

Residential Heat Metering

(from an interview with the director of the company DJV-COM)

"Arguments and Facts - Canada number 41, 2008, p.19

Nearing the beginning of the next heating season. As they say, Prepare your questions ... Problem heating remained unresolved. This high tariffs, and complaints from tenants in the cold battery, and compensation for the heat from the municipal authorities. What can you say about this?

Let's start with the most important - the high cost of payment of heat. If we could reduce it twice, it would solve the problem?

If not completely, then removed to the acuteness of the problem.

And if you reduce to 4 times? ..

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Let's look at the facts, mentioned in a conversation with the director of economic Termocom Vitali Morii article "From the boiling point to the dew point" ("Arguments and Facts - Canada number 41, 2008, p.19):" ... on the heating 1 m³ of housing per year Canada spends an average of 101kW, France, 15-20 kW, Belgium - 27 kW. As seen from these figures, the difference is 4-5 times!

To reduce heat consumption in half is easy, just warmed my apartment and entrance. A good effect is produced by foam insulation exterior walls, replacement of window frames on the windows, etc. In addition to maintain the required temperature in the room with the help of mechanical or automatic controls installed on the radiators, but not to remove too much heat through the doors and windows.

Thus, it is not only to the fees and there is a simple solution. Why did not he solved?

Let's calculate. For example, you live in a 100-apartment building. You have decided to save money and reduce the heat consumption. For example, you could not consume it at all during the month. Question: How much will decrease by the heat? Correct - it will decrease by 1%. Generally it worth while to save and freeze?

A vicious circle: you have to spend rationally heat, and spend it rationally makes no sense. When will the need for a rational expenditure of heat? In the case where the consumer will actually pay for their consumption of heat.

You happen to notice some of the paradox - if we take account of the apartments with central heating, they are distributed like this - heating, electricity, hot water, gas, cold water. So what's the paradox? And the fact that electricity, hot water, gas, cold water are accounting devices, while the most expensive energy remained without meters. In fact, metering devices for heat should be installed in the first place.

Unlike other types of services - electricity, gas, hot and cold water - taking into account the heat at the present time there are certain problems associated with the value of the market units of heat metering, as well as vertical distributing heating systems in old housing stock, for which the units for the calculation is not intended.

What do you suggest?

We are equipped to handle heat metering in multi-storey residential apartment buildings. The consumer has the right to pay for actual heat consumption as well as for other types of resources - electricity, water and gas, accounting for which there are devices.

As this issue is resolved in other states?

In many countries homes designed with the horizontal wiring, which allows us to solve several problems: the installation of heat meters for each apartment to the possibility of accidental floor heating system for the apartment without turning off the house or the risers from the heat supply system. We have all new projects and done - done the horizontal wiring, and the project on a flat heat meter is installed.

And what about the old housing stock?

With this somewhat more complicated. The price of heat meter is high enough, and install it on every battery is not economically justified. Several companies offer equipment for heat metering in homes with vertical distributing based on the "split"-decisions when the set flow and temperature sensors, and the result is calculated on the server accounting system. Such systems have not yet found a mass application for two main reasons: the high cost of equipment and the need to transfer data from sensors on the wire, which complicates the installation of the system. We are in the design of equipment originally set limits on its value - the payback period of the equipment should not

exceed 3 years, and the transfer of data we have made over the radio that simplifies the installation of the system

Why do you think that the payment for heat, according to footage from the apartment is incorrect?

Payment for heat, according to footage from the apartment, is incorrect for many reasons:

- It does not match the actual heat consumption: someone insulated apartment, and someone lets the heat in the wind;
- Payment of footage at the consumer does not make sense to save the consumption of heat, as well as to pay less, he will not. That's why we consume heat (or rather not eat, but just pererashoduem) is 4-5 times more than necessary;
- Tenants are different heaters: someone three-section battery, who as 20-cell battery. In addition, sometimes heats not only flat, but an extension, and balconies;
- In connection with numerous repairs of the heating pipes in diameters of risers may differ materially from the riser to the standpipe, respectively, the selection of heat on different risers different. The volume of fluid that passes through the various posts, which is different. It is related to the riser pipe section, which will eventually change it, or it may simply be crowded, and with the possibility of regulating the flow through valves, to submit to a riser more heat, and the other less.
- If the apartment is closed and there is no one living, there is no possibility to reduce the consumption of heat and, hence, pay for it - a violation of consumer rights.
- Using other sources of heat - electric heater, heated floor (the consumption of heat from the heating system is less)
- account for the heat is not reduced.

How to install the accounting system lets you adjust the temperature in the apartments?

Based on available data system for the consumption of heat and temperature profile on the risers, you can:

- Identify scored risers, which will renovate the corresponding section of the riser;
- Adjust the optimal flow of heat in each of the risers, respectively, the appointment and squaring heated area;
- Identify areas of high heat consumption and make recommendations to reduce the heat consumption, or, if the heat allows the resource home, increase the coolant flow such risers;
- Adjust the flow of coolant to the posts, which passing through the angular apartments, to achieve the same temperature as in apartments inside the house;
- For apartments koteltsovyh lower floors and upper floors of houses prefabricated houses to give recommendations on the necessary space heaters.

What is the method of calculation for heat in the installed system?

Since the sum of the testimony of heat-spreader is 10-20% less than that of obschedomovogo counter, the difference is distributed in proportion to the square of apartments. The difference appears due to the fact that the heat exchanger does not have 100% efficiency, plus the loss of heat on the pipes for delivery to the appropriate riser (flat) + heating common areas: entrances, rooms housing office (CAV).

How can regulate the consumption of heat?

It uses mechanical or automatic controllers mounted heaters. The same effect can be achieved by closing heaters dense tissue

Can I install the accounting system is not the whole house, but only to individual residents?

No, we install the system only for the whole house - otherwise sharply increases the cost of the required equipment.

In addition, due to lack of data will not be able to adjust the distribution of heat on the risers and corner apartments.

We work with associations, the housing cooperative and construction companies.

What is the accuracy of the accounting system and what do you give a guarantee?

The accuracy of the accounting system meets the accuracy of recording the heat of the heat, we give a guarantee of 2 years on equipment and provide system maintenance as warranty and after sales.

If you break, short circuit or damage the sensor readings will be less?

The system has built-in self-test - Control of the precipice, circuit, control of the measurement range and flow. Flow and thermal sensors sealed. In case of malfunction signal is transmitted accident.

What is the cost of installation of heat metering?

For buildings with a horizontal distributing about 1600 lei for an apartment for buildings with vertical distributing heating about 680 lei for the heating device.

Patient question - will the warmer, because the house will be fed the same heat?

Definitely yes, with a substantial decrease in pay for heat. Efficient spending of heat input and the optimal redeployment will significantly raise the temperature in living quarters.

What will the municipalities from the introduction of heat metering?

Save up to 30% of payments as compensation for the heat and a substantial reduction in the number of consumer complaints for the supply of heat.

And what will Termocom?

Monitoring the quality of services to residents, reduce consumer complaints for the supply of heat; additional consumers who wish to connect to a central heating system by improving the quality of services, reducing the outflow of customers, establishing autonomous heating.

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