

# How My Family Used To Keep Warm

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The “heating season” is nearing. When will it start in some places is determined by the proprietors, in some places by household members, in some places by executive boards and directors, and in some places by an algorithm. In my home it is quite simple – the heating is turned on the first day my mother in law visits after the summer school break.

Upon my birth I arrived in one of the older city blocks of New Belgrade. Our building was connected to one the first pipelines of district heating systems in Belgrade. Until my third grade, I used to be heated remotely.

In some distant boiler, fuel, which arrived from an even far more distant place, is being burnt in order to heat the water. Electric pumps then pump the warm water into the pipes and through to the place where the water is delivered to the buyers. There is 1289 km of pipelines in total<sup>1</sup>. What differentiates district heating systems in Serbia (according to official statistics<sup>2</sup>, in 2013, 21,2 percent of households was heated in this way) from modern district heating systems is that they produce the heat, fossil fuels are burnt, and then the heat is sent to the consumer, in a manner described. It is very difficult to produce heat energy in such way, and make it competitive to other types of energy.

Probably for this reason, people in the European Union do not do it. In district heating systems in EU, only 15 percent of heat energy is produced in such way. The rest of the heat enters the system from other sources, for example - as a by-product of electricity production or an industrial process. Heat generation makes sense when a locally available renewable sources used. Did someone mention biomass? Heat pumps which use heat from the soil, water or air, with a smaller amount of energy spent to run the compressors, are applied in district heating systems more and more. For one unit of energy paid (electricity, gas) one can take up to six units “for free”. The main challenge in district heating systems is to find heat cheap enough, cheaper than all other sources of heat, otherwise, it is impossible to economically justify the existence of a vast infrastructure for delivering heat. When one fails in doing so, problems arise which cannot be solved neither by measuring nor regulating. Generally speaking, they cannot be solved at all. Persistence is not of great help.

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<sup>1</sup> Original title in Serbian: Program za ostvarivanje strategije energetike Republike Srbije do 2015. godine za period od 2007. do 2012. godine.

<sup>2</sup> Ser. Republički zavod za statistiku.

At some point, we moved out of our flat and into our own house in the suburbs. Central heating. Using coal. Wonderful! Except when you have to unload it; and when you burn it; and when you remove the ash; and when you breathe; and when your neighbours breathe.

## WOOD-BURNING STOVES AND DIESEL BUSES

Winter 1983/84, Winter Olympics in Sarajevo. Before the Games, gas was introduced to Sarajevo to enable foreign athletes to survive breathing in the city. We did not live in Sarajevo. To this day I haven't found out was it the new car we bought (yellow "Fića"<sup>3</sup>, license plate number 533929), or was it the fear, or was my father's company in crisis, but we spent that winter in a way very well known to many people living in Serbia today: one and a half room, four of us and a stove. (In Serbia in 2013, 56,1 percent of households used solid fuels for heating, almost 90 percent of the poorest households is heated this way.) Winter bliss! And the winter was blissful as well, there was so much snow that one day public transport to our neighbourhood was interrupted.

It seems that this kind of heating is perfectly alright. Damn Internet, however, spoils the picture. Citizens of Serbia are using heating devices with low efficiency (and most of them in Serbia are), heating smaller surfaces with higher financial cost and health risks, arising from both the smaller surface occupied and the pollution, indoors and outdoors. United States Environmental Protection Agency in its brochures compares the emissions of suspended particles (those you do not actually wish to breathe in) from one inefficient wood burning stove to emissions of five old diesel buses. Five. Old. Diesel buses. Agencies all around the world are of the similar opinion. In Australia the issue was even discussed by Parliament.

They have all decided the same: all citizens have the right to push a button and heat themselves, not having to pay for it! No, they did not. Maybe such thought has occurred to them, but it was not however made into government policy. The matter usually came down to stricter standards for furnaces and wood-burning stoves and different initiatives of individuals and institutions which take care of the environment, poverty, and energy efficiency, joint by with producers of devices, chimney sweepers, installers, and others. The stricter standards always implied a ban on distributing the most inefficient stoves. In the United States for example, such programme known as Burn Wise has been ongoing for years.

