

DISTRICT HEATING SYSTEM OWNERSHIP GUIDE



EXECUTIVE SUMMARY AND FOREWORD

The District Heating Ownership guide provides an overview of different ownership structures in CEE and Western European countries, and their recent development. The ownership and management of DH systems are divided into three main groups: solely public, solely private, and public-private partnership with mixed ownership and management. In total, eight mixed models are presented. The Guide does not answer explicitly a question if the district heating (DH) assets should be privatised, or remain in public ownership, since there is no single answer for this question. It provides a brief overview of the history, current status, and trends in DH ownership in both the OECD/EU countries and in countries with economies in transition.

The Guide is intended primarily for policy and decision makers on a national, municipal and utility level who consider a change of ownership or operational schemes, and potentially privatisation of the district heating assets.

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1 BACKGROUND

1.1 History of district heating ownership

Ownership structures of DH schemes both in Western European countries and Central and Eastern European (CEE) countries have experienced significant changes during the last decade of the 20th century. Formerly the DH industry was typically in public ownership – either state owned (typical for CEE countries), or owned by municipalities and/or regional governments (mostly in West European countries). In countries with centrally planned command and control economies the DH utilities – as well as practically the whole economy – was typically owned by the state. Even in countries with market economies in Western Europe, public ownership of DH prevailed. This was not the case only of DH, but of energy and other utilities in general as well as of main industrial companies in several countries.

In CEE countries, the centralised DH schemes were often incorporated into state-owned national electricity utilities. DH utilities were departments or branches of national state-owned companies, and typically they were not incorporated as independent economic entities. Some, mainly small decentralised schemes, were under municipal control and financed directly through the municipal budget, rather than incorporated as autonomous organisations.

In Western Europe the DH utilities were either incorporated as utilities providing DH only, or more often they were integrated as multi-utilities into universal municipal service provision. A typical example is the German ‘Stadtwerke’ – ie municipal multi-utility that provides distribution and supply of electricity,

natural gas, DH, water as well as transportation, services in waste management, street lighting etc. This multi-utility scheme is often the means by which specific national or municipal policies are implemented and, for example, cross-subsidies transferred from one municipal sector (typically public transportation) to another (energy).

Energy utilities, including electricity, natural gas and DH were typically understood as public service providers. The term ‘public service obligation’ (PSO) is used in several national legislations, as well as in EU directives, and it includes different specific obligations that reflect national policies. In most cases this obligation – if specified – contains certain standards for the quality of supply, or specification of an obligation to serve clients within the franchised area.

1.2 Recent changes in the energy industry

The formerly relatively stable conditions in the energy industry dramatically changed during the 1990s. It was not only the collapse of the command-and-control economies, but also changes in traditional market economies especially the liberalisation of energy trading, and introduction of competition into traditional monopolistic electricity and natural gas markets. These changes implemented in both Western European and CEE countries, have had significant impacts on the ownership structure of the industry.

Liberalisation of the electricity and natural gas markets means specifically that commodity trading has become the subject of competition. The original franchised

monopolies have been abolished and can no longer limit the entrance of new competitors into the market. Competition means that eligible electricity and natural gas customers have the freedom to choose and change electricity and natural gas suppliers. However, regulatory conditions may lead to difficulties in the combined heat and power (CHP) market generally (eg Germany, Netherlands) or favour larger generators (eg UK) despite the fact that energy policy/aspirations for carbon abatement would be better delivered by small (CHP/renewable) embedded generators.

To counter these difficulties, and following Energy Efficiency and Environmental Policy objectives, legislation has been drafted (Germany) to assist the CHP market, while in the UK Good Quality CHP attracts a number of benefits, including exemption from the Climate Change Levy.

Large electricity and natural gas customers in most European Union (EU) countries already have access to the competitive market; in several countries 100% of the market is already open to competition. By July 2007 all customers in the EU-15 member states including households will have be free to choose any electricity and natural gas supplier¹.

In response to energy market liberalisation and globalisation a new trend has emerged. In numerous cases former public utilities have been fully or partially sold to private investors. The

goal was to develop a better position and become more flexible and effective in competing in a new global European electricity and natural gas market.

