



**Figure 17.21** Block diagram of a grid-connected photovoltaic generator. The location of the two energy meters may vary depending on the applied payment scheme



**Figure 17.22** Grid-connected photovoltaic roof on a private house in Germany (Source: Fraunhofer ISE)

### 17.2.3.2 Building integration

Standard modules are most commonly used for retrofitting buildings with PV systems, as little alteration of the building is required. Usually, they are mounted on the roof using an intermediate, added mounting structure. Integration into the building envelope is more difficult and few examples exist (see Figure 17.23). By contrast, frameless modules, so-called laminates, can replace conventional glass panes and thus allow easy integration.