

## Support Measures for DHC

Country

**Lithuania**

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
1.	Hat supply plans for cities (Law On Heat Sector, Article 7)	Heat law	Municipal authorities	Existing

### Quotations from the measure

#### Article 7 Special Plans of the Municipal Heat Sector

1. Municipalities shall manage the heat sector according to the special plans of the municipal heat sector approved by municipal Councils.
2. Special plans of the heat sector shall be drawn up according to the rules of drawing up of the heat sector special plans approved by the Law on Territorial Planning, this Law and by the Ministers of Environment and of Energy.
3. The special heat plans shall be drawn up in compliance with the provisions on air pollution of the Law on the Protection of the Ambient Air, the Law on the Assessment of Impact of Projected Economic Activity on the Environment and the criteria of urban planning (building density, compactness of the building area, the number of storeys, the specifics of the development), as well as other criteria which do not endanger the principle of technological neutrality. The existing and planned new territories of heat consumers shall identify the important technical solutions on the use of alternative energy or fuel prescribed for this particular territory in order to meet the needs of heat of the consumers of this particular territory.
4. The special plan of the municipal heat sector shall be drawn up with the participation of heat, electricity and gas supply undertakings located in the municipality territory and other entities related to the heat sector as well as the organisations protecting the rights of heat consumers. Electric, geothermal and other organic heat sources may be throughout the territory of the municipality.
5. Special plans of the heat sector shall be adjusted at least every 5 years having regard to the technological development of heat production and transmission, competitive environment, heat production price movements, changes in the environmental contamination and other factors of relevance for territorial planning.
6. Preparing and approving special plans of the heat sector, the consumer may not be unduly precluded to choose the desired alternative energy or fuel

### The Purpose of the measure

The main objective of the heat sector special plan shall be to meet the consumer needs at the lowest cost and not exceeding the permitted limit of the negative impact on the environment.

### Eligibility Criteria

Not applicable

## Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive	+	+	+		+
Negative					

The planning of heat supply and setting preferential DH supply territories allows both -planning of networks and also is useful for potential customers because of municipal energy policy transparency.

## Effectiveness of the measure

All municipalities from introduction of the measurer during 2004-2006 have prepared their heat supply plans. During planning process some very ineffective parts of networks were closed thus lessening heat losses in networks and increasing effectiveness of the rest part. Planning of investments allowed fuel switch and increasing use of renewable fuels.

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
2.	Description of an order for heat procurement from independent producers into DH systems, adopted at 25 July 2003 by LR Government decree no. 982	Decree of the Government	National Control Commission for Prices and Energy (NCCPE)	Existing

## Quotations from the measure

The order is mandatory for all heat suppliers, regardless ownership, with average sales during last 3 years exceeding 10 GWh. Municipalities have right to decide to apply this order for smaller suppliers.

The heat price is regulated by National Control Commission for Prices and Energy (NCCPE) when independent heat supplier is single or supplies more than 50% heat to one DH system

The intended for sale heat capacity of independent producer should be more than 1 percent of maximal heat load in the DH system but not less than 1 MW. Heat supplier with regard to specific circumstances – location, heat demand and technical possibilities can connect independent heat producers with lower capacity.

In the case of equal suggested heat price and limited heat demand, heat is purchased to DH system according to the following priority:

- 1) From co-generation installations using renewable fuel,
- 2) From renewable fuel and geothermal sources
- 3) Waste heat from industry,
- 4) From efficient cogeneration installations
- 5) From fossil fuel boiler-houses.

Heat supplier is obliged to purchase heat from independent producers sold at lower price compared to heat supplier's heat production costs and satisfying requirements of quality, security and environment protection.

Heat Supplier may refuse to buy heat from independent producer if the total heat supply costs in the DH system will increase because of this purchase. Reduced heat demand of consumers is another reason to refuse heat procurement.

