Safety Net

There is a social safety net system in place, but it lacks precision in targeting low-income households, and municipalities lack incentive to make the system more efficient. The system provides subsidies when utility bills exceed 20% of family budgets (15% for pensioners and some further protected groups). This represents at best a rough proxy for income, and actually provides incentive to increase consumption so the family can reach the 20% threshold. The subsidy payments are made by municipalities to the communal service utilities, with funding provided from the State via the Ministry of Labor and Social Protection.

There are several ways the social safety net system can be improved. Switching to a means-based system would better target the population most in need, and would likely reduce the cost. Providing the payments directly to the households rather than to the utilities would provide motivation to reduce consumption. Providing energy efficiency improvements (in conjunction with metering) can provide similar levels of bill reduction as subsidy payments but at lower life cycle costs, which are incurred only once over the lifetime of the improvements rather than making subsidy payments indefinitely. Pilot projects in Ukraine show energy efficiency lowers the subsidy costs.

Support for Reform

There is widespread agreement that social safety net protection must be provided in light of increasing costs. Lviv municipal officials support providing the social safety net payments to the eligible households rather than the communal service utilities. While there was agreement with the concept of energy efficiency improvements in lieu of subsidy payments, neither the municipalities nor the Ministry of Communal Services and Housing will gain from any efficiencies since the funding comes from the Ministry of Labor and Social Protection. The latter Ministry must be involved with discussions on the social safety net issues.

Potential Donor Assistance: Donor-funded technical assistance can work with the Ministry of Labor and Social Protection to research and design a means-based energy social safety net system, and perhaps conduct a pilot to demonstrate the results.

Level of Importance: Essential

Time Frame: TA to help redesign social safety net system can be provided in less than one year, with up to one additional year to provide advice and assistance through the approval process; enactment is up to GOU. TA to on use of energy efficiency can be provided in two-to-three months. A pilot program would require an additional year to design, implement, and evaluate.

Component D: Municipal Building Energy Efficiency, Public Information, and Dissemination

Investment Issue: Municipalities and consumers have significant potential for energy efficiency improvements that can improve comfort and lower heating costs in apartments, schools, and other municipal buildings. However, in many cases they lack information and funding to implement projects.

Recommendations:

- Prepare public information campaign to provide guidance on energy efficiency measures that are appropriate for apartments, schools, and other public buildings; where to find them; and how to install and use them.
- Provide financing mechanism to stimulate lending for municipal energy efficiency projects.

Importance of Promoting End-Use Energy Efficiency in Buildings

Ukraine's residential and public buildings consume about 40% of all energy used, according to the IEA Energy Policy Review 2006. IEA and Ukraine's Ministry of Construction, Architecture, Housing, and Communal services estimate end-use savings of 20-30% in buildings are realistic. Realizing the potential savings would enable residential and municipal consumers to mitigate the impacts of increasing energy costs as fuel prices increase and cost-recovery tariffs are introduced – in this sense, energy efficiency is necessary for public acceptance of the reforms. In addition, lowering the demand for heat among consumers lowers the investment requirements in the heating networks.

Status of End-Use Energy Efficiency in Buildings

There is little motivation to pursue end-use energy efficiency since less than 10% of buildings with district heat have meters, according to IEA. In theory, municipalities have motivation to reduce energy use because they operate energy-using buildings such as schools and hospitals, and pay subsidies to households (see Social Safety Net discussion above). However, there are institutional barriers: energy costs in the municipal facilities are paid by the State, and lower energy bills result in lower funding levels in the next year's budget, and the subsidies similarly pass through State funds.

Nevertheless, there have been some successful energy efficiency projects in buildings:

- The World Bank's Kiev Public Buildings Energy Efficiency program installed meters and improvements in 1,200 buildings, and reduced energy use by 26%.
- A USAID-funded demonstration project in Lviv by Alliance to Save Energy reduced energy costs in two residential buildings by 28% and 38%, respectively, while reducing heat subsidy costs by 12% and 57%, respectively.
- A USAID-funded demonstration project of low-cost window weatherization in Lviv by Alliance to Save Energy reduced energy costs in an apartment building by 16%, while also improving indoor comfort.
- A Swiss-funded demonstration project of an apartment building in Kiev by Arena-Eco reduced energy use by 21%. Surrounding buildings, which had Condominium Associations, learned about the project and emulated the project using their own resources.

Support for Reform

The replication effect of the Swiss demonstration project indicates the importance of providing information about energy efficiency to end-users.

Lviv municipal officials are highly interested in promoting energy efficiency in public buildings and housing. They have established a working group, and seek information about best international practices. To address municipal buildings, Lviv's mayor issued a decree to establish energy managers in all municipal energy users – education; health; youth and cultural; administrative buildings – who are responsible for establishing energy use databases and training building managers in energy efficiency. While Lviv has a high level of awareness of the problem, they said they need assistance – all municipal buildings will be metered by the end of 2007, and they want to provide information to help managers lower bills, including training and help with energy audits. In addition, a new budget code for public buildings bases budgets on specific formulas (e.g., number of students) rather than energy costs, giving managers incentive to reduce energy costs and keep the savings for other needs, but managers need training to determine the amount of savings they are entitled to keep. Lviv also thinks a public information campaign is needed to explain the policy of cost-recovery tariffs and to provide advice on how households can control their bills.

Ivano-Frankivsk credited its public information campaign with maintaining high collection levels even after the tariff increases.

Chernihiv's mayor also indicated strong interest in providing information and other assistance to help consumers reduce energy use. He thinks providing households with assistance on energy efficiency is important for public acceptance of cost-recovery tariffs, and favors including residential energy efficiency as part of comprehensive improvements if loans are available for the district heat network. The municipality has a program to install heat meters in residential buildings, but due to limited funds it will take many years at the current pace. The municipality is implementing two pilot projects to

reconstruct and improve energy efficiency of inefficient apartment buildings from the Khrushchev era.

Potential Donor Assistance:

Donor-funded technical assistance to prepare public information campaigns, including examples from earlier donor-funded demonstrations in Ukraine and experience in neighboring countries. Establish financing facility for municipal buildings and facilities.

Preliminary Donor Interest:

- EC indicated interest in public information.
- SIDA, NEFCO, and Nordic Bank indicated interest in providing loans for municipal energy efficiency in public buildings.
- Netherlands indicated interest in twinning programs that can help municipalities address energy efficiency in buildings.

Level of Importance: Important but not a pre-requisite.

Time Frame: TA to prepare campaigns can be provided in less than six months. Implementation could start immediately thereafter and continue for a year.

Priority Area 3: Enhancing Municipal Planning and Using it as a Basis for Subsequent DH System Rehabilitation and Modernization Investments

Policy Issue: Municipal investments should be based on comprehensive planning reflecting technical and economic analyses.

Recommendation:

- GOU should enhance and enforce requirements for municipal energy planning. The plans should address including: whether sections of the network should remain centralized or be decentralized; alternative fuel sources; prioritized investments for system improvements; and demand-side energy efficiency. The findings of the plans concerning centralization/decentralization should guide future investments. Projects implemented through the GOU Communal Services grants and IFI lending should be consistent with the priorities indicated in the plans. Energy plans should be part of a comprehensive municipal development plan.

Benefits Of Municipal Energy Planning

Conducting municipal energy planning provides a basis for deciding the optimal configuration of a heating system to achieve least-cost options for providing high quality heat services at reasonable prices. The municipal energy plans would consider the following:

- Whether district heating networks should remain in place, or whether some portions of the networks should be decentralized due to density of heat load, deterioration of the distribution pipes, and/or whether smaller heat generation is warranted.
 - Decentralization options are limited largely to heating with natural gas. Thus, analyses of the economics of decentralization should consider policies of gas pricing to households, as well as to the price district heating companies pay for gas (the most commonly used fuel for district heating).
- What system rehabilitation and modernization is economically warranted in areas where the district heating network remains viable.
- Whether CHP and alternative/renewable fuel sources should be pursued.
- Whether end-use energy efficiency can reduce the investments required in the district heating network.
- Whether to allow competition from direct gas heating in areas where district heat is viable, and whether to encourage direct gas heating in other areas.
- Whether direct gas heating should encourage building-level or individual heat options.

