the building around the integrated system, otherwise the system will be something that is connected, but not integrated, into the building.

22.4.3.2 Module placement and shadowing

The first step in the design process will be to look at the number of modules, their dimensions and the total dimensions of the system. All these aspects have to be integrated into the roof or facade. Shadowing of the modules is important. A module that is partly shaded will lose more efficiency than expected. If one row of cells in a module is covered or heavily shaded, this can block the output of the entire string.

Small objects that can cause shading, such as chimneys and fans, are less important. The shadow will move during the day and there maybe indirect light available. Some modules have integrated diodes that allow a short break when a row of cells is covered or shaded.

22.4.3.3 Space required for balance of systems and interconnections

Space is also required for the inverters. The modules have junction boxes at the back that are connected by cables to the inverters. For better efficiency, the best place for these inverters is near the modules. An AC cable has to be fed from the inverters into the grid via the meter.

Space is also required for a junction box at the back. Together with the ventilation required at the back of the module, this means a gap between 20- and 50-mm (depending on the size of the junction box) between the back of the module and the mounting surface that can be used for both functions.

Space for a second utility meter may be required near the first meter, unless a double meter can be used. Safety switches are required near the inverters in order to work on the PV system safely.

22.4.4 Design Process: Strategic Planning

A few procedural steps may be necessary to ensure that the PV system is successfully integrated into the design. A common rule is to integrate the PV system into the building process without disturbing that process.

Step 1: The first step is consultation with the authorities about local regulations, building permits and the electrical connection to the grid.
Step 2: The second step is to consult the utility company about the grid connection, electrical diagrams and the metering system.
Step 3: The third step is the internal meeting with all building partners. A kick-off meeting very early in the process may be useful, to discuss the entire integrated PV system with the building contractor, the roofing company, the electrician and the PV supplier.

There are many unique issues to resolve in installing BIPV. The main points in this meeting concern the responsibilities of each party in the building process. Who is