1.3 Recent trends in the district heating industry

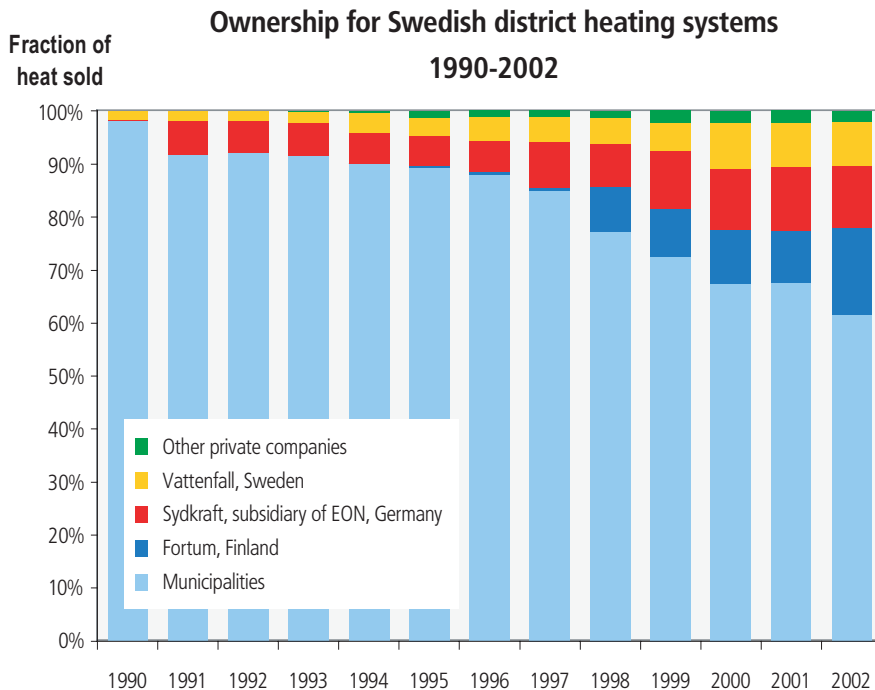
Although changes in ownership and especially privatisation are driven internationally, they do also influence the DH market in each country. The DH utilities are sometimes also electricity producers, for example through CHP production. Electricity and especially natural gas are direct competitors to DH. The introduction of competition in electricity and natural gas markets has decreased prices significantly – at least in the short-term. DH thus has had to react to this price development and adjust its heat prices and marketing policies as well.

The changes in utility ownership structure are still ongoing and will react partly to the new European directives 2003/54 and 2003/55. It is thus too early to summarise the final experience and lessons learned based on an analysis of long-term impacts. However, the new trends in a changing industry can already be identified.

A national illustration of the new trends in DH ownership is presented in the following chart. It shows an increasing share of private ownership in the traditionally publicly owned Swedish DH market. The diagram reflects ownership shares of heat sold, since many systems are co-owned by a municipality and a

¹ According to the new directives 2003/54/EC and 2003/55/EC of the European Parliament concerning common rules for the internal market in electricity and natural gas respectively, which replace directives 96/92/EC and 98/30/EC

BACKGROUND



Source: Sven Werner, FVB, personal communication, 2003

private company. Whether this trend towards more private ownership will continue in Sweden is an open question, but this development does reflect typical European experience since about 1990. An industry which was traditionally publicly owned now exhibits a wide variety of ownership structures including full public, full private, and joint public private partnerships.

The private sector has started to expand into DH even in countries with public ownership traditionally prevailing in this industry. The participation of the private sector in formerly traditional public utilities and services (Public Private Partnership-PPP) has a number of different forms: in addition to ownership changes and privatisation it includes participation of the private sector in

procuring public services and infrastructure on a contractual basis without necessarily changing ownership of the district heating assets.

Although the major privatisation in DH and change from state to municipal and private ownership took place in the early to mid 1990s in the CEE countries, no definitive ownership structure has yet emerged. For example, several municipalities have recently decided to sell their assets in DH utilities to private investors. Exceptionally the municipalities have decided or intend to purchase the assets from private investors to obtain majority control interests in the DH utility.

Secondary purchases of DH utilities among private local and multinational investors are also quite common.

2 DISTRICT HEATING OWNERSHIP AND MANAGEMENT OPTIONS

With the recent changes in the DH industry, four major alternatives of ownership models for DH utilities have been identified:

- Full public control by the state or municipality
- Full private control
- Mixed ownership and management – public and private
- Not-for-profit community-owned co-operatives.

The first two alternatives contain 100% ownership, public or private, with absolutely no commitment from the other side. Within the mixed and community ownership categories, various models have been developed:

- 1 Operation or management contract
- 2 Leasing
- 3 Concession
- 4 Only privatisation of heat generation
- 5 Selected private minority equity partnership
- 6 Minority private equity invited through the stock market
- 7 Majority private equity ownership
- 8 Full private ownership with municipal support

These eight variants contain examples with full public ownership with private involvement in management, mixed ownership, and full private ownership with some public commitment. So this classification does not only reflect the ownership, but also management of DH systems. Other public private partnerships can be found for financing, modernisation, and customer support, but are not dealt with in this guide.