Heat supplier after he received written asking from independent heat supplier intending supply heat to DH system, must inform on heat demand in the system, comparative heat production costs, technical data on DH network an connecting possibilities, permeability of pipelines and parameters (pressure, temperatures, flow rates, etc.)

## The Purpose of the measure

Heat procurement from independent producers into DH systems is based on Law on Heat sector, Energy law and is sound with National Energy Strategy targets in efficient and environment friendly heat supply, rational use of waste heat from industry, promote wider use of indigenous resources opening possibilities for independent producers to sell heat into DH systems and reduce heat supply costs.

## Eligibility Criteria

The obligation to purchase heat from independent heat producers is applied for:

- Heat supply systems with annual heat sales exceeding 10 GWh;
- Independent heat producers with heat sale capacity at least 1 MW;
- Conformity of independent producer installation with technical regulations and environmental requirements;
- Minimum 1 year heat supply obligation (contract).

## Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive		+	+		
Negative	+				+

The measure introduce some uncertainty in planning of heat generation sources, because new independent heat producers can enter the heat market suggesting lower prices and reducing loads for heat suppliers' heat production installations. Nevertheless, presence of competition forces heat producers to minimize heat generation costs. In some cases independent heat producers supply heat in remote parts of network and reduces pumping costs for the heat supplier, however requires more sophisticated dispatch control. Third party access does not affect heat demand and requires more complicated organization.

## Effectiveness of the measure

Since introduction in 2003 the share of heat supplied to DH networks by independent producers increased to 20% (2008). Among 18 independent heat producers are industrial enterprises supplying waste heat, CHP plants, geothermal and renewable heat production sources.

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
3.	VAT exemption for residential heating. Value Added Tax Law adopted March 5, 2002 No IX-751, amended July 23, 2009 No XI-397	VAT law	Ministry of Finance	Existing (temporary)

### Quotations from the measure

Preferential 9% VAT tariff is applied:  
1) Against 31st of August 2010 for heat supplied to residential houses for heating of premises (including heat supplied through hot water system) and for heat used to heat-up cold water for hot water supply.

### The Purpose of the measure

Reduced VAT tariff is applied to reduce payments for heating of residential houses and moderate household expenditures with regard to high energy share in total housekeeping spendings.

### Eligibility Criteria

All heat supplied by DH to residential consumers for space heating and hot water.

### Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive	+			+	
Negative					

### Effectiveness of the measure

It is considered, that the measure diminishes indebtedness of consumers, hence reducing short-term borrowing demand for DH companies and heat supply costs, as a consequence.

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
4.	Social support for low income families	Law on social support	Municipal authorities	Existing

### Quotations from the measure

Low income families have right to compensation of heating and hot water expenditures within limited size of residential area heating and hot water amount consumption per person. The money is paid either directly for service provider or customer.

Most benefit for DH companies is statement that if person receiving compensation does not pay for heating, money is paid directly to service provider. This allows collecting payments from dissocial customers.

### The Purpose of the measure

The purpose of this measure is social support for low-income families and persons helping to keep their housings with acceptable comfort and hygienic level.

### Eligibility Criteria

Persons and families with income level lower than set minimal and having no other potential income sources (land ownership, real estate).

### Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive	+			+	+
Negative					

### Effectiveness of the measure

The measure diminishes indebtedness of insolvent consumers, hence reducing short-term borrowing demand for DH companies and heat supply costs as a consequence.

