

Elobau Factory 2

Leutkirch (D)

Building Details

| CONTACTS | Name | Website (or e-mail) |
|------------------------------------|---|--|
| Owner | elobau GmbH & Co KG | www.elobau.com |
| Architect | HHS Hegger, Hegger, Schleiff Planer + Architekten AG | www.hhs.ag |
| Energy Consultant | EGS-plan International GmbH | www.stz-egs.de |
| PV Installer | - | - |
| BUILDING | | |
| Completion year | Building | 2010-2012 Plant |
| Category | New Renovation | Enlargement Other |
| Typology | Residential Administration | Industrial Sport |
| | Agricultural Urban | Historical Other |
| Building Energy Performance | kWh/m²y | - |

Description

This project regards the expansion of the existing plant n°2 of sensor manufacturer Elobau in the Allgäu region, Germany. The building's architecture evolves the design principles of the existing building changing the quality requirements and embracing the "elobau green idea" of net positive energy building. The additional space of 3,300 m² is powered by a sophisticated combination of photovoltaics, heat recovery, and micro gas turbines. In one year, the building should generate an energy surplus to feed it into the public network as electricity. The large solar generator, with a capacity of approx. 230 KWp, covers nearly the entire production complex and the office building structure situated above it. The PV panels are installed on an independent steel structure that characterized the intervention as a solar shading system. Most of PV panels are opaque. Some panels, positioned in correspondence of openings, have a transparence of about 50% permitting sunlight passage.

Acknowledgments PROM of the year 2013, RWE

BiPV Details

LOCATION OF PLANT

| | | | | |
|--------------------|------------------------------|---------|---------------|--------|
| Roof | Flat roof | Sloped | Curved | |
| Façade | Cladding | Balcony | Greenhouse | Curved |
| Glass | Façade | Roof | Solar shading | Canopy |
| Orientation | South | West | East | North |
| BiPV System | Other architectural elements | | | |

ARCHITECTURAL EVALUATION

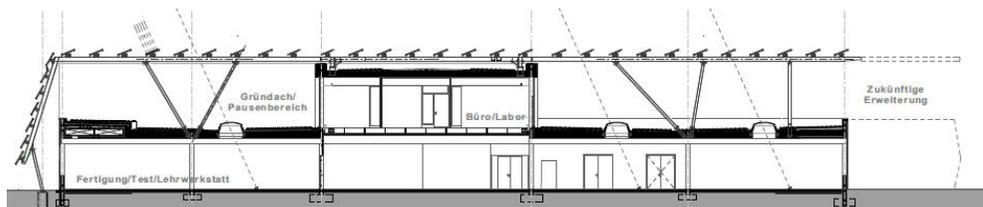
| | |
|---------------------|---|
| Color | Black |
| Transparency | Opaque (Majority PV panels); ~45% (PV panels in correspondence of windows) |
| Frame | Aluminium frame; Framless (transparent PV panels); |

COSTUMIZATION LANGUAGE AT COMPONENT SCALE

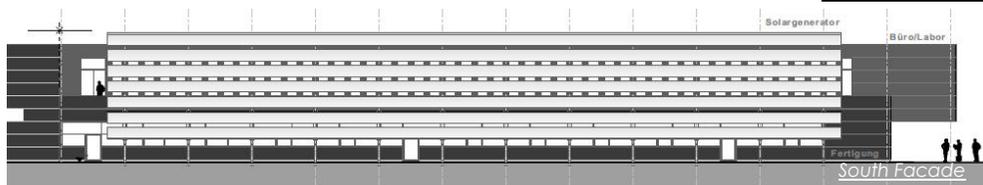
| PV CELL | MODULE LAYERING | MODULE FEATURES | DUMMIES |
|-------------|-----------------|-----------------|---------|
| DESCRIPTION | | | |