3 FULL PUBLIC OWNERSHIP

The current public ownership in DH is mostly the result of a historic public initiative to start a local DH system (both in CEE and Western European countries). Nowadays public administrators are often not familiar with current and future issues relating to DH, so that many of the large strategic issues are delegated to the company management group. This kind of passive ownership is unfortunate, since the potential environmental and customer benefits of DH often are achieved more readily when there is a strong involvement by local public bodies.

An active discussion about privatisation of the DH utility has appeared in many municipalities in both Western European and CEE countries. Sometimes there has been an active decision to keep the DH system in public ownership. This decision has sometimes also given a revival of the motives for public ownership and has strengthened the relations between the public owner and the DH company.

A variant of public ownership is when a publicly owned DH company starts to buy and operate DH systems in other municipalities. The management skills in the major DH company are then used in other municipalities.

Examples of public ownership are:

In the **Czech Republic**, the fully publicly owned DH utilities are rather rare, especially with larger schemes. They exist with some smaller municipalities (less than 30,000 inhabitants) and typically purchase heat from another heat producer,

and/or operate small boilers. Městské tepelné hospodárství Kolín, s.r.o. is a DH utility 100% owned by the Kolín municipality. It serves the city of Kolín and Cesky Brod, and purchases the bulk of the heat from a local power plant. Tepelné hospodárství Prachatice, s.r.o. is 100% owned by the Prachatice municipality, and operates several small boiler houses.

In **Hungary**, DH distribution networks are mostly owned by the public sector eg Fötav (see DHCAN case study) is fully owned by the municipality of Budapest, as they believe in the concept of public sector services being best served by non-profit making organisations. The DH system in Debrecen is also kept in municipal ownership. Their transformation from an old DH system with a bad image to a modern customer-oriented DH system is extensively described in another DHCAN case study. The Debrecen DH Company also runs the DH system in Balmazújvaros.

In **Germany**, Stadtwerke München, the third largest German DH system, is fully owned by the city of München.

In **Sweden**, the DH systems in Göteborg, Västerås, Linköping, Eskilstuna, and Växjö are all fully owned by the local municipalities. Several of these companies have also acquired DH systems in smaller municipalities. Some small municipalities (Pajala, Tierp, and Älvkarleby) have fully repurchased shares in their former partnership with Vattenfall, the state-owned power company, in order to strengthen the local public ownership.

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In **Denmark**, public ownership is strong in both large and small systems, but large systems often buy bulk heat from regional CHP plants. The DH companies are owned either by the municipalities (particularly in the major cities), or by local consumer co-operatives. More than 430 DH companies supply around 60% of all Danish dwellings. Of these 15% are owned by municipalities – responsible for approx. 66% of the heat sale, and 85% are consumer owned companies with approximately 37% of the total heat sale

In **Austria**, Fernwarme Wien which operates the city DH scheme, is 100% owned by the municipality.

In **Finland**, Helsinki Energia, which operates the successful city-wide DH scheme in Helsinki, is fully owned by the Municipality of Helsinki.

4 FULL PRIVATE OWNERSHIP

The advantage of the private sector taking on district heating assets is that risk is transferred; the private sector is in the best situation to handle risk. In general the private sector is better placed to deliver capital-intensive projects. However, the consequence of a full, 100% private ownership is that the public administration (local municipality, regional or central government) loses its influence on business decisions of the utility unless the role (for example price regulation, environmental regulations, impact assessment) of the public administration has a mandate for these issues, or specific legislation, in national or regional law.

Examples of private ownership are:

In the **Czech Republic**, numerous local as well as foreign companies bought and operate DH schemes in different municipalities. The example of 100% private ownership and control in DH is Lounské tepelné hospodárství spol. s r.o.,

a DH utility supplying heat to the city of Louny. Most of the private investors did not or were not able to acquire full 100% ownership control, and thus have either minority or majority shares in the utility. For example International Power owns 99,9% of Elektrárna Opatovice power plant and DH. Other examples of private interests in DH are German based MVV Energie, French Dalkia, or Czech companies Komterm and Tedom.

In **Sweden**, Vattenfall has acquired the DH system in Uppsala and several smaller cities, while Sydkraft (owned by E.ON, Germany and Statkraft, Norway) owns the DH systems in Malmö, Norrköping, Örebro and several other smaller municipalities. Fortum, Finland has acquired 90% of the Stockholm DH utility.

In **Germany**, the DH systems in Berlin and Hamburg, the two largest in Germany, are fully consolidated into Vattenfall Europe.

5 PUBLIC PRIVATE PARTNERSHIPS

There are many types of public private partnership arrangements with varying degrees of private sector involvement. Generally speaking these partnership models allow both private and public parties to exert influence within the scheme. DH schemes can benefit from such partnerships: the private sector being best placed to raise capital and deal with risk, while the public sector is best placed to deal with local issues involving a number of different municipal departments. It is important to note that the actual ownership within these partnerships may be solely public, solely private, or mixed.

