Solar thermal energy taipei

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SA SC in Taiwan.

The current purchase-based subsidy program in Taiwan has lasted for 14 years. However, the national subsidy program seems to have lost its momentum in expanding the market. Policy makers should evaluate the efficiency of this long-duration subsidy scheme. The present study is devoted to an extensive evaluation of the current subsidy program and the local SWHs market. New schemes are proposed to ensure a sustainable SWH industry in Taiwan and real energy savings, including a revised scheme in the residential sector and a performance-based one in the commercial sector.

Upfront subsidies (purchase-based subsidies) are the most widespread measure introduced by world governments. In Taiwan, the first subsidy program (1986 to 1991) was also based on the area of solar collector installed of an SWH, A SC. A direct subsidy of 2,000 NTD/m2 (1 USD ? 30 NTD) was granted to "the manufacturer" for an SWH with glazed flat-plate solar collectors or evacuated-tube solar collectors. With unglazed flat-plate solar collectors, the amount was 1,000 NTD/m2. From 1991 to 1992, the subsidy was cut in half. Indeed, the end users were motivated by the financial incentive, and the SA SC reached 60,000 m2 by the end of the program.

With the well-organized efforts (financial incentives and research projects) taken by the BEMOEA, there is increasing public interest in SWHs. As shown in Figure 2, the accumulated area of solar collector installed increased significantly from the late 1980s to 2000 (?1 million m2). Direct subsidies by the BEMOEA (2000 to present) had definitely positive effects on the dissemination of SWHs. In 2010, the accumulated area of solar collector installed reached 2 million m2. Further, with a service period for SWHs less than 15 years, the effective accumulated area of solar collector installed was approximately 1.5 million m2 (or 0.3 million systems in operation) in 2013.

Accumulated and effective area of solar collector installed.

Households and penetration rate of SWHs in Taiwan.

Ratio of area of solar collectors installed to floor area of occupancy permits.

SA SC upon the termination of the subsidy program.

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KCC was the principal investigator and edited the manuscript. WML carried out the analysis of SWH market in Taiwan. KMC drafted the manuscript. All authors read and approved the final manuscript.