
We offer Building Integrated Photovoltaic consultancy for outstanding projects and unique requirements worldwide
sbpsonne

Company Profile

sbp sonne is a schlaich bergermann partner company.

Since the founding of our office in 1980 by Jörg Schlaich and Rudolf Bergermann, our aim has been to design and develop innovative structures and systems. Our projects range from long-span, lightweight roofs, multifaceted bridges, slender towers and innovative buildings, to pioneering solar power plants.

For more than three decades, schlaich bergermann partner has been consulting and developing technologies in the renewable energy sector. In 2009, this focus finally resulted in an independent company – sbp sonne.

Today, sbp sonne is arguably one of the most experienced solar engineering offices globally, leading specialized and cutting-edge technology development projects in six continents.

Alf Oschatz
Managing Director

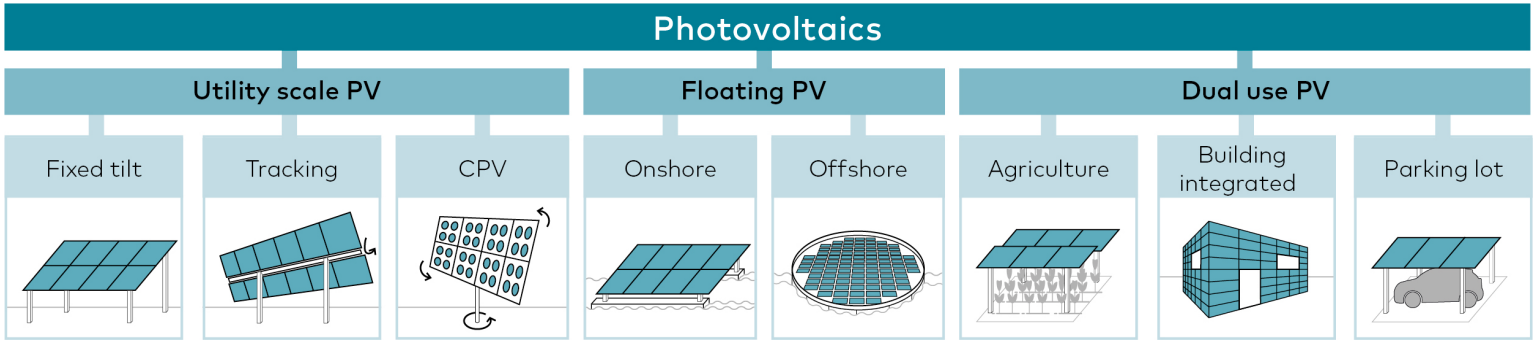
Daniel Nieffer
BIPV Specialist

Scope of Work of sbp sonne gmbh

Solar power plays an immensely important role in the future energy supply. For this reason, sbp sonne is dedicated to developing new technologies for the use of solar radiation – ranging from large utility scale power plants to decentralized power production.

Our key technologies include:

- Single axis photovoltaic trackers
- Fixed-tilt photovoltaic structures
- Floating photovoltaic systems (FPV)
- Agricultural photovoltaic systems (APV)
- Parking lot photovoltaic systems (PPV)
- Building integrated photovoltaic systems (BIPV)
- Concentrating photovoltaic systems (CPV)
- Parabolic trough collectors
- Heliostats and technologies related to solar power towers
- Climate covers
- Dish Stirling systems
- Solar updraft towers



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Building Integrated Photovoltaics

What are the ecological & economic benefits of sbp sonne‘s BIPV solution?

Ecology is a must.

- Significant reduction of your carbon footprint
- Large independence from external energy supplies
- Climate-neutral operation of your company
- Significant contribution to resource conservation and CO_2 savings
- Future-proof energy concept for buildings
- Comply with existing and future legislation concerning greenhouse gas emissions

We reduce your utility bill and get you set up!

