

PROGNOSIS OF THE CONSUMPTION OF NATURAL GAS

I. Laube

*Riga Technical University
P.O.Box 526, LV-1010 Riga – Latvia*

ABSTRACT

From the year 2005 to 2030, global consumption of energy is hoped to increase up to 55%. Very large portion of the world's energy is consumed by heating, air conditioning and refrigeration. Such fossil fuel as natural gas is becoming a shortfall – nevertheless, CO₂ emissions overall are planned to cut by 70%. Similar developments could look to alternative energy sources such as wind or biomass to supply the non-solar fraction, and these would be truly zero carbon communities. How much solar or wind power is available at any given moment is completely unpredictable. Storing surplus electrical energy from wind turbines or solar photovoltaics (PVs) is more problematic than storing heat.

Volume of natural gas consumption has increased during the last years in Latvia. Major part of gas in Latvia is consumed for heat production, as well as it is consumed on every day basis in manufacturing and households. It is important to forecast the volume of gas consumption for the next years at the company which provide natural gas to consumers, in order to make timely changes in supply volumes. Thereby satisfying the consumers and efficiently utilizing own resources.

There are various potential routes to zero carbon housing, but one of the more practical is communal microgeneration. Microgeneration produces heat and even electricity from domestic households. Domestic microgeneration gives the same comfort as a gas boiler, but with lower energy payment and smaller CO₂ emission.

The gas microgeneration is being produced in the Netherlands. Technical parameters: electrical power – 1 kW, heating power 16 – 35 kW, efficiency 106 %.

It has been calculated that 13.5 million households in European Union are suitable for this microgeneration installation. The best microgeneration option for a project may be a combination of two or more separate yet compatible technologies.