The municipal energy plans would give assurance to lenders that proposed investments represent financially sound projects that will meet future needs in a responsible manner.

Status In Ukraine

A procedure for studying whether district heat systems should remain centralized or decentralize has been provided by the former Ministry of Construction, Architecture, Housing, and Communal Services. However, municipalities are not required to perform the analyses.

As for the impact of the pricing policies on natural gas on the decisions whether to maintain central heating where it is warranted by the heat density, in 2007 gas prices for heating companies were UAH 686/m³, set by the Cabinet of Ministers and valid nationwide for heating companies of all sizes. In contrast, residential gas prices are regulated by the national regulatory agency NERC, and currently there are four tiers of gas prices depending on volume. For those consumers using less than 2500 M³ pr year the price is UAH 315-345, rising to UAH 1173-1290 for those using over 12,000 M³ per year. As a result, some residential users pay less than the district heating companies (some of which use gas in individual apartment boilers), while other residential users pay double for gas what the heating companies pay (new high rise buildings with roof-top boilers which chose not to connect to the district heating network).

It is evident from the current pricing policy for gas that the government discourages decentralized heating in rooftop boilers, while cross-subsidizing gas cooking via the tariff for low consumers, and thus may also be cross-subsidizing those that convert to individual apartment boilers.

To the extent the gas pricing policies may change by flattening the four-tiered pricing to residential users, the economics of centralization versus decentralization, and therefore of the economically optimal configuration of the heating system, will also change.

Support For Reform

Mandatory municipal energy planning is supported by AUC, MDI, and the cities we met with. Lviv has undertaken energy planning to determine what parts of the network to decentralize and developed an associated investment plan; they are also examining end-use efficiency opportunities in municipal buildings, although some help is needed. Ivano-Frankivsk is also undertaking energy planning, seeking independence in its energy supply by examining opportunities for CHP, renewable energy, and decentralization options. Chernihiv is undertaking energy planning to examine the most economical rehabilitation and modernization investments and opportunities to use alternative energy sources (e.g., peat, landfill methane, solid waste), including opportunities for carbon finance; and how to provide heat to expected new housing over the next 20 years.

Potential Donor Assistance: Donor-funded technical assistance can train municipalities on energy planning; the need is expected to be greatest among smaller cities. To reinforce the energy planning requirement, IFI lending for DH system upgrades can require the existence of, and consistency with, the energy plan.

Preliminary Donor Interest:

- ✓ USAID has indicated preliminary interest in providing TA in this area.

Level of Importance: Essential for smaller cities; already in place in some larger cities.

Time Frame: TA to help draft changes to laws or regulations can be provided in up to six months; enactment is up to GOU. TA to implement would require two to three years following enactment.

Priority Area 4: Attracting Investments to the Heating Sector

Component A: Municipal Creditworthiness and Debt Restructuring

Policy Issue: The World Bank estimates that the cost of upgrading Ukraine's DH systems and for improving the energy efficiency of building which receive this heat is about \$5 billion for the next five years. The GoU, the IFIs and donors will likely not be able to provide all the resources needed to upgrade Ukraine's entire DH infrastructure and to make buildings more energy efficient. The only way municipalities will be able to pay for all of this is by borrowing, just as municipalities in the West do for major infrastructure projects. However, mostly only large Ukrainian municipalities are in a position to borrow. For most small to medium-sized cities, borrowing is difficult because they do not have enough own-source revenues (OSR) and are therefore not sufficiently creditworthy. Borrowing is also difficult because of a deficient legal and regulatory

framework in the area of sub-national borrowing, distorted market incentives, the absence of a reliable government bond yield curve, inadequate legislation on municipal bankruptcy and a lack of a regulatory framework for DHCs.

A significant constraint to borrowing is the huge debt owed by most DH companies to Gaz Ukrainy – a total of UAH 1.37 billion as of March 20, 2007. Although some of the better-off cities have borrowed from commercial banks to pay the gas debts, even cities such as Lviv still have debts of UAH 30 million, while many comparably-sized cities have debts of UAH 100-200 million. Creditworthiness and ability to attract private investors.

Recommendations:

The GoU should improve the ability of municipalities to borrow by:

- Facilitating the restructuring of debt to Gaz Ukrainy.
- Modifying the Budget Code to:
 - Allow municipalities to increase fees, which have remained the same since 1996;
 - Compensate municipalities for past minimum wage increases;
 - Channel funding directly to municipalities, thereby bypassing the oblast level.
- Passing legislation (which already exists in draft form) on the Land Tax and the Construction and Building Tax which would increase municipal OSR;
- Passing legislation which would allow municipalities to pledge their OSR as debt securities;
- Establishing a new legal and regulatory framework for municipal borrowing;
- Improving the transparency of the municipal borrowing market to increase investor confidence;
- Passing legislation on municipal bankruptcy;
- Removing market distortions; and
- Allowing the creation and funding of the Municipal Finance Facility (MFF), currently being developed by USAID.

The Importance of Investments to the Heating Sector

Ukraine's heating infrastructure is in an advanced state of deferred maintenance. Many systems are over 30 years old and have not been properly maintained since the dissolution of the FSU – the Ministry of Communal Services and Housing said 65% of DH assets have exceeded their normal lifetimes and need replacement. The team was even told about a boiler that was over 100 years old, installed during Austro-Hungarian times, which was still in service. Pipes leak and are not sufficiently insulated. Many systems were designed based on a very low price of gas during Soviet days and were thus never intended to be very energy efficient. Heating infrastructure was designed with excess capacity as so much of the civil infrastructure in the FSU. The Vice Director of the Association of Ukrainian Cities told the team that Ukraine's heating infrastructure was about 70% depreciated. The World Bank estimates that the cost of upgrading

Ukraine's DH systems and for improving the energy efficiency of buildings which receive this heat is about \$5 billion for the next five years.

Attracting investment to Ukraine's heating sector is important for a number of reasons: 1) The most obvious reason is of course that without investment, systems will continue to fail, such as the infamous collapse of the heating system in the city of Alchevsk in the winter of 2005-2006: 2) Upgrading the heating systems will also be important for improving energy efficiency as the price Ukraine pays for gas will likely only go up: 3) And improving the condition of the district heating companies will also facilitate in commercialization of these systems as many private firms would be reluctant to attempt to run systems on the verge of collapse.

It is not likely that the Government of Ukraine, IFIs and other donors will be able to foot this entire bill. And municipalities will certainly not be able to pay for these investments through the transfers they receive from the national government, or from their meager own source resources. Therefore, the only way municipalities will be able to pay for their DH infrastructure needs is by borrowing for investment, just as municipalities in the West do for major infrastructure projects.

The Status of Ukrainian Cities in Attracting Investment in Heating Infrastructure

Today, mostly only large Ukrainian municipalities have the sophistication and financial capacity to borrow. For most small to medium-sized cities, borrowing is difficult or impossible because they do not have enough own-source revenues (OSR) and are therefore not sufficiently creditworthy to borrow at affordable rates. Borrowing is also difficult because of a deficient legal and regulatory framework in the area of sub-national borrowing, distorted market incentives, the absence of a reliable government bond yield curve, inadequate legislation on municipal bankruptcy and a lack of a regulatory framework for district heat companies. Finally, district heat companies are not permitted to use their assets as collateral for borrowing (cities may borrow on their behalf but this complicates matters).