SPECIFICATION

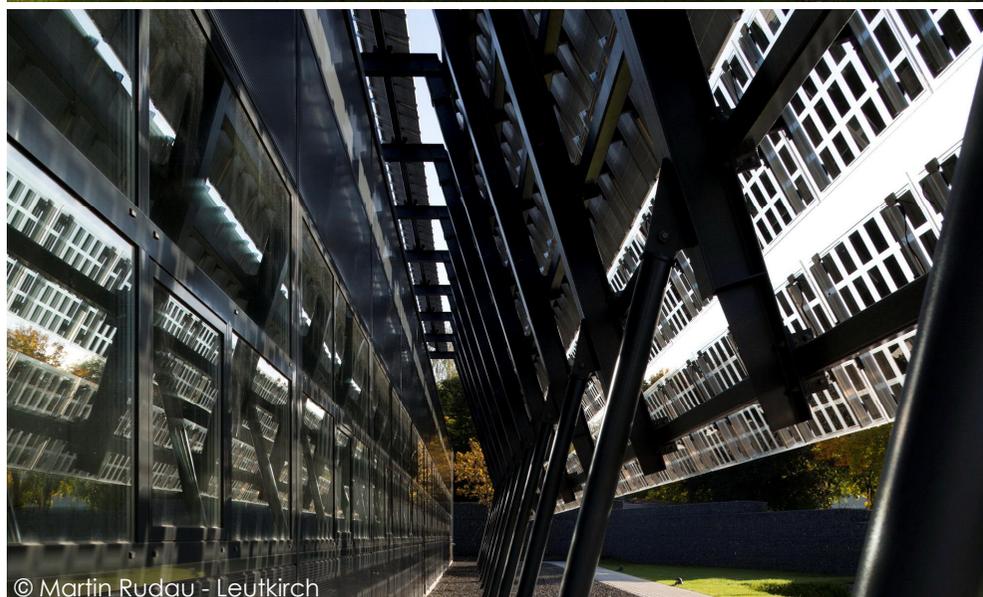
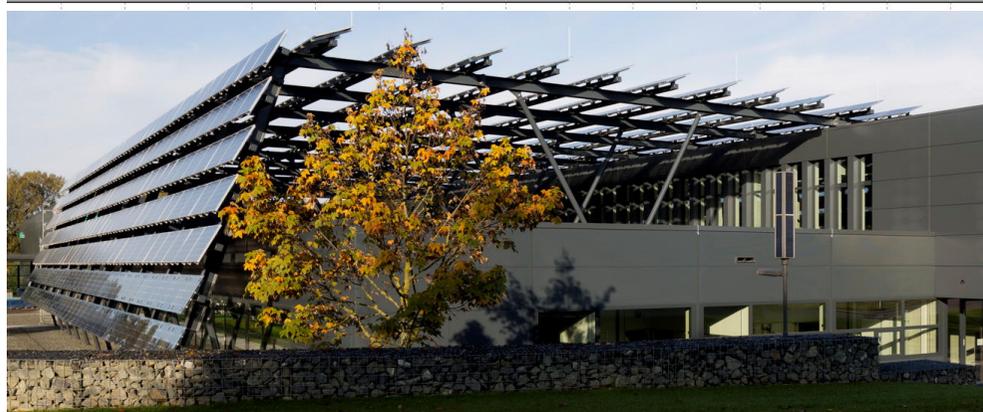
| Photovoltaic | Monocrystalline | Multicrystalline | Thin Film |
|--------------------------|------------------------|-------------------------------|-----------|
| PV Module | Cells | - | |
| | Module | - | |
| Power | kWp | 190 (Roof); 52 (South façade) | |
| Size | m² | - | |
| Energy production | kWh/year | - | |
| Cost | €/m² | - | |



