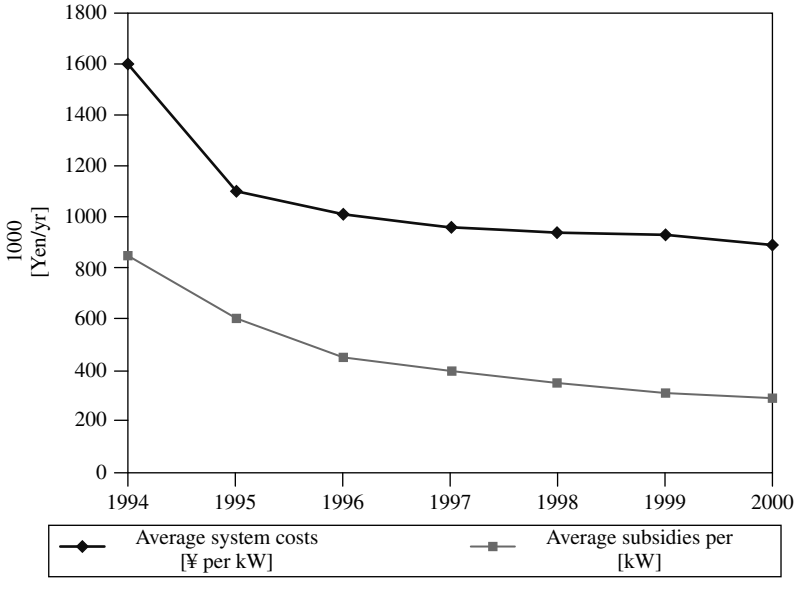

Figure 17.25 Japanese residential PV promotion programme: development of investment costs and rebates 1994–2000 [25]

17.2.3.4 The German 100 000 photovoltaic roofs programme

The German government has made climate protection one of its key policy issues. A 25% carbon dioxide reduction target by the year 2005 compared to 1990 levels was announced. The use of renewable energy sources can help achieve this ambitious goal. By 2010, the German government wants to double the contribution of renewable energies to the total energy demand. In 1998, the use of renewable energies in Germany reached 284 PJ of primary energy demand, which corresponds to a penetration rate of 2% of the total primary energy demand or 5% of the total electricity demand [26].

As the German government and administration are organised in accordance to the federal structure of the country, federal, regional and local authorities are promoting the use of renewable energy sources in many different programmes. The Federal Ministry of Economics and Technology (BMWi) will support within the 100 000 Roofs-PV-Programme the installation of up to 350 MW of photovoltaics (see Figure 17.26). One billion DM will be spent between 1999 and 2004 by giving favourable credit conditions by the government bank KfW, that is, for PV systems between 1 and 5 kW, a soft loan for a 10-year credit is offered with an interest rate that is 4.5% below market conditions.

Since 1991, the "Electricity Feed Law" regulated the input and favourable payment of electricity from renewable energies by the utilities. In 2000 the law was replaced by the "Renewable Energy Law (EEG)" with improved conditions. This law serves as the basis for the implementation of renewable energy technologies in Germany. For electricity generated by photovoltaic generators, the payment amounts to (at least) 99 Pfennig (i.e. about 0.51 €) per kWh for PV systems installed until December 31, 2001. Starting with January 2001 this minimal payment limit will be reduced each year by 5%, that is, for an