The amendment of the Budget Code in 2001 was a promising first start to improving municipal fiscal solvency. The Code created predictable expenditures and revenues and intergovernmental transfers based on an equalization formula. However, the Code did not go far enough. The Code does not clearly define what percentage of the total State budget is due to local governments. As a result, the State first calculates its needs and only then makes available what remains for local governments. There were also some digressions from the Code. Municipalities were supposed to receive a certain percentage of the single tax but this amount was subsequently whittled down. Cities have also had to put up with unfunded mandates. For example, the national government mandated several increases in the minimum wage but did not fully compensate cities for this payroll increase.

Local governments are not able to set taxes and fees themselves and these have remained stagnant since 1993, even though the economy has grown considerably and there is an

ability to pay more. Local governments are therefore almost entirely dependent on transfers from the national government. For example, while properties such as apartment and houses in Ukraine can cost tens of thousands and even hundreds of thousands of U.S. dollars in some larger cities, there is no property tax. Instead of a property tax, there is a land tax which, when compared to the value of what is being taxed, amounts to very little. In fact, only about three percent of local budgets stem from own source revenues; the rest is transferred from the national government. Much of what is transferred is delegated meaning that local governments must spend it on expenses such as health and education. Without more of their own source revenues or ability to spend transferred funds as they see fit, many cities will hardly qualify for credit.

A significant constraint to borrowing and attracting investments is the huge debt owed by most district heating companies to Gaz Ukrainy – a total of UAH 1.37 billion as of March 20, 2007. Although some of the better-off cities have borrowed from commercial banks to pay the gas debts, even cities such as Lviv still have debts of UAH 30 million, while many comparably-sized cities have debts of UAH 100-200 million. Again, attracting private investment into district heat companies will be difficult if they are saddled with high debt.

Support for Reform

In order for cities to be able to increase the amount of investment they are able to put into their district heat companies, a number of changes will have to occur. The Budget Code will need to be amended. There are currently several amendments to the Code being worked on, one by the AUC and one by USAID's Municipal Budget Reform Contractor, the Research Triangle Institute. Modifications to the Budget Code would change the Land Tax and the Construction and Building Tax which would increase municipal OSR. Legislation needs to be passed that would allow municipalities to pledge their OSR as debt securities. The transparency of the nascent municipal borrowing market which does exist needs to be improved to increase investor confidence. A new legal and regulatory framework for municipal borrowing needs to be established that would address municipal bankruptcy and remove market distortions.

The team heard expressions of support for reform from various sources. AUC expressed support in the following areas: 1) Changes to the municipal code that would create condominiums when a certain percentage of units in a building have been privatized. 2) New legislation on the Housing Code to facilitate the formation of Condominium Associations among other features, which is being drafted by AUC to be submitted to the Verkhovna Rada this summer. 3) Amendments to the real estate tax, land tax and the enterprise tax, which is supposed to go into a development fund.

Lviv officials expressed support for a law on housing and condominiums to define the relationship between heat producers and consumers. They also noted that current laws do not promote investment in district heat companies; they want to see incentives for such investments and licensing problems resolved.

Even if many of the changes discussed above occur, many small to medium sized cities will still not be in a financial position to borrow because interest rates would be too high for the relatively small amounts these cities would be qualified to borrow. For small to medium sized cities, a revolving fund is needed, leveraged or unleveraged. USAID is currently working on the Municipal Finance Facility (MFF). The Government of Ukraine will have to amend legislation in order for the MFF to function and will need to capitalize it. The new Minister of Communal Services and Housing, in a recent meeting with Mission management and the team, pledged his support for the MFF once his new Ministry is properly established. USAID and other donors should continue to lobby the Government on moving forward with the MFF.

Donor-funded technical assistance should work with the Ministry of Finance, the Association of Ukrainian Cities, and other relevant ministerial and legislative bodies on addressing the legislative issues listed above. USAID should continue the development of the MFF. Other donors and IFIs (e.g., IFC, EBRD) and GOU should consider helping to capitalize the MFF. Donor-funded TA could work with the AUC to help develop their capacity to help their member cities borrow.

Potential Donor Assistance:

Donor-funded technical assistance should work with the Ministry of Finance, the Association of Ukrainian Cities, and other relevant ministerial and legislative bodies on addressing the legislative issues listed above. USAID should continue the development of the MFF. Other donors and IFIs (e.g., IFC, EBRD) and GOU should consider helping to capitalize the MFF.

Preliminary Donor Interest:

- ✓ USAID's Municipal Budget Reform Project is indirectly supporting work in this area.

Level of Importance: Essential.

Time Frame: TA to help draft changes to laws can be provided in up to one year, with up to two additional years to provide advice and assistance through the approval process; enactment is up to GOU. TA to implement would require one to two years following enactment. Debt restructure would likely take longer.

Component B: Commercialization, Restructuring and Private Sector Participation

Policy Issue: DH assets are not allowed to be privatized or used for collateral. Several forms of Private Sector Participation are being used in some District Heating systems, including leasing and concessions, but the law concerning PSP is weak. Restructuring options, e.g. separating heat production from delivery, should be considered as a way to increase interest in PSP.

Recommendations:

- The law governing acceptable use of DH assets should be changed to allow privatization and use of the assets as collateral.
- The law governing communal services concessions should be strengthened.
- Contracts for Private Sector Participation should include requirements to invest in energy efficiency.

Benefits of Private Sector Participation

As mentioned above, the need for investment in Ukraine's district heating sector far exceeds the resources available from municipalities, the Government, IFIs, and donors. Private sector investment is needed to bring the capital and commercial practices needed to improve rehabilitate and modernize the systems and improve the quality of service to consumers.

Status in Ukraine

Privatization of communal assets is strictly prohibited under current law. Furthermore, district heating assets are not allowed to be used for collateral, thus limiting investment in the sector. Several forms of Private Sector Participation (PSP) are being used in some district heating systems, including leasing and concessions, but the law concerning PSP is weak. Restructuring options, e.g. separating heat production from delivery, should be considered as a way to increase interest in PSP.

Some private sector participation has occurred through a process similar to leasing. In Chernihiv two companies are operated by private sector companies under agreements initiated in 1995. This may reflect a more progressive community and should not be considered representative of all Ukraine. Most of the other cities visited had communal services operated by the municipality or by an entity controlled by the municipality.

According to the Foreign Commercial Service, some US companies have expressed an interest in investing in communal services in Ukraine under concession arrangements, and GE and Caterpillar are interested in CHPs. These companies would like to see a transparent process and a strengthened concession law.

The current concession process, according to the FCS, is:

A list of municipal facilities that might be offered for concession tenders is approved exclusively on plenary sessions of corresponding local municipal authorities/councils. Concession agreements are signed with the winners of concession tenders for activities or facilities offered in concession, upon payment of concession fee by a concessionaire. The Cabinet of Ministers approves winners of concession tenders for state-owned facilities, while local municipal authorities/councils approve winners of concession tenders for municipal facilities. The Cabinet of Ministers approves concession fees for various types of activity. A tender is conducted by the entity - owner of a concession facility (concession offering entity.) Concession agreements may be signed for a period of not less than 10 years, but not to exceed 50 years. If under a concession agreement, a

concessionaire will perform activities subject to licensing (including transporting and distribution of natural gas); he should obtain an appropriate license. The concession offering entity is obliged to respect and not disclose concessionaire's commercial secrets and should not interfere into commercial activities of the concessionaire. The concessionaire has to use locally developed technologies, materials and equipment, if a concession agreement does not specify otherwise. Upon completion of a concession agreement, the concessionaire should return concession facility back in appropriate technical condition. The concessionaire retains ownership for product and profit received under concession agreement. Import duty, VAT and excise tax for goods imported into Ukraine for carrying activities under concession agreements are to be paid as required by Ukrainian legislation.

Support for Reform

According to the FCS, at the national level Fuels and Energy Minister Boyko has signaled strong support for privatization. He wants to create a more favorable environment by getting away from Ministry involvement, and he is interested in US company involvement. Deputy Minister Sheberstov emphasized the importance of privatization to the assessment team, but he recognized that barriers exist in the form of legal prohibition, inadequacy of tariff levels and collections, and debts to the gas company.

