

BedZED

Application type Building Integration

Location

Croydon,
UK

Project Start

October 2000

Project Completion

April 2002

Size

108kWp

BedZED is a housing development with a difference; this solar urban village has transformed a brown field site, in the south of England, into an environmentally friendly housing development. The Peabody Trust, a charity that provides housing for the poor in London, is the company responsible for the development of the 82 flats and houses at BedZED.



BP Solar have installed 1,138 especially designed PV laminates at the site and these have been combined with super insulation, advanced ventilation systems, a wood chip CHP plant, passive solar design, an electric car pool and a water conservation system to create houses where energy demand is 25% of the amount of a normal home of a similar size.

Why was PV selected?

The PV panels at BedZED are being used for 3 specific purposes: solar shading control, electricity generation and as the skin of the building that also offers weather protection, solar shading control and electricity generation. The net result being the present high cost of PV is being offset as the modules are replacing other building cladding materials.

The PV panels generate enough electricity to power up to 40 electric cars for 10,000 miles a year.

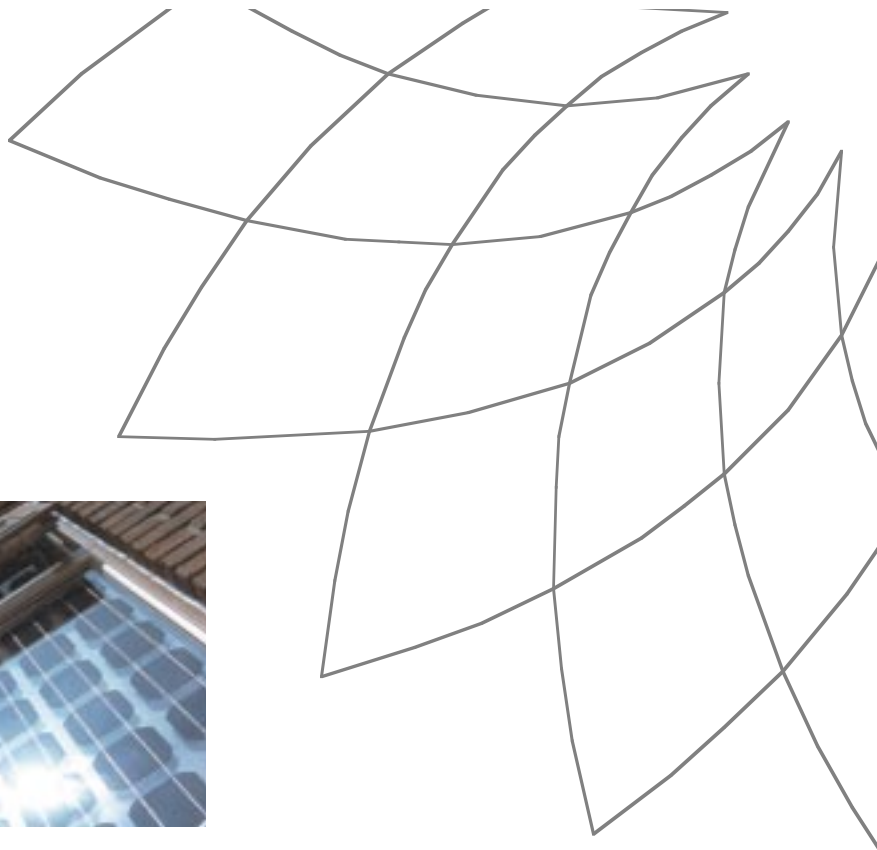
Special challenges

The design of these panels was quite a challenge. Mounted on south facing walls the PV laminates are mounted directly into standard window frames by traditional glaziers who needed no specialist knowledge of PV systems. The laminates are also integrated into roof lights and on rooftops. The idea was to make builders familiar with PV and demonstrate that it is not rocket science.



BedZED

■ Building Integration



Customer
Peabody Trust

Electricity Generated

*88,000 kWh
per annum*

Project Number
B0035

Technology Used Especially designed glass/glass sealed insulated glazing units with high efficiency monocrystalline solar cells with Laser Grooved Buried Contacts.
Opaque PV laminates (BP 585L)

Balance of System 49 SMA String Inverters electronically linked to the Developments Building Management System
BP Solar Diamond Fasteners
Metal Channel Mounting System
Vertical Wooden Framing System
Sloping Aluminium Framing System

Financial Information Project Cost: US\$780,000
Subsidies: Contributions were received from the EU Fifth Framework programme, the DTi and SEEBOARD.

Project Participants BP Solar, Arup Associates, Bill Dunster Architects, SMA, Van Dam