- Replacing common laminated safety glass with BIPV glass with few extra costs
- Incoming sunlight gets converted to electricity instead of heating up the building
- A/C costs drop
- External power demand and costs reduced through internal PV production and consumption
- Futuristic looks for progressive companies
- Network of component suppliers ensuring that BIPV modules suit your aesthetic idea and functional needs

State of the art: Roof Installations


- PV mostly not integrated into building envelope
- Additional support structures for PV moduls on (opaque) roof required
- Increase of roof area load through necessary ballast to withstand wind load
- Facades not used for power generation
- Additional lightning protection can become a major cost driver
- Higher maintenance costs due to weather exposed wiring and support structures

Building Integrated PV


- Almost unlimited variations for color, cell layout and functionality available to blend into architectural designs
- Any facade or roof with laminated glass can be equipped with BIPV
- Overhead glazing with pleasant light and shade possible (e.g., for cafeteria or courtyards)

Example:
Academy Mont-Cenis - Herne, Germany
(‘96 - ‘00)

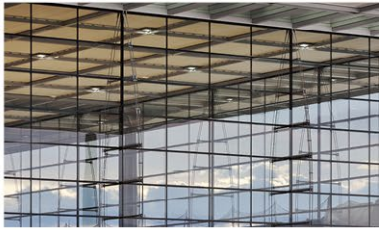
- 20’000 m² glass envelope with timber support structure
- Building Integrated PV as early as 1999











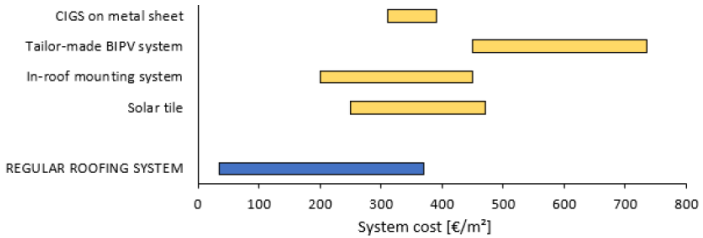


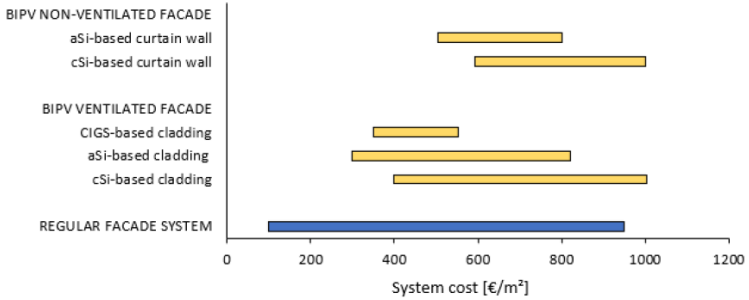
We cover all engineering aspects:

- Wind loads
- Vibration and damping
- Durability and lifetime
- Code-compliant design
- Cabling
- Selection and positioning of inverters
- Installation
- Operation & Maintenance

BIPV costs vs. conventional facade materials

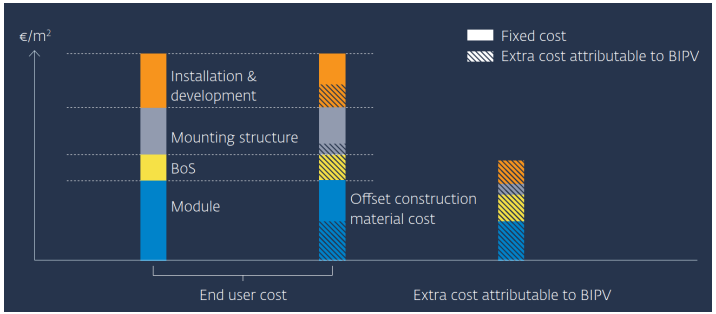
- BIPV system costs are within the range of conventional facade systems





Source: BIPV boost White Paper Competitiveness Status & Roadmap Towards 2030

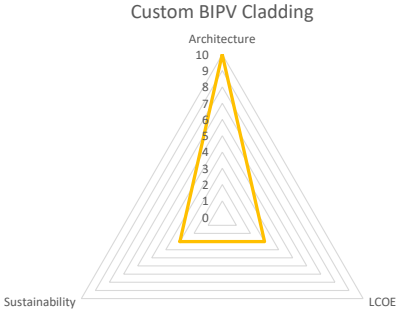
- Due to the double functionality of a BIPV system, only extra costs should be considered regarding the electricity production (and LCOE)

