24.4.2 Types of Residential Financing

There are many financing alternatives available in the residential sector that could be applied to the financing of a PV installation:

Unsecured loan: Credit cards have become a significant source of financing, even though interest rates are typically 12 to 24%. Commercial lenders also provide unsecured signature loans and personal lines of credit at interest rates of 10 to 20%. Terms vary from one to ten years.

Equipment secured loan: There is some use of contractor-originated Retail Installment Contracts that hold security on the equipment until the contracts are paid off.

Home mortgage loan: Real estate secured loans are by far the most common and available form of credit to the residential sector. Loan products range from 5- and 10-year home equity loans, to 15-, 20- and 30-year primary mortgage loans, carrying either fixed or variable interest rates.

Energy-efficient mortgage (EEM) loan: In the United States, the EEM is offered by many of the national residential lenders and is designed to allow additional income credit from energy savings to be used in qualifying for a loan. This program is also called Energy Star. Japan and several European countries have similar programs.

Subsidized and targeted loan programs: Certain population groups – including, for example, low-income, minority, and veterans – are eligible for special terms and rates from a variety of specialized lenders. Also, there are special loan programs for designated locations such as rural areas, economically depressed areas, and inner-city urban areas. Government support for these programs ranges from direct loans, to loan guarantees, to interest subsidies.

Utility financing programs: A number of electric utilities have established special loan programs for energy efficiency and renewable energy. In the United States, the Sacramento Municipal Utility District (SMUD), the Los Angeles Department of Water and Power (LADWP), the Long Island Power Authority (LIPA), and the City of Austin Electric Department – all being nonprofit municipal utilities – have established PV financing programs (see Reference [9]). In Austin, the loans are unsecured, ranging from $1000 to $9000, with terms of three to ten years, at interest rates of 4.00 to 5.99%. The US cooperative utilities are also looking at PV financing programs. In Germany, municipal utilities created the first real market for photovoltaics between the years 1997 and 1998, applying the "Aachen model" of long-term power purchase contracts.

Government loan programs: A number of states in the United States are establishing clean energy funds, typically administered through the in-state utilities and banks. In New York, a $130 million fund has been established. Idaho's Renewable Energy Loan Program finances residential PV in amounts ranging from $1000 to $10 000, subject to the application having a 10-year payback or less. California has established a special alternative energy financing trust and a new Power and Consumer Finance Authority. This is also happening around the world. In Germany, KfW has established a national loan program for residential installations, offering 10-year loans at a 2% interest rate. In Japan, interest rates on loans for residential PV systems are subsidized. In India, IREDA has an ongoing program of lending for photovoltaics and other renewables.