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
5.	Structural funds for infrastructure development	General programming document	Government, Environment ministry, Energy ministry	Existing/planned
<h3>Quotations from the measure</h3> <p>Support for DH modernization are allocated according the two priorities:</p> <ul style="list-style-type: none"> <li>-3rd priority – environment and sustainable development</li> <li>-4th priority – essential economic infrastructure</li> </ul> <p>Projects for DH modernization are eligible under two activity programs:</p> <ol style="list-style-type: none"> <li>1. Energy supply networks</li> <li>2. Increasing efficiency of energy production and use, expansion of the use of renewable energy sources.</li> </ol> <p>The following measures can be financed by EU structural funds:</p> <ul style="list-style-type: none"> <li>– Modernization and development DH systems and networks</li> <li>– Fossil fuel switching to biomass</li> <li>– Biomass based cogeneration development</li> <li>– Refurbishment of CHP plants and construction of new ones</li> <li>– Modernization of boiler houses</li> <li>– Energy recovery of municipal waste</li> <li>– Renovation of residential and public buildings</li> </ul> <p>For years 2007-2013 investment support from Structural funds of 233 MEur is allocated for DH projects.</p>				
<h3>The Purpose of the measure</h3> <p>Financial support of EU funds generally is targeted to reducing social differences between Member States by investing into essential infrastructure development. In energy sector investments in Lithuania are directed towards goals described in National Energy Strategy - increasing energy production, supply and use efficiency, reducing harm to environment from energy production, sustainable energy development and security of supply. DHC is considered as more reliable supply than individual heating installations using single fuel (for example natural gas). Heat supply via DH networks can use different fuels and are obliged to keep fuel reserves.</p>				
<h3>Eligibility Criteria</h3> <p>Projects eligible for support should meet priorities and actions of the General Planning document. Applicants for subsidy are municipalities and DH companies.</p>				
<h3>Impact of Measure</h3>				

	Planning	Generation	Distribution	Demand	Organization
Positive	+	+	+		+
Negative				-	

Availability of financial support has positive impact to investment planning, modernization of heat generation equipment and installations using renewable resources, mainly biomass and waste. Significant means are directed to refurbishing of worn-out routes, thus increasing supply reliability and lessening heat losses in distribution networks.

Negative impact of the measure is diminishing heat demand in renovated buildings.

### Effectiveness of the measure

Support of investment into energy infrastructure mitigates energy price growth, allow implementation of projects, such as DH networks or public buildings renovation which otherwise are not financially feasible. It is planned renovate 1800 km total length of DH routes, modernize about 100 MW energy generation capacities.

III. SUPPORT MEASURES FOR DHC	
Country	Lithuania

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
	An order for procurement promotion of electricity generated using renewable and waste energy resources, adopted at December 5, 2001 by the Government decree No. 1474, (amended January 13, 2004 by decree No 25)	Government decree	Energy Ministry, National Control Commission for prices and energy, Grid operators	Existing

### Quotations from the measure

The order for procurement promotion of electricity generated using renewable energy sources and waste energy sets general provisions, conditions and requirements on production and procurement promotion. The order is obligatory for persons producing or intending to produce electricity in power plants, using renewable energy resources (producers) and grid operators, connecting generators to grids and purchasing electricity into distribution or transmission grids.

The order covers such generators as hydro power plants, wind mills, biomass and biogas CHP plants with nominal electricity/heat ratio exceeds 0,23, solar and geothermal installations. For autoproducers, biogas installations using more than 30% natural gas from gas grids, also installations with renewable fuel share less than 90% is not a subject of this promotion order. The order is not applicable for big wind farms, exceeding 250 kW and built in other than set wind farms zones.

Power plants with electricity generating capacity less than 6 MW is connected to distribution grids, plants with higher capacity might be connected to transmission or distribution network, satisfying transmission capacity.

Electricity generated using renewable resources is purchased at prices set by National Control Commission for Prices and Energy differentiated by renewable sources and not exceeding set annual amounts. After introducing hourly trade electricity market to year 2020, the purchase price is negotiated and the difference of prices is compensated according to the rules set for public service obligations, adopted by ordinance of Minister of economy of December 18, 2001 No. 380 (Official Gazette, 2001, No. 110-4010). Starting from the year 2021 procurement of renewable electricity shall be stipulated by the scheme of "green certificates".