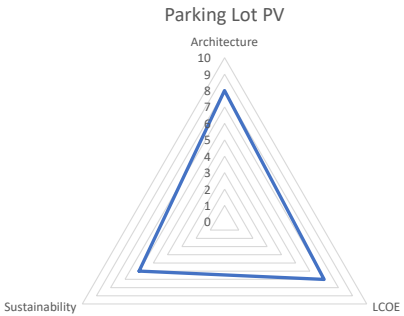


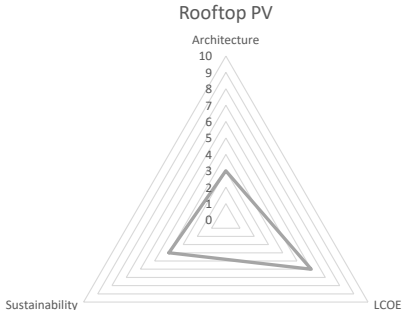
Source: SUPSI BIPV Status Report 2020

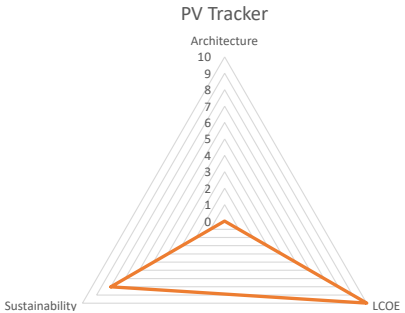
Architecture – Sustainability – LCOE

- Optimization between different functional and aesthetic aspects need to be considered (incl. LCOE)
- Depending on the project, emphasis shifts to different aspects









sbp sonne tackles these challenges by its holistic approach

Project | Location | Completion	Scope of our Work	Client
Ideematec PV-Tracker (2200 MW), Saudi Arabia, 2020	Review of the structural system of Ideematec 2P PV Tracker	Ideematec
TubeSolar, Germany, 2020	Design of a light weight structural system for Agri PV application.	TubeSolar
PVHardware Tracker für CHINT (48.5 MW), Serpa, Portugal, 2020	Review of the structural system of PV Hardware 1P PV tracker	PV Hardware
Ibri NEXTracker (600 MW), Ibri, Oman, 2019	Review of the structural system of NEXTracker 1P PV tracker	NEXTracker
Talayuela Soltec Tracker (300 MW), Talayuela, Spain, 2019	Review of the structural system of Soltec 2P PV tracker	Soltec
Floating PV, Belgium, 2019	Design of a floating PV system	K2 Systems
Sudair GameChange Tracker (2200 MW), Sudair, Saudi Arabia, 2019	Review of the structural system of GameChange 1P PV tracker	GameChange
Talayuela Ideematec Tracker (300 MW), Talayuela, Spain, 2019	Review of the structural system of Ideematec 2P PV tracker	Ideematec
Ideematec Tracker Galloping, Germany, 2019	Review of the aeroelastic wind tunnel test results provided by Wacker engineers	Ideematec
Cabrera Soltec Tracker (200 MW), Cabrera, Spain, 2019	Review of the structural system of Soltec 2P PV tracker	Solar Century
Mahindra Tracker, India, 2018	Review of the structural system of Mahindra 1P PV tracker	Mahindra Susten
Benban PVH Tracker (160 MW), Benban, Egypt, 2018	Review of the structural system of PV Hardware 3L PV tracker	ACWA Power

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Floating PV, Boskoop, Netherlands, 2018	Conceptual and detail design support and development of floating PV for lakes and Ponds	K2 Systems
Mafraq Tracker (50 MW), Mafraq, Jordan, 2018	Consulting ACWA Power to rebuild the Mafraq PV tracker solar field	ACWA Power
Development of a CPV Dish, 2015	Analysis of collector piping problems and development of solution	Solar Systems Pty. Ltd.
K2 Rack optimisation, Europe, 2014	Optimization of a PV Rack system designed by K2	K2 Systems
CPV System 1, Pune, India, 2012	Design of a tracker system for concentrated PV	Azur Space
CPV development project with Indian partner, India, 2012	Structural and optical detailed design of collector	Confidential
Photovoltaic System on the Brasilia National Stadium, Brazil, 2012	Development of design possibilities for photovoltaic modules and a collection system for rainwater	KfW - Kreditanstalt für Wiederaufbau
Photovoltaic Systems on the Roof of the Corinthians Stadium in Sao Paulo, Brazil, 2012	Basic design of the glazing roof part of the Corinthians stadium with integrated PV cells	Odebrecht
Photovoltaic Systems on the Maracana Stadium, Brazil, 2012	Development of design possibilities for photovoltaic modules on the stadium roof	KfW - Kreditanstalt für Wiederaufbau
PV Tracker, United Kingdom, 2009	Conceptual design development	AdvanceSis Ltd.

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