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Renewable Energy Sources and their Use on Cyprus

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Cyprus is among the most suitable locations for the utilization of solar energy in Europe. A global irradiance of above 1 800 kWh/m^{2}offers a renewably electricity potential of app. 20 to 23 TWh/yr when employing concentrated solar power technology. While solar water heating devices are installed in more than 90% of all households in Cyprus, the current fraction of solar power generated electricity on the island amounts to no more than 4%, with more than 90% generated by hydrocarbon-based power plants.

Not surprisingly, the CO_2 emissions of Cyprus lie well above the allotment imposed by EU regulations. This will result in substantial penalties to be imposed by the European Commission in the near future. One of the remedies currently discussed within the government is an enhanced use of liquefied natural gas (LNG) for power generation, thereby lessening the emission load per kWh of electricity generated. However, there are still a number of practical problems to be resolved before actions are going to be taken.

The government also tries to promote energy-efficiency measures and the use of renewables in private households as well as in enterprises and in industry. This is pursued through an extensive scheme of subsidies and benefits that cover between 10 to 40% of the capital costs of these measures.

However, 54% of the energy demand on Cyprus is derived by the transport sector. This is primarily due to the extensive use of private cars as the primary means of transportation and comes about because of an ill-developed public transportation system both within urban structures and between major communities. Thus, discussing the prob-

lems and issues related to energy use and energy production on Cyprus without addressing the transport sector will remains insufficient. We will discuss the implications of this situation and will outline possible remedies.