Political support for PSP will vary on local levels. Some favor this action, such as in Chernihiv, where the mayor said public acceptance is high due to improved performance (they are one of the few cities to have 24 hour availability of heat and hot water). The deputy mayor stated, "The people understand the best owners are private ones. Communists and some other parties don't quite understand this."

Lviv is exploring PSP opportunities, and prepared concession tenders, but they want to maintain a role for the municipality in decision-making. Ivano-Frankivsk is considering unbundling the district heat company into separate enterprises for heat production, transmission, and maintenance to establish each entity's financial performance, and will consider concession and leasing arrangements. In Illichivsk, a private company is planning to build a CHP and sell heat to the district heat company.

There is a perception by some that there will be a significant social dislocation in terms of higher tariffs and lower employment if private operators are used. Many see provision of communal services as a social issue and not a business and given the history of Ukraine a vigorous public education and public diplomacy program will be helpful. In addition, the municipalities may be reluctant to give up control of assets. Illichivsk municipality is quite content with the current system on municipal control over communal assets and tariffs. Thus, the advantages of PSP are another area where public information campaigns can help win public acceptance by informing the population of the improved level of service that can accompany well-executed PSP.

Potential Donor Assistance: Donor-funded technical assistance can work with the Ministry of Communal Services and Housing and the Rada Subcommittee on Communal Services to develop requirements for energy efficiency investments in all Private Sector Participation agreements. Observance of the requirement can be a component of any IFI financing of the Private Sector operators. Donor-funded technical assistance can help municipalities and DH negotiate with investors.

Preliminary Donor Interest:

- ✓ World Bank, EBRD, and NEFCO are considering lending for DH system improvements, which potentially could include PSP aspects.

Level of Importance: Important to provide source of investment to DH companies not addressed by IFIs.

Time Frame: TA to help draft changes to laws can be provided in less than six months, with up to two additional years to provide advice and assistance through the approval process; enactment is up to GOU. TA to implement would require one-to-two years following enactment.

Component C: Communal Service Improvement Budget Line

Investment Issue: In this and coming years there are significant funds available from GOU for improvements to Communal Service Utilities (UAH 1 billion) and for Energy Efficiency (UAH 700 million). The funds are provided to Oblasts, which receive proposals from municipalities for disbursement of grants. However, there are not clear criteria nor procedures for awarding the grants, and there is little public information provided about the use and results of the grants.

Recommendations:

- There should be clear, transparent criteria and procedures for awarding the grants and for monitoring and reporting on project performance and efficiency.
- Guidance should be provided to municipalities on preparing proposals that meet the intent and criteria of the grants.
- Oblasts should be trained on technical and financial review of the proposals.
- Grants for DH system improvements should be consistent with municipal energy plans.

Benefits of a Transparent System For Awarding The Funds

The funds available from GOU for improvements to Communal Service Utilities (including but not limited to district heat) and for Energy Efficiency are not enough to meet the country's needs in the heating sector, estimated by the World Bank at about \$5 billion for the next five years. However, the funding level is high enough to fund a number of worthwhile projects that could provide significant improvements in several cities.

Given the heating sector's large needs and social importance, and in light of the challenges to providing financing from IFIs and donors discussed above, it is important to make sure the GOU funds are well spent for projects with high technical and economic merit. In addition, the potential exists for IFIs to offer financing on a cost-sharing basis with the GOU funds, a process that could give the IFIs and donors leverage on the key policy reforms advocated above.

Status in Ukraine

The GOU funds are provided to Oblasts, which receive proposals from municipalities for disbursement of grants. However, there are not clear criteria nor procedures for awarding the grants, and there is little public information provided about the use and results of the grants.

Without clear criteria, there is a risk that the GOU funds can be used for projects that are not technically or economically sound. Without clear criteria, municipalities are unable to prepare good projects that have a strong chance of receiving funding. There also exists the risk that the funds can be used to reward political allies without concern for the merits of the projects.

Support for Reform

AUC has voiced concerns that the disbursement mechanism for the GOU funds is not effective in awarding funds for the best projects; they support introducing objective criteria to prevent political influence from determining the recipients. The Verkhovna Rada Communal Services Subcommittee chairman said municipal officials need help in determining how to make the best use of the GOU funds, and Oblast officials need help in making performance-based decisions on allocation of the funds. NAER thinks Oblasts need training on how to review proposals from municipalities.

Potential Donor Assistance: Donor-funded technical assistance can be provided to the Ministry of Communal Services and Housing can develop clear, transparent technical and financial criteria for disbursement of the grants. Training can be provided to Oblasts for proper technical and financial review of the proposals. Training can be provided to municipalities on preparation of proposals. IFIs interested in lending for DH system upgrades can provide partial matches to the grants to provide leveraging, thereby providing additional incentive for GOU to implement the recommended criteria and procedures.

Preliminary Donor Interest:

- ✓ USAID has indicated preliminary interest in providing TA in this area.

Level of Importance: Important to ensure GOU grants are spent effectively. This would be essential for IFIs to provide partial matches.

Time Frame: TA to help draft criteria and procedures can be provided in under six months; enactment is up to GOU. TA to implement training would require under one year following enactment.

Component D: IFI Lending

Investment Issue: District heating companies have enormous needs to modernize and improve energy efficiency and improve the quality of heat delivered. Some systems have cost-recovery tariffs, high bill collections, and carefully prepared investment strategies or energy plans.

Recommendations:

- IFIs may consider lending to creditworthy municipalities for rehabilitation/modernization of the district heating systems, subject to due diligence and adoption of the reforms discussed above.
- IFIs may consider lending to Condominium Associations for energy efficiency improvements in apartment buildings, schools, and other municipal buildings.
- USAID Municipal Finance Facility can finance rehabilitation/modernization improvements in district heating systems and energy efficiency improvements in Condominium Association apartment buildings, schools, and other municipal buildings in smaller cities.

Benefits of IFI Lending

As documented above, district heating companies have enormous needs to modernize and improve energy efficiency and improve the quality of heat delivered. IFIs are interested in lending for district heat and end-use energy efficiency due to its development mission and the projects' ability to produce economic, environmental, and social benefits.

Status in Ukraine

The World Bank estimates that the cost of upgrading Ukraine's DH systems and for improving the energy efficiency of buildings which receive this heat is about \$5 billion for the next five years. Despite the challenges keeping many cities from being creditworthy, some systems do have cost-recovery tariffs, high bill collections, and carefully prepared investment strategies or energy plans.

World Bank has previously loaned \$160 million for Kiev district heating rehabilitation, and \$18 million for the Kiev Public Buildings Energy Efficiency project, which funded improvements in 1,200 schools.

EBRD's investments in district heating in the Europe and Eurasia region have grown substantially in the past five years. EBRD can loan directly to public entities including municipalities, municipal enterprises, or to private companies. Non-sovereign lending

requires a municipal or regional guarantee. The minimum size of an EBRD loan is about EUR 10 million.

Support for Reform

World Bank's regional vice president recently signed an agreement with Ukraine's Minister of Finance to reorient its lending program to emphasize new priorities, most of which pertain to the areas addressed in this assessment: energy efficiency, environmental protection, social protection, infrastructure, and the municipal sector. In the donor coordination meetings, World Bank expressed interest in lending for installation of heat meters throughout Ukraine; and for improvements to 2-3 district heating systems. World Bank stated that municipalities need capacity building to become good borrowers.

EBRD municipal sector lending emphasizes and frequently entails reform conditions such as tariff and subsidy reform, development of regulatory structures, and commercialization, while also promoting environmental improvement and private sector involvement. EBRD is interested in lending for district heating in several cities, including Dnipropetrovsk, Vinnytsa, Odessa, Cherkassy, and Zaporozhia; EBRD indicated small amounts of donor-funded TA would be helpful in preparing the loans. Discussion with Donetsk and Kharkiv are on hold due to concerns over their creditworthiness and ability to take on debt.

