



## A pastry shop owner takes the energy transition into his own hands

Thanks to a small wind turbine on its gable wall, Hamburg-based Caféhaus Langes got one step closer to its goal of becoming energy independent. The Caféhouse started operating the wind turbine at the end of November 2012. It was expected to generate around 2,000 kWh every year. After the first three weeks of operation, Klaus Lange – the Caféhouse owner – noticed that the yield was even higher than expected. The turbine produces energy starting at a wind force of 2. At the same time, the noise level (35dB) is extremely low for a wind turbine and it is therefore well suited for businesses in residential areas. The blades are anodized in black and the turbine is installed below ridge height, making negative effects such as shadow casting very unlikely. The turbine is 9 meters tall (including the tower) and has a rotor diameter of 2.70 meters.

This investment is not only environmentally-friendly, but also created economic benefits for the business owner. Mr. Lange calculated that he is saving 600 Euros in energy costs every year. In addition, there are also some tax benefits such as the possibility of writing off the technical equipment, which leads to a payback period of ten years. Another decisive factor for installing the turbine was that the development and production of such wind turbines takes place in Germany. Reactions from the public, clients and neighbors have been consistently positive and Mr. Lange receives enquiries on a daily basis, even from the metropolitan area.

For years, Klaus Lange has been working to energetically optimize his business and to become independent from energy providers on the medium term. The most recent project on his agenda is the acquisition of a Block Refrigeration System (“Blockkälteanlage” in German), which will replace seven smaller refrigerating machines and can be controlled to be adapted to current needs. This system will reduce electricity use from 9KW to 5KW, a 45% decrease. The Block Refrigeration System will save the business 17,000 kWh of electricity a year. The waste heat from the Block Refrigeration System will be used: approximately 43,000 kWh of thermal energy will be fed into the heating system, which is a combined heat and power plant with a buffer tank.

With his latest projects, Mr. Lange’s goal of an energy-independent pastry shop is close to being reached.

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