

# Photovoltaic systems

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Consulting, planning, expert opinions  
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### 1 Roof integrated PV systems (CH)

Planning and construction supervision of numerous roof integrated PV systems in the range of 20 kWp to 300 kWp, time span 1991 – 2009.

### 2 1.6 MWp PV system Cuenca (ES)

Tauber Solar GmbH

Construction management and quality assurance of a 1.6 MWp PV system (ground-mounted) in Spain. Quality assurance of two proximate PV systems.

### 3 280 kWp PV system (CH)

Edisun Power AG

Planning and construction management of a 280 kWp PV system on a hangar roof at Geneva International Airport. Study concerning the effect of glare from PV modules on pilots and air traffic control.

### 4 Integrated 30 kWp PV system (CH)

Rehalp-Verwaltungs AG

Consulting, planning and construction supervision for a combined 30 kWp PV system and 95 m<sup>2</sup> solar thermal system on the Minergie-P-Eco premises of Rehalp-Verwaltungs AG.

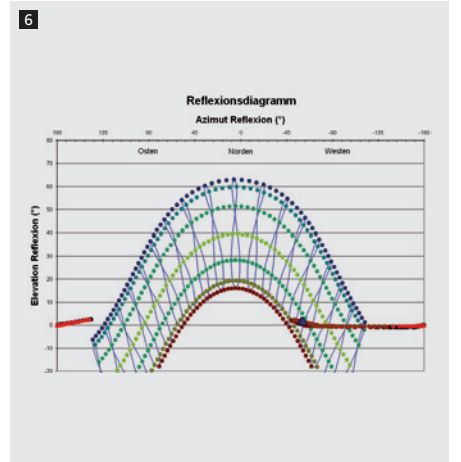
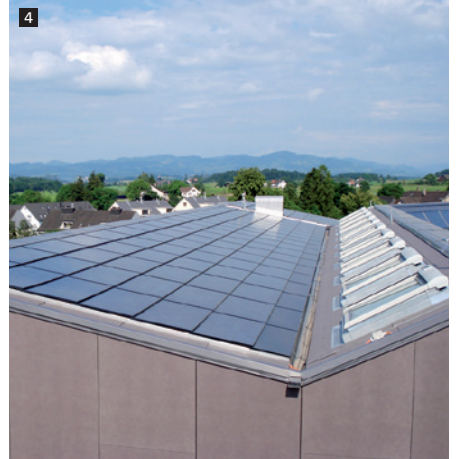
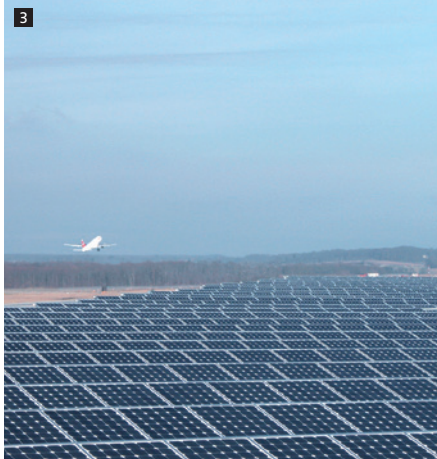
### 5 Potential for PV installations (CH)

Flughafen Zürich AG

Photovoltaic suitability assessment of around 200 buildings at Zurich Airport. Basis for further decisions concerning utilisation and modernisation of the airport's buildings.

### 6 Glare studies at airports

Detailed analysis of the expected glare from planned PV systems and the potential impact on pilots and air traffic control at four airports in Switzerland and abroad. The study took into account the geometry of solar altitude and module orientation, as well as the shading effect of buildings near the installation. Realisation 2009 – 2010.



# Independent expertise – wide-ranging experience

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The sun provides us with immense amounts of energy every day, everywhere. Photovoltaic systems convert sunlight into usable electricity. One of their big advantages is that they can be integrated into practically any building. Our team of specialists has been conceiving, planning and operating photovoltaic systems for more than 25 years.

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## Energy for the future

Renewable energy sources are playing an increasingly important role in energy supply – and this is particularly true of solar energy. Its potential exceeds the world's energy requirements many times over. Photovoltaics (PV) gives us an efficient technology for converting solar energy into electrical energy.

## An experienced partner

The team at Basler & Hofmann has conceived, planned and managed numerous PV systems over the past 25 years – from large PV power stations to sophisticated, building-integrated systems.

## Independent advice

We are not connected to any particular manufacturer, so we are free to choose a solution with the best price/performance for the requirements at hand. In doing so, we continually keep our finger on the pulse of a fast-developing market.