EBRD is also interested in developing a credit line for residential energy efficiency lending, particularly in conjunction with donor-funded efforts to build capacity among Condominium Associations.

Potential Donor Assistance: Financing by IFIs in creditworthy large/medium cities, and by USAID Municipal Finance Facility in smaller cities. Donor-funded TA can train cities on preparation of business plans for the financing programs; prioritization of energy efficiency improvements in schools and other municipal buildings; and provide information on energy efficiency in buildings.

Preliminary Donor Interest:

- ✓ World Bank indicated it is considering lending to 2-3 large cities.
- ✓ EBRD is considering lending to 4 large cities.
- ✓ NEFCO/Nordic Investment Bank/SIDA are considering lending for several cities including Odessa.
- ✓ USAID plans Municipal Finance Facility for lending to smaller cities and indicated potential interest in limited targeted TA support [e.g., financial audits] in support of EBRD loans.

Level of Importance: Essential.

Time Frame: USAID Municipal Finance Facility can be operational in one year. IFI lending TBD.

**MULTI-DONOR MUNICIPAL HEATING AND CHP MODERNIZATION
POTENTIAL DONOR ASSISTANCE AND ROLES**

PRIORITY AREAS	USAID	World Bank	EBRD	EC	GTZ/ KfW	CIDA	NEFCO	Nether-lands	Swed
1. TARIFF SETTING AND REGULATORY PROCESS									
Tariff Setting & Regulation	X								
2. RESIDENTIAL ENERGY EFFICIENCY									
Metering		X							
Housing/CA/Codes			X	X	X	?		X	
Social Safety Nets		?							
Municipal EE & Public Info	?			X		X	X	X	X
3. MUNICIPAL PLANNING									
Municipal Planning	X								
4. INVESTMENTS TO THE HEATING SECTOR									
Creditworthiness	?								
Private Sector Participation		?	?						
GOU Funding	X								
IFI Lending	x	X	X				X		x

x - indirect assistance

X- direct assistance

?- assistance may include these areas

APPENDIX 1: ASSESSMENT TERMS OF REFERENCE

UKRAINE MULTI-DONOR MUNICIPAL HEATING AND CHP MODERNIZATION STRATEGIC ASSESSMENT ISSUES AND APPROACH

PURPOSE AND OBJECTIVES

The higher imported gas prices in the Ukraine have focused attention on energy pricing issues and the potential to reduce dependence on gas imports and increase energy efficiency. The recently released IEA Ukraine Energy Survey focuses significant attention on these challenges and the need for reform and investment. In 2006, USAID began implementing a small project focused on promoting financing and investment in industrial energy efficiency. USAID, IFIs, and others in the donor community are now considering further interventions in the Municipal Heating and CHP area. This sector appears to account for as much as one-third of gas use and is highly inefficient. USAID has been working with municipalities on strategic heating plans and communal service issues for many years and has close relations with the Ministry of Construction, Architecture, Housing, and Communal Services; the Ministry of Fuel and Energy; NERC; the Association of Ukrainian Cities; the Municipal Development Institute, Arena-Eco and other key organizations. The World Bank and EBRD have experience in working with municipalities on district heating and CHP projects and EU-TACIS is planning activities related to regional infrastructure financing.

To address the heating and CHP sub-sector in a meaningful way, the donors should consider together the issues and opportunities, and work with interested national and local authorities to develop a comprehensive framework for reform, financing and investment.

Therefore, USAID is organizing a team to Ukraine during March 12-30 to prepare a strategic assessment. IFIs and other donors are invited to participate in this assessment and take part on the assessment team. The anticipated outcome of the assessment will be a blueprint for a more coordinated donor dialogue with the Ukraine Government on actions needed to reform this subsector and stimulate critical investments.

This field work would also coincide with USAID's planned Regional Urban Heating Workshop on March 27-28 in Kiev that will consider the experience and lessons learned in this sector from Eastern Europe, the Baltics and the CIS and disseminate the results of a substantial Alliance to Save Energy strategic regional review on Urban Heating.

The key policies issues to be addressed appear below. Please see the IEA Energy Survey for further definition of the problem and suggested actions.

SCOPE OF ASSESSMENT

Policy Issue 1: Tariff Setting/Transparency and Potential Legal/Regulatory Reforms

Policy Issues: Heat tariffs generally are below cost-recovery levels, resulting in deteriorating financial viability of DH companies and making them unattractive to lenders or private investors. The inadequate tariffs are primarily a function of the way the tariffs are proposed and approved by municipalities. The assessment will consider policies needed to enact structural changes that would provide cost-recovery tariffs. The assessment will consider issues such as the following:

- What policies and strategies would enable municipalities to increase heat prices to recover costs?
- Should heating regulatory responsibility be shifted to NERC; Ministry of Construction, Architecture, Housing, and Communal Services; or regional bodies?
- How can policies address heating pricing and other issues across the various heat service providers (DH, direct gas service, CHP pricing for both electricity and heat) to better meet national energy goals?

Key Information Needed:

- ✓ How municipalities are responding to the higher gas prices: how many are increasing tariffs; how many are reimbursing the DH utilities for revenue shortfalls, and how much burden does this place on municipal budgets?
- ✓ Experience in municipalities that have increased tariffs concerning public acceptance, service improvements, and bill collections.
- ✓ Is there political support at the national and local levels for the policy reforms?

Assessment Approach and Methodology: The team will examine the interest and capability of potential agencies to regulate heat prices. The team will look for evidence available through surveys or public hearings indicating public is willingness to pay higher heat tariffs in exchange for improved service and control over consumption levels and bills. The team will request information on tariff reform and regulation from donor programs; NERC; Ministry of Construction, Architecture, Housing, and Communal Services; and organizations such as Municipal Development Institute, ARENA-ECO, Association of Ukrainian Cities (AUC) Energy Committee. Site visits will be conducted to several cities that have attempted to address tariff and regulatory reform.

Policy Issue 2: Municipal Governance and Budgetary/Financial Issues.

Policy Issue: Since municipalities in many cases may be more creditworthy than the DH enterprises and may have access to alternative financing methods, should municipalities assume greater responsibility for the operation and financing of DH services?

Key Information Needed:

- ✓ Is the requirement that municipalities compensate municipal utilities for revenue shortfalls enforced?
- ✓ What are the resulting impacts placed on municipal services?
- ✓ How strong is the financial position of cities and their ability to borrow?
- ✓ Are municipalities interested in financing DH improvements where the DH enterprises are not creditworthy?
- ✓ What is the experience with municipal borrowing and innovative financing approaches such as bond banks and revolving funds?
- ✓ Is there a clear legal framework for the municipal financing approaches?

Assessment Approach and Methodology: The assessment team will determine the extent to which municipal reimbursement of DH companies limits the ability to provide essential municipal services, and will also determine the prospects for municipal financing of DH improvements. The team will request information on municipal budgeting and finance from donor programs including USAID's Access to Credit program; Ministry of Construction, Architecture, Housing, and Communal Services; and organizations such as Municipal Development Institute, ARENA-ECO, Association of Ukrainian Cities (AUC) Energy Committee. Site visits will be conducted to several cities that have undertaken financing of communal enterprises and others that have been adversely affected by the increasing gas costs. Information on municipal creditworthiness will be requested from financial institutions with experience lending to municipalities or municipal utilities.

Policy Issue 3: Municipal Heat Enterprise Restructuring, Commercialization, Debt and Financing Issues.

Policy Issue: What are the necessary steps to improve the commercial performance of municipal heat enterprises?

Key Information Needed:

- ✓ Ukrainian experience with alternative management structures, restructuring, and Private Sector Participation (PSP) in Ukrainian district heat enterprises, and their effectiveness at improving the enterprises' financial soundness.
- ✓ Debt restructuring techniques.
- ✓ Political and economic constraints to further PSP activity.
- ✓ The relationship of DH enterprises to gas distributors and methods to put the relationships on a more transparent and commercial basis.

