

## 24.2 CAPITAL REQUIREMENTS

The worldwide rate of PV installations grew at approximately 15% per year in the early 1990s, and accelerated to an average growth rate of 30% per year in the late 1990s. What will be the future growth rate of PV markets, and how much capital will be needed to fund the growth of PV markets and industry?

### 24.2.1 Market Drivers

Photovoltaics are becoming a factor in the development of the rural areas of the world where over 35% of the world's population – 56% of the rural population – live without the benefit of electricity from the utility grid, totaling some 2 billion people or 400 million households (see Reference [4]). There, photovoltaics have energy value.

The second major driver of PV growth is the public policy on environment and sustainable development. Climate Change is driving global action through the Kyoto protocol and the separate US Climate Change Strategy. As a result of environmental concerns, we are seeing accelerated growth of PV markets in Japan, Europe and, to a lesser extent, the United States. Much work still needs to be done to monetize environmental values and turn market potential into reality (see Reference [5]).

### 24.2.2 Growth Outlook

What level of growth can be expected in the future? Scenarios of 25 and 50% annual growth bracket the likely range of outcomes. As illustrated in Figure 24.1, the difference between 25 and 50% compounded growth is substantial:

*25% Growth Rate:* At a growth rate of 25% between the years 2000 and 2010, the annual amount of PV installations will reach 2500 MW per year by 2010.

*50% Growth Rate:* At a growth rate of 50% between the years 2000 and 2010, the annual amount of PV installations will increase to over 16000 MW per year by 2010.

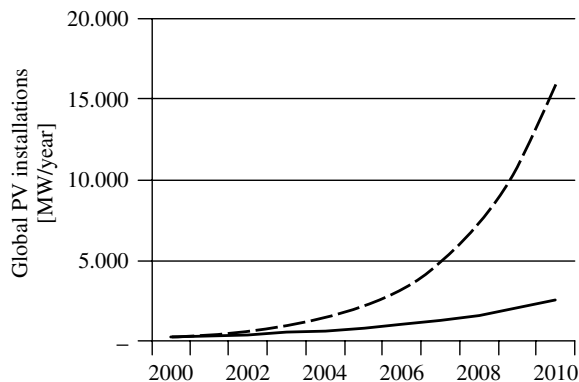


Figure 24.1 PV growth scenarios