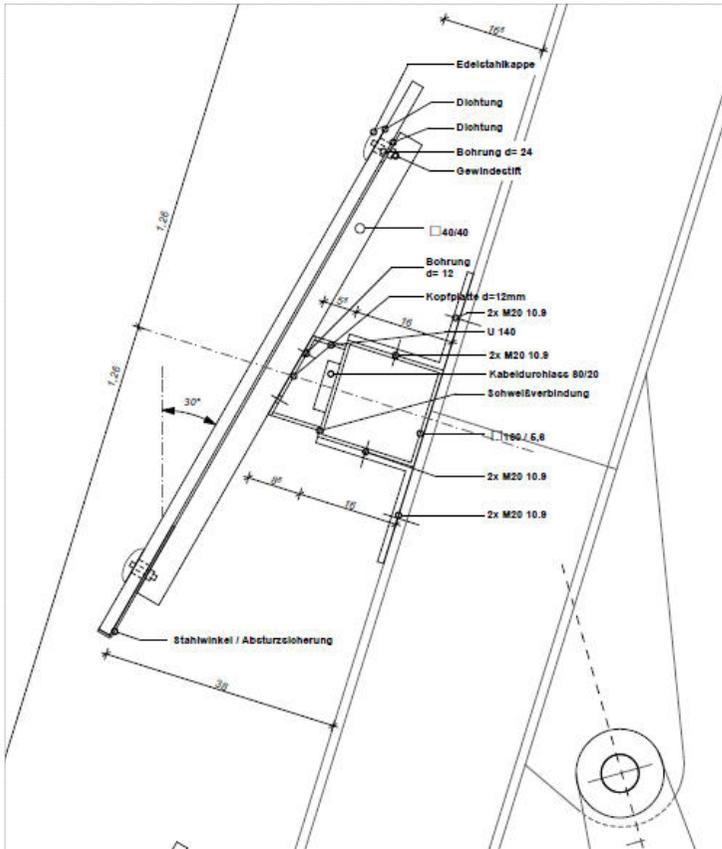
Transverse Section



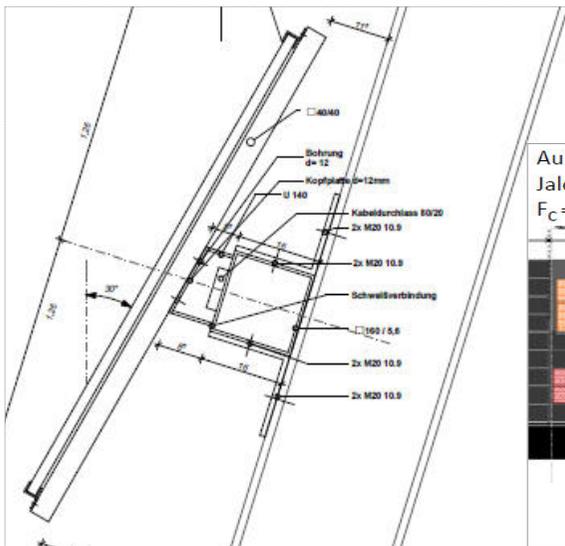
South Façade



© Martin Rudau - Leutkirch



DETAIL:
Glass-glass Module
Facade

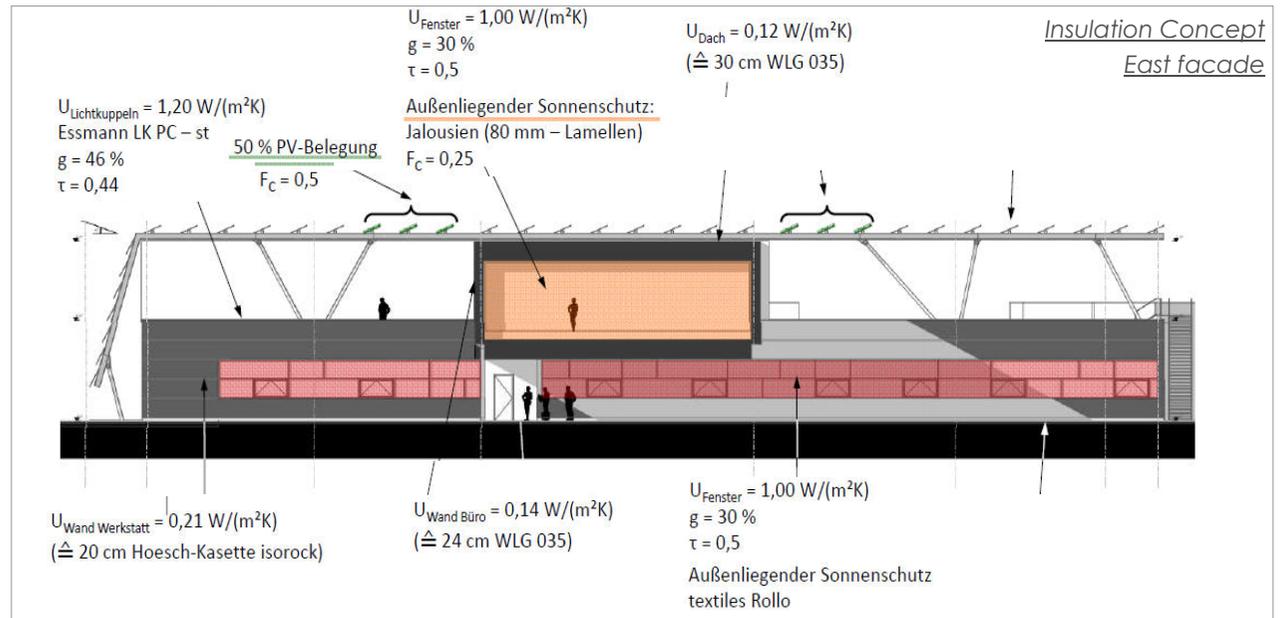


DETAIL:
PV Module
Facade

BiPV Details

BUILDING SYSTEM INFORMATION

| | | | |
|------------------------------|------------------|-----------------|--------------------|
| Transparency | OPAQUE | TRASPARENT | G Value |
| Constructive system | MASSIVE BUILDING | | LIGHTWEIGHT |
| Ventilation system | NOT VENTILATED | MICROVENTILATED | NATURAL VENTILATED |
| U value (W/m ² K) | Various | | |



Insulation Concept - South facade

