

Realised project indoor lighting: Fischer Brot, Upper Austria

Project background and objectives

The family-owned company Fischer Brot was founded in 1958. It now has 4 locations in Upper Austria and Vienna and more than 400 employees. Fischer Brot produces baked goods, mainly bread, on an industrial scale. The renovation of the indoor lighting system was carried out at the site in Pichling near Linz. 130 employees work at this 9,000 m² production plant.

An energy consultant analysed the entire building. The refurbishment of the lighting system and the optimisation of the heating system were shown to hold significant energy efficiency potentials. As the company had already noticed a reduction of luminous power of the HQL lamps, the decision was taken to renovate the indoor lighting system.

Project description

The refurbishment of the 15 year old lighting system was combined with an optimisation of the heating system.

Several special requirements for the lighting system had to be taken into account: being a bakery, the constant presence of flour dust means luminaires have to be resistant to dust accumulation. The company wanted a solution that offered better illumination than before and an appropriate light colour (a white that is not too warm and not too cold). An additional challenge for the project was that the implementation had to be carried out during operation hours, since the company could not permit itself to interrupt production. Furthermore, strict hygiene regulations had to be followed.



Facts

- **Company name:** Fischer Brot
- **Type of lighting:** indoor lighting in a hall where bread is baked on an industrial scale
- **ESCO:** Linz AG in collaboration with Siemens

- **Electricity cost savings:** 42,200 €/year (for lighting)
- **Maintenance cost savings:** 6,800 €/year (for lighting)
- **Reduction electricity consumption:** 291,600 kWh/year (for lighting)
- **CO₂ reduction:** 12.6 tons/year (for lighting)

- **Investment costs:**
 - 385,000 € (total project investment)
 - 245,700 € (for the lighting system, entirely financed by the EPC project)
- **Subsidies:**
 - 27,300 € (regional contracting programme, attributed for costs of the lighting system)
 - Costs of the heating system were also subsidised
- **EPC contract duration:** 5.8 years (overall project)

Further information:

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| Streetlight data of the project | Before renovation | After renovation |
|--|-------------------|----------------------|
| Total installed electric capacity | 99 kW | 43 kW |
| Number of lighting points (luminaires) | 370 | 340 |
| Main lamp type | Fluorescent + HQL | LED Tube + LED lamps |
| Annual electricity consumption | 514,000 kWh | 222,400 kWh |
| Annual electricity costs | 74,500 Euro | 32,300 Euro |

Results

This project combined the refurbishment of the lighting system with the optimisation of the heating system. The long operational time of the lighting system (5,000 hours/year) contributed positively to the economic feasibility of the lighting refurbishment project. In addition, with the previous lighting system, the lights were often left on 24 hours per day even if they were not needed. With the new LED lighting, the control system enables the lights to be turned on and off as needed – thus increasing overall energy savings.

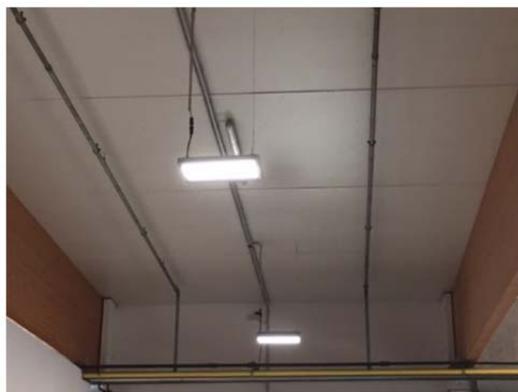
Since the project comprised work on both the lighting and heating system, the project was conducted in collaboration with 2 ESCOs. The Linz AG is acting as main ESCO. The technical work (design, installation, maintenance) was subcontracted to the company Siemens.

Support by the facilitation service

The company manager stated that without the option of using EPC, the project would not have been carried out (quote: "we are bakers, not energy experts"). The energy analysis of the entire building at the beginning of the project was very helpful to detect energy efficiency potentials. The facilitation service arranged the energy advice session for the company and informed them about the EPC model. Additionally, the facilitation service provided assistance in the application for financial support.



before renovation



after renovation

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Fotos: Fischer Brot, Siemens