

# Milevsko – CZ



→ Good practice example

## Pilot action community: Milevsko – Southern region – Czech Republic

### Type of energy consumption:

heat energy  hot domestic water  electricity  water

### Use of renewable energy resources (potential or actual):

biomass  wind energy  geothermal energy  solar energy  hydroelectric power station

### Rational use of energy:

sustainable building systems, low energy housing  building thermal modernisation  modernisation and upgrading of the heating systems  modernisation of lighting  balanced/sustainable transport

Main priority in the field of energy consumption is keeping and gradual expanding of the district heating system. In localities, where the connection to district heating system is not reasonable, it is necessary gradual replacement of coal with less polluting fuels.

## → Community

### Short description containing:

<b>Geographical position</b>	Southern part of Czech Republic
<b>Main profile of activity in the region</b>	Agriculture
<b>Number of inhabitants</b>	9 500
<b>Important institutions</b>	ZVVZ a.s. Milevsko – ecology appliances, Jan Polata, Milevsko – electric separators, breechings, steel constructions, etc., Gama a.s. České Budějovice, Milevsko – plastic pressing, Swiss – Metal a.s. Milevsko – machining and metalmachinig machines, Arrbo s.r.o. – carpenter´s producing and wood processing, ZD Milevsko – crop production and animal husbandry

### Energy data:

<b>Energy supply (number of households)</b>	3594
<b>Energy consumption [GJ]</b>	580 000 (total)
<b>Type of fuel (for heat energy)</b>	57% is gained from coal, 21% from natural gas, 20% from DHS, 2% biomass

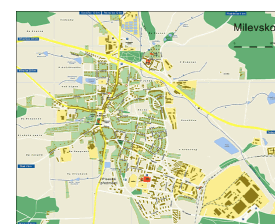
### Climatic data: (selected data important for the described case)

<b>Hours of sunshine per year</b>	1349,6
<b>Average yearly temperature</b>	7,6°C
<b>Average of heating days per year</b>	250

## → Context

DHS heat source is lignite steam boiler – house ZVVZ a.s. Milevsko. DHS caters 1 789 dwelling units and civil facilities. Step by step happens to reconstruction of distribution system which emergency condition. Initiator of reconstruction and modernization of heating system is municipality Milevsko.

The project first step was energy audit of municipality Milevsko with following suggestion for energy savings – modernisation of DHS which contains three variation of resulting solutions. Pilot measures relate to exterior distribution system modifications, gas boiler constructions, biomass boiler constructions, individual solutions for special cases (electricity and heat supply for selected buildings solutions) etc.



## → Experience of the city

### Partnership process

Electricity supplier for DHS in Milevsko is distribution network E.ON Energetika a.s. České Budejovice. Heat is supplied by ZVVZ a.s. Milevsko. Gas consumption covers company JČP a.s. (with pressure  $\leq 300\text{kPa}$ ).

### Technical data

Suggested measures sets are arranged into three variations: V1 – heat supply from ZVVZ Milevsko, V2 – compound source – gas and biomass boiler, which will be situated 120m from gas boiler (gas boiler 2 x 3MW, biomass boiler 5MW), V3 – construction of 2 hot-water gas boilers (2 x 5MW, 2 x 0,8MW and 2 x 0,6 MW in condensation heat exchanger).

## → Cost and benefits

### Economical

Following table of evaluative characteristic is based on adjusted input prices of fuels, which are substantial parameter for evaluation of individual variations:

	Costs [thous. CZK]	Annual savings [thous. CZK]	Energy savings [GJ]
Var. 1	24 890	-3 009	8 887
Var. 2	66 380	-1 141	12 818
Var. 3	33 945	-9 073	12 719



### Environmental

Respecting energy management of municipality Milevsko, the energy saving potential is lignite and in parallel comes into energy balance renewable energy source – biomass.

The following table shows survey of DHS produced emissions and in cases of three suggested variations in Milevsko:

	Solids [t]	SO <sub>2</sub> [t]	NO <sub>x</sub> [t]	CO [t]	C <sub>x</sub> H <sub>y</sub> [t]	CO <sub>2</sub> [thous. t]
Current situation	15,38	194,76	30,91	10,71	5,23	32,02
Var. 1	14,01	177,49	28,19	9,81	4,77	29,19
Var. 2	1,35	13,48	28,11	9,13	8,95	23,88
Var. 3	0,08	0,26	5,31	1,04	0,42	6,06

## → Evaluation and Outlook

Long range goal in the field of energy consumption is modernisation and gradual expanding of the district heating system.

The city approved procedure of the energy policy at the municipal authorities. The city has identified energy policy priorities and specific needs, which would lead to finishing of the City Energy Plan conclusions.

## Further information

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