

R&D PROJECT



WEBSITE

www.lifebipv.eu

PROJECT PARTNERS



COMSA BUSINESS AREAS

COMSA CORPORACIÓN
COMSA INDUSTRIAL
COMSA SAU

PROJECT DURATION

2017-2023

PROJECT BUDGET

4.520.043 €

COMSA'S BUDGET

1.926.475 €

KEYWORDS

BIPV, energy consumption,
renewable energy, sustainability,
building's efficiency

PROJECT COORDINATOR

Merche Polo Carbayo (COMSA CORP)

FUNDING

LIFE BIPV Project has been cofounded
by the European Union through LIFE
programme under the Grant
Agreement LIFE16 CCM/BE/000120



Title of the project

**Demonstration of an innovative Building Integrated PhotoVoltaic system
towards net-zero-energy buildings**

Acronym

LIFE BIPV

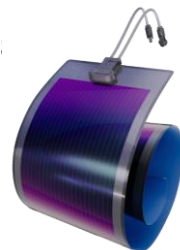
Content of the project

Buildings use large amounts of energy for their operations (i.e. heating/cooling). They are responsible for 36% of CO2 emissions and 40% of energy consumption in EU. Energy production on-site is a sustainable strategy that will enable existing and new buildings decreasing their climate change impact. More specifically, building integrated photovoltaic (BIPV) approaches have an important role in increasing the renewables' share in the EU grid and the buildings' efficiency throughout EU.

General objectives

LIFE BIPV has set the following objectives in order to boost the use of the innovative BIPV systems and reduce the net energy consumption and the CO2 emission of buildings:

- Demonstrate a new BIPV product (for façades and roofs) that enables a substantial reduction of CO2 emissions in new and existing buildings and infrastructures
- Prove the economic feasibility of the BIPV system at demonstration-scale
- Widely disseminate the project's results



Project tasks

A. Preparatory actions:

- I. Permit obtaining for large-scale demonstrators in Barcelona and Berlin

C. Implementation actions:

- I. Implementation of the process and generation of product portfolio
- II. Design of the BIPV envelope, production of sub-systems and system integration
 - Design of large-scale BIPV solutions in Barcelona (light curved roof) and Berlin (façade)
 - Design and production of BIPV mock-ups: BIPV bike shelter roof, BIPV solar fence, ...
 - Design and construction of a BIPV Training and Test Center in Dresden
- III. Installation and large-scale BIPV demonstration in Barcelona and Berlin buildings



D. Monitoring of the impact of the project actions:

- I. Monitoring the environmental impact of BIPV building envelope demos in Barcelona and Berlin
- II. Monitoring the socio-economic impact
- III. LIFE performance indicators

E. Communication and dissemination of results

F. Project management

Project Results

Results obtained in Barcelona (roof) and Berlin (façade) BIPV building demonstrators:

- ✓ MWh/year of energy produced: 23,6 (roof) and 12,7 (façade)
- ✓ 16,6 tCO2/year avoided (roof) and 16 tCO2/year avoided (façade)
- ✓ LCOE: 18 ct€/kWh (roof) and 28 ct€/kWh (façade)

LIFE BIPV project main results for large-scale BIPV installations are the following:

- ✓ Decrease of the GHG emission of a typical Central, Eastern, Western or Southern European building by at least 35%.
- ✓ Reduction of the carbon footprint by at least 67% compared to c-Si.
- ✓ Total system below 300 €/m². The product is directly applicable to building envelopes or construction materials without any supporting structures. The LCOE has been between 15 ct€/kWh and 28 ct€/kWh for Central, Eastern, Western and Southern European countries.