The partnership is a mode of co-operation between the former full public owner and a new private partner in procurement and provision of traditional public services and infrastructure.

5.1 Operation and management contracts

Public private partnerships with no capital involvement from the private sector and no ownership change are operation and management contracts. In these cases utility management and/or operation are outsourced based on a contract with specified terms, to a private company for some years. The public partner keeps the ownership of the assets, and is responsible for the investments, while the operator gets paid for the services performed.

The critical issue in this public private arrangement is the quality of the contract between the owner of the assets (the municipality) and the private operator. An important part of such contracts is the specification of duties of both parties and an exit strategy in case of default by the operator.

In the Czech Republic, a mayor of one very small municipality in Northern Bohemia complained that there was no law that would regulate what to do when their DH operator faced financial default. The small boiler house and local DH scheme supplying several municipal and residential apartment buildings was in municipal ownership, and the municipality had contracted operation of the DH to a small private local operator.

After a period of successful operation the private operator faced serious problems with cash flow and was not in a position to continue the operation, purchase of fuel and supply of heat. Unfortunately, the contract between the municipality and the private operator was not professional and did not have any exit provisions for this eventuality.

Contracts between the owners of the DH assets and the service providers should include provisions on:

- financing and ownership of new assets (reconstruction, new development, extension of the grid, connection of new customers)
- performance specifications for operation and maintenance
- pricing policy
- policy on connection, disconnection and upgrade
- co-operation with the municipality
- environmental, sustainability and planning strategies
- exit strategy – especially in case of under- or non-performance of the operator, with a specification to whom, by when and under what conditions the operational and ownership rights would be transferred.

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For options 5.1 and 5.2 care is needed when setting up a contract where ownership and responsibility for operation and maintenance are separated. Issues to be resolved include:

- During the first years of the contract, the external contractor will be motivated to make investments in new DH technology, which will increase the energy efficiency. The investments will reduce the running operation costs and the investments will be paid back before the end of the contract. But what will motivate the external contractor to make investments when the remaining part of the contract period is shorter than the pay back time of the investments?
- Similarly, care will be needed to ensure proper maintenance schedules are adhered to during the last part of the contract period, when the ownership of the installations belongs to the local distribution company
- The contract will need to set out how the quality level of the technical installations is to be measured when the contract is signed and when the contract runs out
- The contract will need to set out how the quality levels for the operational reliability of the boiler station be set up.

Examples of public private partnership with operation outsourcing are:

In **Sweden**, Borås Energy, the municipal district heating and CHP company in Borås, is responsible for management and is still the owner of the DH system, while Fortum Service operate and maintain the system as a service according to a contract.

5.2 Leasing

In a leasing agreement, an operator rents the DH assets from the owner for a specified, usually long-term period. Operation, maintenance, investments, and the company cash flow will be in the hands of the private lessee/operator who pays a specified amount of rent to the public (municipal) owner/lessor or invests a specified amount of capital to the infrastructure (or a combination of both). In a standard leasing contract the ownership of the infrastructure does not change and remains in the hands of the original owner. It is worth checking whether such a leasing arrangement attracts any taxation benefit. After the leasing period, the assets will return to the municipality.

A leasing contract between the owner of the DH assets and the leasing operator should include the same provisions as mentioned for the operation and management contract. Since a leasing contract will often last longer than an operation contract, it is vital that the contract contains an agreement of how to maintain the assets. Otherwise, a risk occurs that the assets will be worn out and the residual value will be low after the leasing period.

Examples of public private partnership with time limited leasing are:

In **Estonia**, the capital Tallinn has the largest Estonian DH utility, where the municipality retains ownership of the DH infrastructure which is incorporated into the municipally owned Tallinna Soojus AS company. The assets and operation of the DH utility were leased in January 2002 for 30 years to a private company Tallinna Küte, 100% owned by Dalkia International from France.

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In **Lithuania**, the Vilnius DH system has been operated since April 2002 by Vilnius Energija, owned by Dalkia International, in a leasing agreement during 15 years. The agreement includes extensive investments in the network and an initial reduction of the heat tariff for households by 5%. As from 2004, the heating price depends upon gas and electricity prices as well as average earnings and inflation rate.

5.3 Concession²

A concession agreement normally starts with an exploitation of a new system, where a private investor is the owner of DH company. The municipality gives the concession for a certain period and an annual fee for the concession can be a condition of the agreement. The difference to the leasing alternative is that the concessionaire owns the DH assets. Whether the assets will be handed over to the municipality at the end of the concession period is a question to be decided and included in the agreement.

