them and the companies that lobby for them. The argument against the use of subsidies is that they create artificial markets and the opportunity for corruption while they are in place, that they cap markets to the level of the subsidy budget each year, and that they eventually bring markets to a halt when they are terminated.

24.8.3 Soft Loans (Interest Subsidies)

The use of interest subsidies has been an effective public policy tool for housing. It might also be used for photovoltaics. These are flexible instruments, allowing the sponsoring government or institutions to correct interest rates without severely distorting market forces. They assure financing while spreading the subsidy over the life of the program. This avoids market manipulation and windfall events often related to direct subsidies. A typical soft loan will have low-interest rates, longer terms than normal, grace periods during which payments need not be made, and other features. There are several examples of soft loan incentives in the PV markets today:

India: The Indian Renewable Energy Development Agency (IREDA) offers favorable loans for photovoltaics: 85% of system cost, 10-year repayment period, 2-year grace period, at 2.5 to 5.0% interest rates. The comparable loan from a national bank would be a 5-year loan at 12.5% interest rate with, no grace period. A comparable loan from a nonbanking finance company would be at 18 to 23% interest rate.

Germany: Kreditanstalt für Wiederaufbau (KfW), the German bank for reconstruction, is providing PV loans as part of the country's 100 000 roofs initiative. Loans can be up to 100% of system cost up to 5 kW, and 50% of cost for larger systems. The interest rate is 4% below prevailing market rates. Combined with the national feed-in tariff of DM 0.99 per kWh, users can make a profit through the use of PV in Germany. The program is highly successful.

Japan: In conjunction with its subsidy program, the government of Japan subsidizes the interest rate on PV loans, with subsidy payments going to the lenders. The resulting net interest rate to the end user is near zero percent.

New York: The New York State Energy Research & Development Administration (NYSERDA) began offering interest subsidies for PV loans made by New York banks in the year 2000. NYSERDA buys down the interest rate on loans by making an up-front payment to the lender to the amount of the present value of lost interest. The amount of the interest subsidy is presently 4.0%, bringing interest rates down from 9.5 to 5.5%.

There are precedents for applying interest subsidies. The use of interest subsidies, soft loans, and third-party (government) guarantees has been used extensively in housing finance programs around the world, lowering the real cost of owning a home while minimizing distortions in the home buyer–seller marketplace.

An interest rate subsidy as low as one-half percent (i.e. lowering the mortgage interest rate from 7.0 to 6.5% on a 30-year mortgage) will actually pay for a residential PV system completely, as reported by Alden Hathaway at the Environmental Resources Trust. For example, for a $300 000 home mortgage loan, the interest payments will be $425 277 over 30 years. At the lower rate of 6.5%, total interest payments will be just $389 197. After taking taxes into account, assuming that the interest is tax deductible and