Approach and Methodology: The assessment team will examine the effectiveness of PSP in providing heat service, and look for evidence available from opinion surveys or public hearings concerning the degree of acceptance of giving the private sector a role in DH enterprises. The team will request information from donor programs on municipal utility management, debt, and commercialization; the AUC Energy Committee; and the

DH association. Site visits will be scheduled with managers of privatized, leased, and other progressive DH companies.

Policy Issue 4: CHP Modernization and Public-Private Partnership Opportunities.

Policy Issue: What are Combined Heat and Power (CHP) investment needs, and what are the plans to bring in private capital for modernization or replacement?

Key Information Needed:

- ✓ What size of CHP units and associated investment requirements are most attractive to lenders?
- ✓ What factors constrain industrial CHP sale of heat to municipalities, and what would encourage both sides to increase cooperation?
- ✓ Does the tariff treatment concerning the allocation of efficiency gains from CHP between electricity and heat prices reduce interest in CHPs by municipalities and DH companies?
- ✓ What is the interest, experience, and constraints to using alternative fuel sources (e.g., landfill methane, biomass) in CHPs?
- ✓ What innovative financing approaches are available to support priority modernization or replacement of CHPs?

Approach and Methodology: The assessment team will request information from donor programs and other organizations that have promoted CHP investments; ARENA-ECO; AUC Energy Committee; National Agency for Efficient Utilization of Resources (NAER); NERC; Ministry of Fuel and Energy; gas distribution companies; environmental NGOs; equipment vendors; and selected industries and municipalities.

Policy Issue 5: End-use Energy Efficiency, Social Safety Nets and Municipal Subsidy Management.

Policy Issues:

- How can heat services be ensured for the poor and vulnerable and what changes in subsidy and social safety net programs are needed, especially in the face of much higher energy prices?
- What policies or programs to increase household end-use energy efficiency should accompany tariff increase strategies?

Key Information Needed:

- ✓ Are municipal utility subsidy programs are working and effective in targeting subsidies to the needy?

- ✓ What are the constraints to incorporating energy efficiency into the social safety net programs?
- ✓ What are the implications of the energy price increases for social safety net programs?
- ✓ What are the best options for promoting energy efficiency in households and municipal buildings?
- ✓ What is the status, legal ability, and competency of Condominium/Homeowner Associations to implement energy efficiency improvements?
- ✓ Can loans for DH upgrades integrate end-use energy efficiency components to reduce the investment requirements in the DH networks?
- ✓ Is there political support for laws to promote consumption-based billing and to engage Condominium/Homeowner Associations in implementing energy efficiency improvements?

Approach and Methodology: The assessment team will investigate the prospects for end-use energy efficiency to mitigate tariff increases and the prospects for including it in social safety net programs. The team will request information on energy social safety nets programs and expenditures from ministries, selected AUC and municipal officials. Information on experience with residential energy efficiency approaches and results will be requested from ARENA-ECO. Additional information will be requested from donor programs and organizations working on promoting Condominium Associations; managers of selected Condominium Associations; lenders interested in the residential sector; and selected equipment vendors.

Policy Issue 6: Alternative Heating Sources

Policy Issue: Should competition with DH by decentralized sources be encouraged? How, and under what circumstances?

Key Information Needed:

- ✓ Under what conditions are direct and decentralized heat sources viable alternatives to centralized district heating systems?
- ✓ Should municipalities be required to prepare master plans comparing DH to alternatives such as direct gas heat and decentralized local heat networks before undertaking rehabilitation investments?
- ✓ What Ukrainian experience exists with direct and decentralized heat sources, and what are the financial implications to consumers and to DH and gas providers?

Approach and Methodology: The assessment team will consider whether and how to tie local heat supply decisions to national energy priorities. The team will request information on interest in and attempts to introduce heat competition from donor programs; the Ministry of Construction, Planning and Communal Services; NAER; AUC

Energy Committee and selected municipalities; MDI; ARENA-ECO; and equipment vendors.

ASSESSMENT IMPLEMENTATION PLAN

Assessment Team

The assessment team will consist of the following individuals, organizations, and roles:

NAME	ORGANIZATION	ROLE
Ira Birnbaum	USAID/Washington	Team leader; leader on Issues 5 and 6.
Mike Keshishian	USAID/Washington	Leader on Issue 2, input on Condominium Associations.
Andres Doernberg	USAID/Washington	Leader on Issues 1 and 3.
Mark Schlagenhauf	USAID/Washington	Input on gas distribution and pricing.
Alex Lega	EBRD	Input on financing, tariff reform, commercialization, energy efficiency.
Pekka Salminen	World Bank	Input on financing, tariff reform, commercialization, energy efficiency, social safety net.
Bob Ichord	USAID/Washington	Develop conclusions and recommendations.
Jon Elkind	EastLink Consulting	Input on policy issues, develop conclusions and recommendations.
Ed Chow	EastLink Consulting	Input on gas policy issues, develop conclusions and recommendations.
Mission Staff	USAID/Kiev	Arrange meetings, travel and logistics, translation.
Resident Missions	EBRD, World Bank	Logistical support.

Assessment Schedule

March 12: Team arrives in Kiev. Orientation meeting with Kiev missions of USAID, World Bank, EBRD.

March 13-16: Information gathering in Kiev; selected site visits.

March 19-23: Continue Information gathering in Kiev and selected site visits; meet with USAID U-IEEI ESCO trade mission.

March 26-30: Participate in USAID/Alliance to Save Energy Regional Policy Workshop on Urban Heating Reform; draft preliminary findings and recommendations; debrief Kiev missions of USAID, World Bank, EBRD.

April 2-27: Complete report.

APPENDIX 2: ASSESSMENT TEAM COMPOSITION

Multi-Donor Municipal Heating and CHP Modernization Assessment in Ukraine, March 12-31, 2007 Team's Composition

First Week, March 12-March 17, 2007

1. Ira Birnbaum, Energy Efficiency/Global Climate Change Coordinator, USAID/W;
2. Michael Keshishian, Urban Finance Advisor, USAID/W;
3. Andres Doernberg, Senior Energy Advisor, USAID/W;
4. Mark Schlagenhauf, Global Oil and Gas Advisor, USAID/W;
5. Pekka Salminen, World Bank (all meetings in Kyiv+Lviv+Ivano-Frankivsk);
6. Dmitry Glazkov, World Bank (all meetings in Kyiv).

Second Week, March 19-March 24, 2007

1. Ira Birnbaum, Energy Efficiency/Global Climate Change Coordinator, USAID/W;
2. Michael Keshishian, Urban Finance Advisor, USAID/W;
3. Andres Doernberg, Senior Energy Advisor, USAID/W;
4. Mark Schlagenhauf, Global Oil and Gas Advisor, USAID/W;
5. Dmitry Glazkov, World Bank (all meetings in Kyiv).

Third Week, March 26-March 31, 2007

1. Richard Ichord, Chief, Energy & Infrastructure, EE Bureau, USAID/W;
2. Ira Birnbaum, Energy Efficiency/Global Climate Change Coordinator, USAID/W.
3. Michael Keshishian, Urban Finance Advisor, USAID/W;
4. Andres Doernberg, Senior Energy Advisor, USAID/W;
5. Mark Schlagenhauf, Global Oil and Gas Advisor, USAID/W;
6. Dmytro Glazkov, Infrastructure Operation Analyst, World Bank.
7. Pekka Salminen, Senior Energy Specialist, World Bank.
8. Alex Lega, Principal Engineer, Municipal & Environmental Infrastructure, EBRD.
9. Sergiy Maslichenko, Business Development Manager, Energy Efficiency and Climate Change, EBRD.
10. Grzegorz Gajda, Banker for Municipal Sector, Environmental Projects, EBRD.
11. Jonathan Elkind, Principal, EastLink Consulting, LLC.