Since the municipality does not have any ownership power, unless it is a co-owner of the DH company, all municipal demands must be included in the concession agreement. A demand can be checked by regular reviews of the operation and management against the specifications in the agreement.

Examples of public private partnership with long term concession are:

In **France**, the Paris DH system is operated by CPCU under a concession, originally obtained in 1927. The current concession period started in 1987 and

will end in 2017. As remuneration for the concession, CPCU pays 1,85% of the annual turnover to the city of Paris. However, the city of Paris also owns one third of CPCU.

5.4 Privatisation of heat generation only

In most cases, the heat generation plants and distribution networks are vertically integrated into one single company. However, in numerous cases the central heat generation plants and the distribution networks are historically operated and owned by separate companies. Central heat generation plants are often CHP plants belonging to a power company.

The historical reasons for the division of DH systems into two separate entities are similar in Western European and CEE countries. In Western European countries, a power company typically took responsibility for heat generation at a CHP plant in a DH joint venture while the local municipality took responsibility for the heat distribution and heat sales to the final customers. In CEE countries, the CHP plant was normally organised under the national ministry for power generation and electricity distribution while heat distribution was the responsibility of the regional or municipal administration. When the power industry was privatised, the CHP plants joined the new private owner. In the privatisation process the CHP plants were more often seen as power stations than as heat generation plants.

In some CEE countries the distribution networks are divided by ownership. The

² The Concession described here should not be confused with licences (also known as concessions) required by law in some countries for DH and network operations.

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primary heat distribution grid (down to central heat exchange stations) is incorporated into the CHP company, while a separate company owns and operates the secondary distribution (from the central heat exchange stations to the final customers) and perhaps small decentralised boilers. In such cases the 'secondary' distribution assets are often in public hands owned by the municipality, or by a company in which the municipality has a majority control. The large heat distribution networks were associated to the CHP plants, which are now more often privately owned. The structure of the ownership depends significantly on the site specific conditions and the former historical organisation of the DH in each specific municipality.

This ownership model often suffers from the cost allocation problem for CHP plants. In a CHP plant owned by a power company, the power company often prefers to allocate the whole benefit from CHP to the electricity side. The heat distribution company then has to pay the alternative cost for generating heat in large boilers. In this situation, DH does not have any competitive advantage compared to small natural gas boilers in the buildings served. It is particularly important to have effective negotiation and good co-operation between the heat producer and heat distributor and if possible become a single production and supply entity. Read more about this problem in the Institutional and Management DHCAN guides.

In addition, this ownership model will lead to a different perspective for choice choosing of cost allocation method

between old and new EU Member States as the type of market will have an impact on the choice of cost allocation methodology used.

In the new EU Member States gas prices are often distorted by cross subsidies with the same price for small and big consumers such as CHP plants. Therefore the key driver for choosing the cost allocation methodology should be the need to ensure the competitiveness of DH in comparison to other heating sources (especially gas-fired).

Examples of public private partnership with privatisation of heat generation only are:

In **Poland**, the capital Warsaw, where Vattenfall from Sweden has bought the CHP generation company in the privatisation process, while the distribution company, SPEC, is owned by the municipality.

In the **Czech Republic**, 85% of shares in Teplárny Brno power and heat plant supplying the TEZA Brno distribution company with heat are owned by MVV Energie and 10% by the Brno municipality. TEZA Brno distribution scheme is 100% municipal. MVV Energie policy was to integrate individual companies that are under their control into one integrated company, MVV Energie. The Brno city council on the other hand wanted to increase their control and to integrate power and heat producing Teplárny Brno and municipal heat distribution company TEZA into a single company in which they hoped to maintain a significant control. The agreement on the integration between privately controlled Teplárny Brno had municipal TEZA Brno had not been reached (at the time of writing).

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In **Latvia**, Rigas Siltums owns and operates the heat distribution networks and the large peak and back-up heat-only-boilers, while Latvenergo, the unprivatised national power company, owns the central CHP plants, which supply 70% of the heat. In local networks, not connected to the CHP plants, Rigas Siltums plans to build smaller CHP plants.

In **Sweden**, in the municipality of Alingsås, Alingsås Energy is responsible for heat distribution, while Sydkraft supply heat from a large biomass boiler.

In **Denmark**, Copenhagen Energy manages heat distribution in the municipality of Copenhagen; the heat distribution to the rest of the Copenhagen area is done by 24 other distribution companies. CTR (owned by the municipality of Copenhagen and 4 other municipalities) and VEKS (owned by 11 municipalities) manage the transmission networks in the central and western parts of Copenhagen. The power company Energy E2 supplies heat to the transmission network from several CHP plants.

In Romania, the large CHP plants are typically owned by the state-owned company Termoelectrica, and the local DH schemes and distribution is under municipal control.

