

# LIFE CYCLE THINKING, UNDERSTANDING THE WHOLE SYSTEM AND BUSINESS INCENTIVES CRUCIAL FOR DISTRICT HEATING



## ► By Maxim Vlasov

Russia, MA studies in Management, focusing on energy efficiency, life-cycle assessment, and sustainable development. Currently at the Swedish University of Agricultural Sciences.

District heating is a complex system where each and every actor plays a crucial role on the way towards increased efficiency of the industry. It is not a surprise that the never aging “Think global – act local” principle has found its way into the search for efficiency of heating solutions. The idea of international cooperation and learning from best practices is in the core of InnoHeat project, which gathers partners from the South Baltic Sea area for sketching the future of energy systems in the region. The recent meeting of its partners emphasizes the crucial importance of life cycle thinking and understanding the whole system – from heat production to its end use, as well as business incentives for improving the entire process.

### Shift of focus

Undoubtedly, a right way to increased energy efficiency is instalment of advanced technology. Improved boilers, heat exchangers and substations will help to optimize heat production, reduce losses and get a better control over the process. Even further, application of smart grids can boost cogeneration practices, improve integration of various energy sources and lead to a more optimal balance between supply and demand, which in turn supports better interaction with customers.

Indeed, it is such interaction that is becoming vital for a meaningful change in the industry. Sustainable heat entrepreneurship is not just about improving the technology and patching the leaks, it is about realising that one of

the key elements of improved efficiency is total reduction of heat use. This is where the human factor should not be underestimated – it is maintenance personnel and tenants who affect this the most, and comprehensive training of them is needed.

### Overlooked benefits

Consequently, an obvious question comes into mind – Why should companies train people to use less energy? Business incentives behind such an action may seem somewhat controversial, especially in some cases when companies give their choice to opportunistic behaviour. However, long run profitability of the integrated actions towards energy efficiency is increasingly recognized. Not only can proactive utility companies become environmental stewards and reduce regulatory risks, but also gain numerous economic benefits.

For example, case studies inside the InnoHeat project indicate that conscious energy demand can relax pressure on production during peak periods, such as cold winter months. This eliminates the need for backup boilers and extra operational hours, thus providing a vital solution to one of the most costly problems in district heating. Similarly, a decreasing energy consumption trend may fit perfectly into strategic growth plans. Stanislaw Karnowski, financial consultant of MEC Kolobrzeg, believes that given the predicted city expansion, more efficient systems bring opportunities for accommodating the needs of emerging customers without

installing new production capacity.

### Future competitiveness

Looking farther into the future, one can see the rise of green communities and even cities with decentralized energy solutions and highly efficient buildings. This ideal scenario of sustainable development may be perceived by heating entrepreneurs as a looming threat to their businesses. Some research, however, shows that low capital costs and high degree of trust in the system may guard the future competitiveness of district heating in high density areas, provided that greater attention is paid today to energy sources and technology choices. Some radical changes may take place, such as perhaps shifting from primary production of heat to just recovering it from industries. There is a call for novel business models that can incorporate extreme energy efficiency with economic sustainability.

*Maxim Vlasov has recently started a blog where he tries to write about sustainable urban development with the knowledge he has. Vlasov is mostly reviewing news that he finds.*

<http://buildingsustainability.wordpress.com>