APPENDIX 3: LIST OF MEETINGS & ORGANIZATIONS CONTACTED

Municipal Heating and CHP Modernization Assessment in Ukraine, March 12-31, 2007 List of Meetings & Organizations Contacted

1. Orientation Meeting: USAID, EBRD, World Bank.
2. Mr. Pitsyk, Vice-President, Association of Ukrainian Cities.
3. Mr. Slobodenjuk & Ms. Babak (intro), Municipal Development Institute.
4. Experts Team, Access to Credit Initiative.
5. Mr. Robert Bodo and Mrs. Scherbina, Municipal Budget Reform, municipal finance and fiscal autonomy of cities.
6. ARENA-ECO, Representatives: Surin Sergiy Borysovykh, ARENA ECO Director; Derin Volodymyr Oleksiyovych, ARENA ECO 1st Deputy; Yerohin Oleksandr Oleksiyovych, ARENA ECO 2nd Deputy.
7. Lviv Mayor Deputies & sub-divisions;
8. Municipal Heating Enterprises LvivTeploEnergo & Zaliznychij CHPs in Lviv.
9. Mr. Anatoly Kopets, Lviv, Technical Assistance Director, Ukrainian Network "Energy Efficient Cities".
10. Illichivsk Deputy Mayor Pichakhchi Larysa Volodymyrivna & sub-divisions.
11. Municipal Heating Enterprises IllichivskTeploEnergo & CHPs in Illichevck.
12. Meeting with Ivano-Frankivs'k Deputy Mayor Derevianko & sub-divisions.
13. Municipal Heating Enterprises Ivano-FrankivskTeploCommunEnergo & CHPs in Iv-Fr.
14. Illichivsk Mayor Khmelniuk & sub-divisions.
15. OdesaGas Chief Engineer Zatynajko Yakiv Lvovych.
16. Chernihiv Mayor Sokolov & sub-divisions.
17. Municipal Heating Enterprises OblTeploComunEnergo & CHPs in Chernihiv.
18. Severodonetsk Mayor Grytshyn & sub-divisions.
19. Municipal Heating Enterprises SeverodonetskTeploCommunEnergo & CHPs in Severodonetsk.
20. Mr. David Sweere, Kyiv –Atlantic-Ukraine Agro Company "Methane to Markets project".
21. Mr. Semchuk, Deputy Minister, Ministry of Construction, Architecture and Communal Services.
22. The Dean Group (Ukraine): Oil and Gas Consultancy.
23. Mr. Kucherenko, Chief of Communal Services Sub-Committee, Ukrainian Parliament.
24. Mr. Dankevych (Sukhin's Deputy), NAER.
25. U.S. Embassy representatives: Foreign Commercial Service, Economic Section.
26. Leonid Pokrovskiy, UkrTeploKomunEnerho Director.
27. Mr. Popov, Minister, Ministry of Housing and Communal Services.
28. Mr. Sheberestov, Deputy Minister, Ministry of Fuel & Energy.
29. Mr. Tsaplin & Volosheniuk (instead of Titenko) Dept Heads at NERC.
30. Mr. Merkushev, Commissioner, NERC
31. ESCO Trade Mission, contact through IRG.
32. EBRD, World Bank representatives.
33. Embassy of Japan Representatives.
34. EU Commission Representatives
35. Donor Coordination Meeting (list attached).
36. Mr. Kravchenko AUC 1st Deputy Vice-President.
37. Mr. Kardash, Head of Gas Operations of Gas-Ukraine.
38. Mr. Dijak, General Secretary, National Gas Union of Ukraine.
39. Mr. Ildar Gazizullin, Senior Economist, International Center for Policy Studies.
40. Final Debriefing Meeting: USAID, EBRD, World Bank, U.S. Embassy.

Municipal Heating and CHP Modernization Assessment in Ukraine

March 12-March 30, 2007

Schedule of Events, Week 2; UPDATE: March 23, 2007, 5:00 pm

TIME	Sunday March 18	Monday March 19	Tuesday March 20	Wednesday March 21	Thursday March 22	Friday March 23
Morning		Team1-Chernihiv	Team0-Severodonetsk	Team1-Dniprova #24	Team0-Severodonetsk	
9:00-9:30		8:00 am Departure for Chernihiv by USAID car from the Mission driver Alex Marchenko	TBD am Transfer to Severodonetsk	8:30am USAID->Dniprova #24	6:50 am flight to Kyiv	
9:30-10:00			10:00 am Team2 Meeting with Severodonetsk Mayor Grytshynchuk sub-divisions; Lenka #32; (06452) 4-44-42, 4-43-83; Luchinka Stepanovna Zhavneva (06452) 4-20-00; mob(065)-527-1899	Team Meeting with Deputy Minister, Ministry of Construction - Mr. Semchuk, (044) Dniprova #24; 044-287-25-46	9:30 am USAID->31-A, Pushkinska St.	9:30 am USAID->#19 Smolenkova St.
10:00-10:30				Mike Keastlan meets with MBR/RT to follow up on municipal finance.	10:00 am: Team Meeting with NAER - Mr. Datskyrych (instead of Sakhril), Deputy Head, Muzeynyy Prosvok #12; (044) 454 4782; 253-7402 Onoprienko Olga Ivanovna	10:00 am: Team Meeting with NERC, Mr. Topolin & Voloshenko (instead of Blenko) Dept Heads of NERC, #19 Smolenka St.,
10:30 - 11:30			10:30 am back to USAID through Volodymyrka #55			
11:00 - 11:30		11:20 am Team1 Meeting with Chernihiv Mayor Sokolov & sub-divisions; Mohylatshko #7; (0463) 674-778; 67-53-04; Luchinka Volodymyr Kachymenko mob 067-25-37-307			11:30 am ->back to the Mission	11:30 am USAID->#19 Smolenkova St.
11:30-12:00					11:30 am ->back to the Mission	11:30 am ->back to USAID
12:00 - 12:30			1st Breakout to ESCO Trade Mission Volodymyrka #55		12:00 pm: Team Meeting with Mr. Kucharenko, Deputy of Parliament, Chief of Communal Services Sub-Committee; Grushevskogo 34/1; #10 (047) 401-7212; (044)-253-3836	12:00 pm: Team Meeting with Deputy Minister, Ministry of Fuel & Energy - Mr. Shebenstov; of USAID 2nd floor Conf Room; Mr. Sokolov; UkrEnergo.
12:30 - 13:00						
13:00 - 13:30					1:30 pm -back to USAID	
13:30 - 14:00						
14:00 - 14:30					2:00 pm Team Meeting with U.S. Embassy Representatives; ECDN, ACS of USAID 3rd floor OEG Conf Room, #19 Nizhny Vol Street	
14:30 - 15:00			Report preparation; follow-up; documents review; possible meetings			2:30 pm interim Debrief Meeting of USAID 2nd floor Conf Room, 19 Nizhny Vol St., 380-44-537-4675
15:00 - 15:30		2:30 pm Team1/ Team2 visits Municipal Heating Enterprises Oblteplokomunizhe rpo & CHPs in Chernihiv; Komarovskio 55-B; Director Rabinha Volodymyr Dmytroych & his deputies (0463) 27-43-24				
15:30-16:00						
16:00 - 16:30				4:55 USAID->Zhyrynetska St, 61-a		4:00 pm: Team Meeting with UAE& ESCO Trade Mission and Selected ESCOs; of USAID 2nd Floor Conference Room, Nizhny Vol St #19; 044-537-4675
16:30 - 17:00				Team meeting with Leonid Pokrovskiy, Ukrteplokomunizhera Director Suite 5, 61-A Zhyrynetska St, tel: (044) 284-8094, 280-4630	4:30 pm - USAID->Dniprova #24	
17:00 - 17:30	Team 2-> 7:40 - 9:20 pm flight to Luhansk, USAID driver Sergey Prodan will meet	Return to Kyiv	5:00 pm 1st Breakout back to Volodymyrka #55		5:00pm Team Meeting with Mr. Popov, Minister, Ministry of Housing and Communal Services; of Dniprova #24; 6-650-638-7010 Oksana	
17:30 - 18:00				6:00 pm-> back to USAID		
Evening	Overnight in Luhansk Hotel-Dnuzhba Plus	Overnight in Luhansk Hotel-Dnuzhba Plus				