5.5 Selected private minority equity partnership

Offering a private company a minority share of the DH company will bring in specific ownership and management skills, but retains a municipal majority ownership and control.

In this ownership model, the public partner selects the private partner. This is the crucial difference between this ownership model and the next model where private partners select the public partner.

Examples of public private partnership with minority private ownership are:

In the **Czech republic**, Plzenská teplárenská CHP plant and distribution grid is owned (83%) by the city of Plzen, (16%) by E.ON, and has 34% interest in Plzenská distribuce tepla heat distribution company together with another private investor and another municipality.

In **Germany**, the city of Düsseldorf sold shares in their municipal multiutility Stadtwerke Düsseldorf to EnBW – Energie Baden-Württemberg. Bielefeld municipality sold 49.9% of shares to SWB – Stadtwerke Bremen and retains a majority control of 50.1%. The new investors are typically owned by a mix of private and public owners.

In **Austria**, the traditional public multi-utilities also have undergone significant ownership changes. For example EVN AG, originally serving the province of Lower Austria, is owned (51.5%) by the province, with the rest owned by private investors, including 19% free float.

5.6 Minority private equity invited through the stock market

An alternative to actively inviting and selecting a specific investor into the public DH utility is to attract private capital (and partners) by selling shares or creating new shares through the stock market. An Initial Public Offering (IPO)

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might start the privatisation transaction when new shares of the utility are issued and offered on the market to investors, or more typically utilising private equity investment either to existing or new shares. The latter case means that the investor raises company's equity capital and thus increases its market value and allows for easier and less expensive financing of its development and modernisation projects.

An issue to be wary of is the legal and brokerage costs associated with this way of raising capital and level of uncertainty inherent in such a process.

In this ownership model, one or many private partners select the public partner. This is the crucial difference between this ownership model and the preceding model.

Examples of public private partnership with stock market privatisation are:

In **Germany**, MVV Energie AG, was the first municipal distribution utility in Germany to go private. The Mannheim municipality sold 25% of the shares to private investors and was introduced onto the stock market on March 2, 1999, and the formerly 'Stadtwerke' municipal multiutility became active internationally. The city of Mannheim later reduced their ownership share to 72.8%. MVV Energie has bought shares in utilities in other countries as well; for example it is now among the largest district heating utilities in the Czech Republic.

In **Italy**, the multi-utility company ASM Brescia (with one of the largest DH schemes in Italy) is 70% owned by the

municipality of Brescia and 30% of the shares are traded on the stock market.

In **Poland**, the Wroclaw DH system has been partly introduced to the stock market.

In **Bulgaria**, there is intended to be a cap on private ownership: municipalities should keep 50% of the shares.

5.7 Majority private equity ownership

Some municipalities have decided to sell a majority of the shares to a private investor which means they do not have everyday management responsibility, but it also of course means they surrender control. A minority of the shares are usually held by the municipality in order to keep some influence in the company by agreement with the new private majority owner.

Examples of public private partnership with a majority private ownership are:

In the **Czech republic**, the DH utility in the three largest Czech cities – Prague, Brno, Ostrava – has been sold to private investors who control the majority of shares.

The British utility International Power plc owns 99.9% interests in the Eletrárna Opatovice CHP plant, Eletrárna Opatovice in turn owns 49% share in Prazská teplárenská, the district heating utility supplying heat in the capital city Prague.

United Energy owns 70% of shares in Liberec DH utility; the Liberec municipality owns the remaining 30%.

In the **Czech republic**, an interesting example of ownership structure is with

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heat, power and gas utilities in Prague. Originally the City of Prague directly owned shares in all three utilities together with other private shareholders. The ownership structure has been restructured in such a way that Prague created three holding companies as a joint venture partnership with private investors, which have ownership interests in individual utilities. Nowadays, the City of Prague does not own any direct shares in the utilities themselves, but instead in the holding companies that own the individual utilities. This ownership restructuring was done when the state still directly owned shares in these utilities. The holding structure allowed Prague to create a coalition with private investors and to increase their effective control. This is especially the case of Prazská plynárenská (PP) gas utility, where Prague actually controls the utility through the PP Holding, although the private investor has de facto a majority interest – after the state shares in gas utilities have been privatised.

