for lighting and communication, about two billion people worldwide stay without access to electricity as the modern form of energy supply. As the population, especially in rural areas of developing countries, grows rapidly, there are more people each day without access to electricity than the day before!

This is why in many countries rural electrification programmes have been initiated. These programmes explicitly foresee the application of photovoltaic systems to provide electric power to remote rural households and public facilities, for example, Argentina has electrified 300 000 households and 6000 public facilities, in Morocco all villages in rural areas shall be electrified within the year 2010, which takes into consideration that about 200 000 households have to be supplied by photovoltaics; in many other countries such as China, Indonesia, India, Sri Lanka, Philippines, Mexico, Bolivia, Kenya, Uganda or South Africa large programmes do exist or are in preparation for realisation in the near future. The World Bank as one of the major support organisations in rural electrification is involved in more or less all these national programmes, thus helping to cover the high up-front costs of PV rural electrification and establishing innovative financing schemes. Most of these programmes today concentrate on Solar Home Systems, as these systems are relatively easy to install and operate. However, the key for success or failure of these programmes lies in the establishment of appropriate infrastructures for installation, operation and maintenance of these systems as well as in the introduction of schemes for quality certification, microfinancing and adequate involvement of the users [9, 21, 31].

After some disastrous experiences with village power supply systems in the seventies and early eighties, they see today a revival in many rural electrification programmes. The reason for this is that much better suited and more reliable components are available today and that more and more utilities or other energy service companies (ESCO) are starting to enter the market. With these new players a different concept appeared, which is the provision of energy service instead of selling PV systems. In Argentina, for example, the companies getting engaged in rural electrification – and benefiting from the subsidy scheme set-up there – have to sign a contract of serving the rural population with electricity for at least 45 (!) years. Here, often village power supply systems are applied: a small electric grid is created that may be considered as similar to the already existing public electricity grid. However, because of the strong limitation of the resources compared to a large electricity grid, new models have to be developed to plan, market, operate and sell this service. The involvement of the users in these central systems is seen as essential as the behaviour of the whole community does have a major impact on the appropriate use of the limited power and energy provided. Appropriate financing schemes, such as prepayment meters or the involvement of microfinancing institutions in the whole process, are new developments that will have to be elaborated further in the near future.

Today about two billion portable appliances are used worldwide and the market is rapidly growing. In the near future, the doubling of this number is expected. Watches, laptops, mobile phones, palm pilots and so on are characteristic for the new information society. This means the future of information is free of cables. Most of these devices are powered by batteries, but they are often flat and have to be recharged at a grid-based charging station. Photovoltaics are considered to be one of the best solutions to cover the often low-energy demands of these grid-independent devices. First prototypes do exist. The development of the market will be successful if adapted systems can be