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# Small steps

Saving energy is a hot topic today. Since the U.N. scared everybody with their climate reports, there is not a human being who doesn't comprehend the relationship between energy consumption and climate changes.

Naturally, the question comes up on how this topic is handled in the baking industry. Baking is a high energy consuming process with an advanced production organization that separates production and the supply of fresh warm baked goods by refrigeration technology which almost doubles the consumption.

In practice, the baking industry is not angelic. In most bakeries the waste of energy is a theoretical subject which is sometimes addressed by the financial manager, but there is still no realistic control point. The reason for this is, amongst others due to the fact that in the past energy made up only a small amount of the total production costs and therefore nobody considered it necessary to deal with the matter. This is changing now, because increasingly the absolute limit is being reached.

Another reason is the lack of knowledge amongst the employees who will apply too much steam according to the motto: more is better. Nobody informs them about the optimum steam quantity because nobody in the company is trying to find the optimum setting by tests and trials. Last but not least, the oven manufacturers also fail to provide detailed information. Regarding the discussion on energy management – you will find part two in this issue – it states that every car buyer wants to be informed about the fuel consumption of his car, but nobody asks the oven suppliers about the energy efficiency of their ovens or how much will escape through the chimney so that this can be considered in purchasing decisions.

Another exciting topic in the future will be whether and to what extent freezing technology will be applied to supply sales outlets regarding the required daily amount of dough pieces, par-baked, if at all possible. Here technological developments are necessary. Corresponding approaches have been made and are still being made using the technology of long floor times which is currently moving again as the focus of several machine suppliers. If the producers of enzymes and baking agents also pick up on this topic, then very quickly feasible solutions will be available for those companies having to deal with less qualified personnel.

Surely, the qualification of the personnel is also a way to save energy. If it is not necessary to use fool-proof methods and technology but to rely on qualification, then the required fine tuning can be more individual and related to the respective situation.

Qualification has to do with knowledge and the latter one is not necessarily perfect. It is still not possible to explain comprehensively what really happens on a sub-molecular level in the dough during the various processing steps and what reactions are influenced by what parameters. We have several thousands of years of baking tradition but still no comprehensive and fundamental knowledge. This is a curiosity! But one that can be solved and maybe lead to new processes, which in turn might help to save energy and have a beneficial effect on the climate. It seems that somehow everything is connected with each other.

Sincerely yours,



**++ Hildegard Keil, editor-in-chief**  
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