The ownership for the Prague heat distribution utility, Prazská teplotárenská (PT), is effectively controlled by a private investor (International Power Plc), and the city of Prague is a minor stakeholder; however, the stakeholders decided that for key decisions an agreement of a qualified majority, ie. both partners, will be necessary. The picture opposite illustrates the ownership:

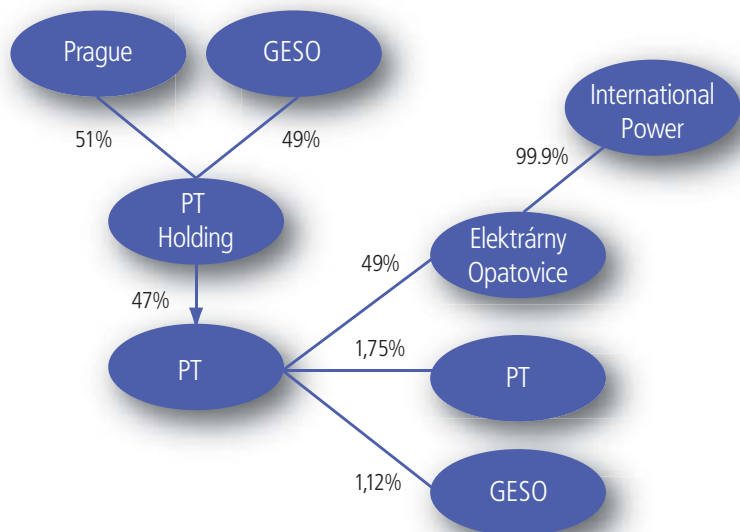
Prague has a majority control in the PT holding and thus it can directly control 47% of interests in the district heating utility Prazská teplotárenská, a.s. (PT), although directly, without the holding

structure it would be able to control only 24% of interests. German company GESO is fully controlled by EnBW – Energie Baden-Württemberg.

This example from the Czech republic shows that it is possible to maintain public control with a majority private equity ownership.

In **Slovakia**, six major so-far state owned DH utilities are scheduled to be privatised in 2004. Private investors will be offered majority interests in the DH schemes and heat and power plants in Bratislava, Trnava, Zvolen, Martin, Zilina, and Kosice.

In **Macedonia**, the DH utility Toplifikacija AD in the capital of Skopje is owned (70%) by the company employees, (20%) by the state and 10% owned by the governmental Privatisation Agency.



PUBLIC PRIVATE PARTNERSHIPS

In **Germany**, Stadtwerke Bremen is controlled by a Dutch public utility Essent, while other shareholders are German energy utilities E.ON and Ruhrgas. The city of Bremen keeps 13.6% interest in the utility.

5.8 Full private ownership with municipal support

Another form of public private partnership is when the DH system is fully privatised, but the local municipality fully supports the company through a separate mutual agreement. This support can be based on a local political intention to introduce and expand a heating option based on local resources with low environmental impact. This support can be essential for

minimizing the financial risk for the private company responsible for the local DH system.

An example with full private ownership with a strong municipal support is:

In the UK, Utilicom owns and operates the Southampton District Energy Scheme under its subsidiary Southampton Geothermal Heating Company. Southampton City Council works closely with Utilicom to actively promote district heating for its environmental benefits and also as an economically viable option. French company IDEX, operating many of the small geothermal district heating systems located in the Paris region, owns Utilicom.

6 CONCLUSIONS

Privatisation of DH systems is currently a growing trend in Western European countries as well as in CEE countries. Municipalities tend to sell or lease their DH assets and/or operation to private investors. Thus privately controlled DH utilities continue to increase their share on the market. However, that is not necessarily the case of each municipality. Some municipalities have decided not to abandon their ownership control in district heating.

Are private controlled DH companies more efficient than public controlled? No general answer appears to this question. There are examples of very well managed and effective DH utilities both in private and public ownership that have competitive prices, energy efficient operation, and provide good quality services. In general, utility performance, quality of services provided and price of heat depend mostly on site-specific conditions, effectiveness of competition on the local heat market (especially availability of natural gas for space heating) and quality of the utility managers, rather than on the ownership structure itself. No single recommendation can then be presented on what ownership structure and organisational arrangement is the best.

When a privatisation or a public private partnership is put forward, no single standard solution is available. The examples from Central, Eastern and Western Europe countries show a variety of different ownership and organisational models. The privatisation process must include several key aspects for discussion and analysis. Some of the key issues to consider are presented here in this concluding part of the guide. However, Europe has no long-term (20-30 years) experience of

privatisation of DH systems to compare with the traditional public ownership model.

As a key benchmark, any new corporate entity should provide the scope to take a commensurate share in the risks and benefits. As a local entity it is important that it is local consumers that create the wealth for the utility and the municipality that provides the new entity with access to a capital revenue stream.

6.1 Key aspects of public vs. private ownership

The following overview summarises key aspects of public versus private ownership in DH schemes. The individual factors can either be positive or negative, depending on the case-specific situation.