Annual amounts of electricity purchased from each power plant using renewable sources is set proportionally to its capacity and total yearly amount of electricity purchased from all such generators. Power, supplied to grid above quota is treated as conventional market supply. Promoted expansion of renewable generators capacity is set in the Appendix 2 of this Order.

Generators, using renewable energy sources are connected to the grid applying 40% discount, which is considered as public service obligation and is compensated to grid operator.

## The Purpose of the measure

The order sets general criteria, conditions and requirements for promoting electricity generation from renewable sources, including biomass and making more attractive economic conditions for investments into wider use of renewable energy sources. The measure is in line with EU directive on promotion of renewable electricity in internal market and targets of National Energy Strategy. For DHC sector the measure should encourage penetration of biomass (biogas) CHP technology thus enabling to reach goals for renewable electricity share in total electricity consumption.

## Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive	+	+	+		
Negative					

The measure allows medium term investment planning based on Government obligations on amounts and prices for electricity generated from renewable sources. Distributed electricity generators increase security of power supply, lessens dependence from imported fossil fuels. It also reduces loading of main transmission lines, which means possibility to avoid new investments into grids. However, grid enforcement might be needed for connecting big generators (wind farms located on costal area or sea shore). The measure have no impact on heat and electricity demand. Organizationally distributed generation requires enhanced dispatch management, adequate generating reserves and implementation of “smart grid” concept when the share of distributed generation is large enough.

## Effectiveness of the measure

Largest effect of the measure is expected in development of wind power generation and biomass/biogas CHP plants in DHC sector. However, the result in DHC sector is modest. The reason is that CHP installation requires several times higher investment and electricity purchasing price is not sufficient for quick pay-off of investment. Second reason is that small DH entities running heat only boilers are not ready to start power business. The biggest installation (12 MW<sub>e</sub>) using biomass so far is constructed in Vilnius DH company. Other installations are biogas CHP plants using internal combustion engines, built at waste water treatment plants, using landfill gas, and supplying heat to DH network or used for own needs.

#	Name and reference of measure	Type of measure	Responsible organ	Existing or planned?
	Public service obligations in electricity sector, adopted at December 5, 2001 by Government decree no. 1474	Decree	Government	Existing

### Quotations from the measure

- Public service obligations in energy sector for utilities, independent suppliers, qualified (free) consumers, importing electricity includes:
  - buy up and sell electricity produced from renewable and waste energy sources
  - buy up and sell electricity produced in co - generation power plants, when these plants supplies heat to DHC networks
  - other issues related to reserve capacity, power system safety and security.
- Operators of transmission and distribution grids:
  - ensure connection to the grid of all consumers meeting standard technical requirements and reliable power supply.
  - ensure high quality of power supply and corresponding standards.

### The Purpose of the measure

Legitimizing of Public service obligations was related to first steps in creating legal environment for introduction electricity market in Lithuania. Though real preconditions for such market appeared only after closing of Ignalina NPP, formally some elements were introduced by sectoral Electricity law by reorganization of State power company and separating energy production, transmission and distribution activities.

The purpose of the measure is promotion of energy production from renewable resources. The measure is sound with Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity from renewable energy sources in the internal electricity market.

The measure was indispensable for CHP plants supplying heat to towns' DH systems, because using oil or natural gas they were not able to compete in price with power produced in nuclear power plant.

### Impact of Measure

	Planning	Generation	Distribution	Demand	Organization
Positive	+	+			+
Negative					

## Effectiveness of the measure

Having surplus power generating capacity and abundant relatively cheap electricity production in nuclear power plant, Lithuania have no real need in expansion of cogeneration plants neither for economic nor environment reasons. The measure helped maintain existing cogeneration plants and increase income for DH companies having CHP installations. Nevertheless, because of above reasons, and limited financial possibilities of the Government, CHP plants during recent years produced much less electricity, than allowed generation capacities and heat demand in DH networks.