Municipal Heating and CHP Modernization Assessment in Ukraine

March 12-March 30, 2007

Schedule of Events, Week 3; UPDATE: March 28, 2007, 6:30 pm

Time	Monday, March 26	Tuesday, March 27	Wednesday, March 28	Thursday, March 29	Friday, March 30	Saturday, March 31
08:00			Team 1	Team 2	Team 1	Team 2
08:00-09:00		8:30 am -> 38/40 Sherchenko Avenue	8:30 am -> 38/40 Sherchenko Avenue			
09:00-10:00			9:00 am - 1:00 pm Policy Workshop: Urban Heating Reform in Europe & Eurasia; Hotel Express; 38/40 Sherchenko Avenue; (044) 234-2113	9:00 AM Team 1/2b. Tzashenko, A. Puzovskiy, Meets with Gary Under in Gary's Office		
10:00-10:30			9:15 am Andrew's Departure USAID -> Kyiv			
10:30 - 11:00	10:30 USAID -> Smolenko # 19			10:10 am -> U.S. Embassy (through Hotel Express)	10:00 am: Team Meeting with Mr. Dink, General Secretary, National Gas Union of Ukraine of USAID (Mark & Mike); 537-4675	10:00 am Outcalling Meeting USAID, EBRD, World Bank, of USAID 2nd floor Conf Room, 17 Mykhailo Vol St., 380-44-537-4600.
11:00 - 11:30	11:00 Follow-up Meeting with Mr. Victor Hertushew, HBRG, #19 Smolenko (Mark and Andrew)			11:00 am Outcalling Meeting for US Ambassador of U.S. Embassy (Mark, John, Gary, Bill)		
11:30-12:00			9:00 am - 1:00 pm Policy Workshop: Urban Heating Reform in Europe & Eurasia; Hotel Express; 38/40 Sherchenko Avenue; (044) 234-2113			11:30am Departure USAID -> Kyiv (3 persons)
12:00 - 12:30				11:30 am back to USAID (through Hotel Express)	12:00 -> Sulembko # 7/12	
12:30 - 13:00					12:30 pm: Team Meeting with Mr. Edar Gashulin, Senior Economic, International Center for Policy Studies of Inst. Studenitskiy EIA (Pymonenko 13A), Mark & Mike); 48-4-400	
13:00 - 13:30	13:00 am -> 600 pm, Policy Workshop: Urban Heating Reform in Europe & Eurasia; Hotel Express; 38/40 Sherchenko Avenue; (044) 234-2113	1:00 pm back to USAID				
13:30 - 14:00	1:30 pm -> Muzeynyy Provok 3th floor					
14:00 - 14:30	2:00 pm Team Meeting with the Embassy of Japan; Epa; Viktor Boytsak; (044) 495-55-00 (confirmed) # 4					
14:30 - 15:00	Muzeynyy Lane, 7th floor Business Center					
15:00 - 15:30	3:00 pm -> Engulbunivertsitya # 4b					
15:30 - 16:00	3:30 pm: Team Meeting with EU Representatives David Smazal & Dukel Reem, Engulbunivertsitya # 4b, 390.60.50 (confirmed) Inna Mozzen					
16:00 - 16:30						
16:30 - 17:00	4:30pm -> Orlovskyi Lviv # 1		4:00 pm -> Eksploatachno # 4			
17:00 - 17:30	5:00 am Team Meeting with EBRD & World Bank (Deyan R. Dzhakov); through Gasprom Gajda, (044) 270-6132 and Orliv Gaidok, 490-6671, 8-066-1624976; (Orlovskyi Lviv # 1)		4:30 pm: Team Meeting with Mr. Evchenko AUC 1st Deputy Vice-President of Eksploatachno 4, 1-264-2547, 267-0111	4:30 pm: Team Meeting with Mr. Euzikits, Head of Gas Operations of USAID (Mark & John Ebend); 537-4675		
17:30 - 18:00						
Dining			6:00 pm -> back to USAID			

APPENDIX 5: LIST OF DONOR COORDINATION PARTICIPANTS

List of Participants Planning to Attend the Donor Coordination Roundtable at USAID, March 28, 2007, 2:00 pm

Donor Agency/Embassy	Participant's Name & Title	E-mail	Web-Site	Phone/Fax/Mobile	Address	Status
Royal Netherlands Embassy Kyiv	Bas Wels, Second Secretary	bas.wels@minbuza.nl	www.netherlands-embassy.com.ua	Tel: 00380 44 4908 228; Fax: 00380 44		Confirmed
	Casper Hoi	casper.hoi@minbuza.nl				
European Bank for Reconstruction and Development	Sergiy Masichenko, Business Development Manager, Energy Efficiency and Climate Change	MasichS@ebrd.com		Tel: +380 (44) 270 6132; Fax: +380 (44) 270 6813	27/23 Sofiyvska Street, Kyiv, Ukraine 01001	Confirmed
	Alex Lega	LegaA@ebrd.com				
	Grzegorz Gajda, Banker for Municipal Sector, Environmental Projects	GajdaG@ebrd.com				
	Andrzej Witak, Deputy Director for Ukraine	WitakA@ebrd.com				
World Bank	Pekka Salminen, Senior Energy Specialist	psalminen@worldbank.org; okovalenko1@worldbank.org				Confirmed
	Dmytro Glazkov, Infrastructure Operation Analyst	dglazkov@worldbank.org				
	Dejan R. Ostojic, Senior Energy Specialist	Dostojic@worldbank.org				
	Tom Monastyrski, Peoples Voice Project financed by Canadian CIDA	tmonastyrski@worldbank.org				
	Alexander Kucherenko, Peoples Voice Project financed by Canadian CIDA	akucherenko@icps.kiev.ua				
EastLink Consulting, LLC	Jonathan Ekind, Principal	jekind@eastlinkconsulting.com		Tel: +1-301-587-8675; Mobile +1-240-460-0695		Confirmed
Delegation of the European Commission to Ukraine	David E. Ceschia, Project Manager, Energy Efficiency and Renewable Sources;	David: Ernesto.Ceschia@ec.europa.eu	www.dslukr.ec.europa.eu	Tel: (+36) 044 390.80.10	10, Kruhiv-Universytetska St.	Confirmed
	Rémi Duflot, Head of Operation Section 3, Economic Development and Nuclear Safety	Remi.DUFLOT@ec.europa.eu		Fax: (+36) 044 253.45.47	01024 - Kyiv, Ukraine	
	Inna MORGUN@ec.europa.eu					
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U.S. Embassy	Patrick Slowinski, Second Secretary, Economic Section; Oksana Sukhina, Economic Section,	SlowinskiPT@state.gov SukhinaQT@state.gov		490-4147; 490-4106;	#10 Yuri Kotsubynskogo, Kyiv, Ukraine	Confirmed
Nordic Environment Finance Corporation NEFCO	Julia Shevchuk, Chief Liaison Officer for NEFCO	js@nfc.com.ua	www.nefco.org	(044) 276-6344 (office); (050) 356-3518 (mobile)	Khreschatik Street, 10, office 12; Kyiv, Ukraine;	Confirmed
GTZ Ukraine & KfW Entwicklungsbank Office Kiev	Anton Wirth, German Cooperation Coordinator Dmytro Sennychenko, Deputy Coordinator	anton.wirth@gtz.de kost@kcost.kiev.ua	www.gtz.de	Telephone: 044 4942356/57 Fax: 044 2533665	wul. Instytuska 24/7, Apt. 84, UA-01021 Kiev Ukraine	Confirmed

**APPENDIX 6: PRIORITY AREAS OF POLICY REFORM AND
POTENTIAL TECHNICAL ASSISTANCE**

(To Be ADDED)