Public ownership:

- potentially easier access to some grant funding (domestic and international, including EU structural funds)
- possibility that business decisions will be politically driven; this might make the performance of DH less effective, but it also helps the implementation of a rational public policy more easily (e.g. utilisation of renewable energy)
- key business decisions require activity and time-consuming decision processes within the city council
- in general there is less pressure (and knowledge) to generate profit and dividends, reduce costs, staff, etc.
- less interest in integrating with utilities in other municipalities in order to obtain better economies of scale
- lower quality of some services, especially interruption of heat supply during the night and service breaks during summer period, is still more common with publicly-owned

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utilities in CEE countries.

- local population more likely to have a voice and derive benefits
- stronger focus on local conditions

Private ownership:

- in general higher pressure on return on investment, and on effectiveness and competitiveness of DH
- easier to raise capital, for example via bank loans (although municipalities can raise capital at a lower rate)
- better at managing risk
- more flexible decision-making process and more independent from direct policy influences
- better able to take advantage of economies of scale when integrating DH utilities in several municipalities, or integrating with other service providers/utilities
- more acquainted with sector issues at national and international levels.

These key aspects form the foundation for the assessment of various options for ownership models.

6.2 Assessment of district heating ownership schemes

In the CEE countries, there are common examples where the privatised DH utility is well managed and provides better service quality for a competitive price than the original publicly owned utility. There have also been some cases where the private investor had only short term interests and the quality of service and utility performance was lower than in other publicly-owned utilities.

The quality and the persistence of the investor, the managerial experience, degree

of financial strength, and overall credibility as well as the terms of privatisation, and/or contracting arrangements play a critical role for the potential success when privatising a DH system.

Several vital questions can and should be put forward when both public and private ownerships are assessed. Some of these questions are considered below:

The decision process

Is the decision process in the DH utility focused on the business? In cases when municipalities own interests in DH utilities, they should be aware of potential conflict of interest during the policy and business decision making process. The separation of business responsibility related to municipal ownership of DH utilities from responsibility for policy making process at a municipal level helps to avoid conflicts of interests and thus allows for easier policy decision making process. The more the DH market is exposed to effective and strong competition, the more important is the ability to operate the utility in a flexible way, and to adopt quickly business-driven decisions.

The policy aspect

Will the potential environmental benefits be achieved if the networks are fully in the hands of the private sector? The specific industry or even utility interests are not necessarily always in line with general public interests. In case of separation of the public policy responsibility and business responsibility between the municipality and a private investor such potential conflicts of interest are more transparent.

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The time focus

Is the private company only focused on short-term issues or will they look to the long-term perspective? DH always has a long-term perspective with the large amounts of capital employed. Very large companies can also change focus quickly due to new strategies from the top management. Sydkraft in the EON group has acquired shares in six Polish DH systems during the last few years. In January 2004, they announced a sell-out of these companies when they adopted a narrower geographical focus for the future. However, the same can happen in municipality councils after elections when a new political majority has completely different opinions.

The local focus

What will be the local focus when a private investor enters the local DH utility? Normally, a private company can operate on a national or an international level, as with electricity and gas markets. The foreign investor is not necessarily well acquainted with local issues, but may bring in superior management skills. The municipal concern and interest to control DH frequently prevails due to the fact that the DH is a local infrastructure serving a local heat market.

The credibility aspect

Has the private partner financial and technical credibility? Is he familiar with DH and is he operating systems in other cities and other countries? Is a pronounced exit strategy necessary?

The framework perspective

Is the national institutional framework appropriate for DH? More important than a specific ownership scheme, and

especially in countries with economies in transition, are well-established framework conditions for effective DH, such as pricing, effective competition between different energy suppliers, and quality of heat regulation if implemented. If there is effective competition between different energy suppliers, especially between heat and gas utilities, and the consumers have a real and effective choice of supply, regulation and price control becomes less important.

The decision whether DH should remain in public hands or be privatised is always politically driven and depends heavily on political preferences of the respective decision makers and policy representatives, but it is heavily influenced by developments on the energy markets as well. On one hand, some municipal representatives prefer to keep control over the DH utilities. On the other hand, other municipal representatives prefer the municipality to step back from doing business, especially in a competitive environment, and to allow private investors to enter the market.

Public ownership can be very effective if the business decision process is delegated to the DH utility, the local focus is developed, and customer demands are the basis for the business.

Private ownership can be very effective if the private owner has a long term perspective, a specific DH knowledge, and a customer oriented management.

Public private partnerships, involving the municipality and a chosen private partner, can be very effective if

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conditions regarding guaranteed level of service provision to consumers, sharing benefits with the community and investment in the system are written into a common agreement. In this case the concrete terms of the contract are of key importance, including the conditions for an exit strategy from the contract.

This guide was written by Jiri Zeman, SEVEN and Sven Werner, FVB, with review carried out by the DHCAN project team (see page 2).

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