enus
ENERGIE AUS NATUR UND SONNE

citysolar kraftwerke

Stirling System

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SUMMARY

City Solar Stirling System

The Enus GmbH is looking for partners / investors for the City Solar Stirling System

The Stirling:

The City Solar AG advances two types of Stirling systems – P1 and P2. The Stirling system P1 is driven by the heat of a boiler running on wood pellets or several other biomasses, conventional boiler running on oil and gas can also be adapted. The system supplies an electrical power output of 3 kW, generated by a flywheel integrated electronically controlled alternator. This power is sufficient for the domestic use and keeps the whole installation independent of any other power supply, providing a maximum electrical energy of 72 kWh per day. It improves also the overall heat source efficiency due to its coolant recirculation, causing no additional energy losses.

The Stirling system P2 is a solar one with an electrical output power of 800 W, driven by concentrated solar heat radiation. The entire installation is mobile. An automatic tracking system is adjusting the concentrator to the sun. The solar system is equipped with an integrated alternator. It delivers up to 6.4 kWh per day electrical energy, sufficient for the needs of a small household. Due to its coolant circuit, the system provides as well the supply of hot water corresponding to a heat amount of 24 kWh per day, which is equivalent to the heat generation of 6 m² solar thermal collector area. Here, all predicted power and energy data of the P2 engine are referred to a solar direct radiation of 1 kW/m².

Both systems are based on the same basic Stirling engine. The costs of this engine are significantly lower than other solutions on the market. The design is protected by several patents.

The Business Case

The generation of electrical power by a Stirling system is one of the main solutions for future decentralized energy systems. The cogeneration of heat and power has the advantage of independency and high economical efficiency.

The City Solar Stirling systems have already a high level of development. However, in order to achieve their readiness for start of production, some selected checkups of the Stirling engine are still necessary on the test block. We calculate 250 T€ for this test, the time of which should be no longer than six months. Therefore the series production of the Stirling systems could be started in 2007.

Since 2002 City Solar AG is involved in photovoltaic energy sector and has decided to concentrate to its core business; therefore City Solar is looking for a market partner or an investor to position the Stirling systems in a own company. Basis for negotiations is an asset deal as well as a share deal. Both ways are possible to meet the investor's needs. The goal is the same: The entrance in the new market "Stirling".