## Comprehensive expertise

Are you unsure whether a PV system is worth your while? Our site and feasibility studies will give you insight. Are you looking for an experienced planning team? With us, you will receive a full range of services from a single source: from project planning to operational concept.

- **Project planning:** Planning and general management for systems of all types, from building-integrated to large ground-mounted.
- **Consulting:** Concepts for sophisticated and complex PV systems, consulting energy suppliers on integrating PV systems into the electricity grid.
- **Expertises:** Feasibility and profitability studies, expert opinions, pilot projects.
- **Site studies:** Site evaluations, evaluation of ecological and economic benefits, feasibility studies for buildings, campuses and local communities.
- **Specialities:** Many years of experience in the PV market, interdisciplinary engineering services and overall solutions, national and international research projects, maintenance and operating concepts for large-scale systems.



# Inter-connected solutions

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Photovoltaics competence at Basler & Hofmann is embedded in a network of allied disciplines. Building engineers, electrical planners, and specialists in energy efficiency, façade planning and building physics work closely together. Our clients benefit from the advantages of a broad-based engineering, planning and consulting firm with high quality and environmental standards.

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## **Diversified competencies**

Basler & Hofmann is an independent engineering, planning and consulting firm, active in the fields of buildings, infrastructure and the environment. We employ people from more than 30 disciplines. Our experience has shown that it often takes more than one specialist to come up with sustainable solutions. This applies to photovoltaics, too. Our solar electricity experts work together in teams with façade, building services, structural analysis and energy specialists.

## **A dependable partner**

Basler & Hofmann has continually grown since the firm was founded in 1963, meanwhile preserving its independence as a family business. More than 500 people currently work for the Group, which has offices in Switzerland, Germany, Slovakia, Singapore and India.

## **Pioneers in quality and environmental management**

In 1994, we were the first engineering firm in Switzerland to be granted ISO 9001 quality certification. We were also among the pioneers when it came to introducing an ISO 14001 environmental management system.

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## **Good connections in the industry**

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We are a member of SIA, usic, Swissolar, Electrosuisse and Europengineers.

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## Structural engineering

- \_ Structural design
- \_ Façade engineering
- \_ Glass structures
- \_ Structural dynamics

## Civil engineering

- \_ Ground engineering and geotechnics
- \_ Site infrastructure
- \_ Utilities provision
- \_ Special foundation engineering
- \_ Landfill engineering

## Tunnelling

- \_ Underground engineering
- \_ Cut-and-cover tunnels
- \_ Rail tunnels
- \_ Road tunnels

## Transportation engineering

- \_ Alignment
- \_ Roads and highways
- \_ Rail and light rail
- \_ Bridges
- \_ Track design and railway technology

## Energy

- \_ Energy efficiency
- \_ Sustainable buildings
- \_ Building physics
- \_ Renewable energy
- \_ Photovoltaic

## Urban transportation

- \_ Planning and urban design
- \_ Masterplanning
- \_ Traffic
- \_ Airports
- \_ Interchange design
- \_ Sustainable transport

## Water

- \_ Public health engineering
- \_ Water pollution control
- \_ Hydraulic engineering
- \_ Flood protection
- \_ Hydropower

## Environmental engineering

- \_ Environmental management
- \_ Vibration and noise protection
- \_ Environmental remediation
- \_ Asbestos and building contaminants
- \_ Environmental chemistry
- \_ Environmental technology

## Safety and security

- \_ Biosafety
- \_ Risk analysis and safety management
- \_ Prevention of major chemical accidents
- \_ Occupational health and safety
- \_ Seismic design
- \_ Protective asset design

## Building services

- \_ Mechanical, electrical and plumbing engineering
- \_ Building integration and controls
- \_ Operational enhancements

## Development and management

- \_ Property management
- \_ Facility Management
- \_ Site development
- \_ Educational buildings design
- \_ Business process engineering

## Operation and maintenance

- \_ Asset management
- \_ Land surveying
- \_ Structural monitoring
- \_ Geographical information systems
- \_ Geodata management
- \_ Technical and environmental due diligence

## Consulting

- \_ Project management
- \_ Expert witness
- \_ Legal services
- \_ Communications consultancy

## Project team

Basler & Hofmann provides a bespoke technical team for each project. This team consists of people with the complete range of expertise and skills required to provide the best possible service.





## Our photovoltaics expertise at a glance

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### Our services

- Consulting
- Studies and surveys
- Development, project planning and operation of solar power plants

### Our strengths

- Producer-independent solutions
- From building-integrated to large ground-mounted systems
- More than 25 years of experience
- A full range of services from a single source
- Involved in national and international research projects