In most of these countries the matter was considered primarily as an issue of public health and the environment. In Serbia and other countries of the region, this is a macroeconomic issue as well. Improving energy efficiency of wood burning stoves could not only significantly contribute to improving comfort and health but also to significant savings which could cumulatively exceed one hundred million Euros annually. This money could be spent on something else, thus creating much needed demand for goods and services which is the only way to sustainably increase employment. In addition, this could significantly ease the pressure on forests, so that wood is used for other purposes, or save the forests for other wonderful uses: producing oxygen, carbon sink, preventing

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<sup>3</sup> Version of the Fiat 600, produced by Zastava (Kragujevac, Serbia).

land degradation, and helping flood prevention, and many others, of which you will read on the pages of Vreme.

## STATE TO COME TO AID

In Serbia, there many producers of these devices, which could also produce devices of far better quality. Future policy or higher standards will not be possible unless citizens are helped to buy these improved devices. Social benefits of this kind of upgrade are significant enough to justify the investment in achieving it. However, there are alternatives. In Serbia, the issue of increasing efficiency often comes down to the issue of wood moisture content. We simply adore magical fixes! This, by all means, important activity, could be made into key policy measure and voila! Whoever sees the Internet cable, may as well plug it out, to prevent any further noise.

After this blissful unity in one room, and in line with better performances of my dad's company, and this irreparable tendency to breathe, and scarce alternatives, we acquired a burner and started burning oil fuel. Not for long. I was enlisted in the army of one country, came back to a different one and encountered the above mentioned wood. I was burning wood for a long time, and until you don't do it for yourself, it does not look too bad at all. I grew up, got married and had kids. I learned how to read a map, use a calculator (Excel as well!) and this wretched Internet as well, so I can now monitor the price fluctuations of various fuels (market prices, which is different from when you are forbidden to cover your costs, or you are given money to be able to compare prices to other alternatives), so I've resisted the next transition which was offered. I was keeping warm by burning wood until we moved house again. Freedom to choose my heating was one of the decisive criteria for choosing an apartment.

How to choose a heating system for your apartment? Far too many people in Serbia do not consider these kinds of questions. They believe they have no choice. In a survey conducted by GIZ<sup>4</sup>, 56 percent of the respondents said that they use their current device because they cannot afford a new one, and 44 percent said they would have immediately changed their device, if the state decided to help. Many families in Serbia have experiences similar to mine. Those families fortunate enough to have a choice.

It is hard to predict fluctuations in global markets. It is easier if the fluctuations do not directly concern you (it's not quite simple, fuel prices influence each other) and if you focus on locally available alternatives. Plug in the Internet cable as well, and when the noise has ceased, google it a bit. You should place a bet on technologies of higher efficiency. No one can vouch you security, prices are influenced by many factors. State can also surprise you and change the board while you are not looking , moving some prices up and some down. It can also have a predictable energy policy and do the same thing as you: plug in the cable, wait for the noise to stop, and place a bet the same way as you: high efficiency and local availability. And then, it could also help if the threshold is too high, and you cannot get the device pass the doorstep of your home by yourself. A device that will help you heat the house (according to official statistics 15,2 percent of citizens claim that they

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<sup>4</sup> [http://www.bioenergy-serbia.rs/images/documents/studies/DKTI\\_E4tech\\_Osnovna\\_studija\\_2014.pdf](http://www.bioenergy-serbia.rs/images/documents/studies/DKTI_E4tech_Osnovna_studija_2014.pdf)

cannot) while not spending all your money doing so (according to official statistics, 15,7 percent of available funds is spent on utilities, water, and energy).

Winter is coming. I wish you all a warm and healthy home.