

# Application example: Anomaly warning messages ensure operation

After a power failure occurred overnight in a bakery and the produced food had to be disposed of due the cooling interruption, the bakery owners decided to install an energy management system that monitors the consumption in the business. With this system, they wanted to prevent a renewed unnoticed occurrence of a power failure. They decided to install a CLEMAP Energy Monitor (energy meter) and have since been using the CLEMAP Cloud as a monitoring platform for their business's energy consumption..

## Quick identification of the cause of power failures

The bakery relies on the uninterrupted refrigeration of food to be able to offer the customers the desired products early in the morning. The large refrigerators therefore play a critical role in daily operations. In addition to these appliances, there are also various ovens and a large ventilation system, which drive up the bakery's energy costs. For the bakery owners, it is essential to be informed immediately in the event of a power failure or other operational malfunctions to react as quickly as possible and maintain operations outside opening hours.



To ensure that the owners are informed about the status of their facilities even when they are not present, a CLEMAP Energy Monitor was installed, which measures currents of up to 400 amperes. To complement this, the CLEMAP Cloud visualises the measured energy data. This fully automates both monitoring and analysis. In addition, the business gains valuable insights into its energy consumption via the platform. The bakery is now not only informed about consumption, but is also able to identify the cause of the power outages due to the transparency created by the platform. Too many non-critical devices were unnecessarily on the grid at the same time on a specific phase overnight. With this

## About CLEMAP

An important district heating system of a large Swiss energy supplier is fed by two powerful heat pumps of 1MW each. Their operational reliability is of utmost relevance in order to supply the supply area with heating and cooling. Two CLEMAP grids were installed to monitor the electrical system:

- Data collection using own energy meters
- Automated data processing and intermediate storage on web servers
- Visualisation and control via user-friendly energy portals

CLEMAP supports you with clever energy solutions on your way to optimising consumption by controlling devices, identifying unused savings potential and avoiding idles.

## About the project

In the example, the master baker wants to know in advance when the system is in a critical state and to know the cause in case of a failure. CLEMAP Analytics evaluated data and quickly identified the problem.

### Overview:

- Energy data analysis
- Automatic information, warnings and alarms for bakery owners via SMS

### Why CLEMAP:

- Knowledge of advanced real-time energy analysis via cloud platform
- Flexibility in communication protocols and adaptation to technical requirements
- Customer focus through dedicated energy platforms

knowledge, the owners switched off the equipment that was not needed overnight and ensured that everything was ready when the morning's work started.

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## Automatic alert system is implemented in the event of operational failures

Since the commissioning of the CLEMAP energy solution, the head bakers have benefited from the transparency of their consumption. After transferring the data from the energy meter to the cloud, the CLEMAP Analytics modules begin their real-time evaluation immediately. If the algorithms detect an anomaly in the power profiles or an outage, they automatically generate alerts that are sent to the operator via SMS. Via the CLEMAP Cloud portal, the bakery can also see at any time how its facilities are operating and whether power consumption is too high. If power consumption is at risk of rising into the critical range, they can now observe this at a glance, thanks to the breakdown by equipment category that can show, for example, that the ventilation system is not completely switched off, but is instead running in stand-by mode (cf. red circle in figure below at 12:00).

It can be determined that the stand-by consumption can be attributed to the ventilation system since this system is the only one that is not in operation at lunchtime and that stand-by consumption occurs at the same time. This ventilation system is then disconnected from the mains so that the other devices can function.

The transparency achieved brings decisive advantages for the bakery. As a preventive measure, it can now be ensured that all the equipment will work smoothly overnight, which means that the bakery will no longer be in for a nasty surprise the following morning. Should there be a power failure, the owners are informed immediately by means of an automatically triggered warning message thanks to the CLEMAP system. They can now concentrate fully on the production of delicious baked goods without having to deal with power profiles and consumption curves.



For more information on our smart energy meters and intuitive energy portals, visit our product portfolio at:

[www.clemap.ch/en/solutions/product-portfolio](http://www.clemap.ch/en/solutions/product-portfolio)



With the developed innovative products and the technologies, CLEMAP offers its customers real added value in the form of energy data analytics and is thus actively committed to protecting the environment. This contribution to climate protection has been recognised by the Swiss Climate Foundation, which is why CLEMAP has been included in its funding programme for Swiss innovation projects in 2019.



At CLEMAP, in-depth know-how of the development of innovative technologies meets many years of experience in the energy sector. This is why CLEMAP is part of the technical committee of the Smartgridready association for the interface between energy supply companies and building control systems and actively promotes the change towards environmentally friendly energy supply.