

Name of project:	Photovoltaic solar energy financing model in Laakirchen	COUNTRY
		AUSTRIA
City of project:	Laakirchen	
Size/ region affected	60 municipalities in Upper Austria	
Type of project [theoretical / practical]:	Mobilisation of solar potential	
Targeted technique PV/Solar thermal/Solar Passive/Solar Air conditioning	Solar photovoltaic	
Period/ starting date	May 2008	
Contact institution with Internet links (if available)	<p>Stadtgemeinde Laakirchen</p> <p>Campaign details</p> <p>www.laakirchen.ooe.gv.at/system/web/zusatzseite.aspx?menuonr=219713299&detailonr=219713298 or:</p> <p>Mea Solar: www.mea-solar.at/news/pv-contracting.html</p>	
Photo / drawings / overview		
General Project Description	<p>INITIAL SITUATION</p> <p>With regard to photovoltaic installations, one always heard that the acquisition costs were too high and the amortisation period too lengthy, which led many homeowners to reject the idea of generating electricity from the sun or postpone this indefinitely.</p> <p>This is exactly where Laakirchen wanted to get involved, hence a campaign has been launched to provide as many homeowners as possible with reasonably-priced access to PV panels and to encourage them to acquire their "very own" solar power plant. Former mayor Silbermayr has been cooperating with E-Werke Wels AG Solutions employees since November 2007 on a project, which aims to make PV installations affordable through exploitation of all available sources of</p>	

funding and full financing from the feeding of electricity into the electrical grid.

PROJECT AIMS

As a member of Climate Alliance and the European Land and Soil Alliance (ELSA) e. V. as well as a partner of the Austrian climate rescuers scheme ('Klimarettungspartner'), Laakirchen has sought to develop creative campaigns to increase exploitation of renewable energy sources for many years now. In addition to financial support, we believe in the role model function of the town, in the sharing of information and in public relations. In particular, reasonably-priced solutions for inhabitants are important to us so that they can reduce their CO2 consumption, thereby shaping themselves a more environmentally-friendly lifestyle.

A form of photovoltaic installation contracting allows the town of Laakirchen to pave its inhabitants' way to reasonably-priced solar power generation. With the partner, E-Werk Wels AG, photovoltaic panels are being set up and run for all interested parties for a period of 12 years. Installation costs are covered almost entirely by the profit from electricity generated and, due to the 25-year output power guarantee on the panels, homeowners will then enjoy electricity from their own roof for at least 13 years, which equates to savings of up to € 16,000 after 25 years.

Every homeowner who participates in the campaign is guaranteed electricity generation on their solar roof for 25 years, thereby contributing to a reduction in CO2 emission of around 2 tons/year. Even when they do not benefit directly for the first 12 years, they will most definitely make an "investment" in their energy future and take advantage of the opportunity to distance themselves from the use of fossil fuels, as well as win themselves some financial independence.

INNOVATIVE APPROACHES

This pilot scheme did not exist previously in this form in Austria. Minimal costs and maximum gains for the homeowners can be obtained through a kind of "contracting model" for PV installations implemented by E-Werk Wels AG.

We literally take the high acquisition costs "out of the equation" for homeowner, meaning that the reception from homeowners is extremely good. With trustworthy

partners, secure financing, top-quality panels with a 25-year guarantee on 80% of the output power and municipal funding, we have created an attractive offer, which leaves us entirely up with the times.

IMPLEMENTATION POTENTIAL

Following several months of preparation and negotiation of contractual details such as system insurance, ownership and so forth, the foundation stones were laid for this campaign as well as for the concept, which can be implemented in other municipalities at any time.

Once the campaign became public, countless municipalities in Upper Austria, Lower Austria, Germany and Italy enquired whether the system could also be offered to their inhabitants. For this reason, we have made all pertinent information, the municipal newsletter and details of this campaign available for download in the "Natur & Umwelt" section (subsection: "Photovoltaik-Aktion 2008" and "Photovoltaik-Aktion 2009") of www.laakirchen.at and cordially invite others to set up their own similar projects.

On 2nd July, the Marktgemeinde Ebensee began adoption of the concept; according to MEA-SOLAR (www.mea-solar.at/news/pv-contracting.html), the project has already been presented to 61 communities, the technical criteria of around 1,700 homes assessed and some 700 applications for funding submitted since this time.

ENERGY & COST EFFICIENCY

Assuming the acquisition costs amount to around € 21,810 for a 3.6 kWp system, one can understand why many homeowners choose to postpone or reject this purchase due to the lengthy amortisation period.

In the Laakirchen model, the homeowner pays just € 29.60 a month for a 3.6 kWp system and, after 12 years, becomes the owner of a functional, top-quality photovoltaic installation with 13 years of guaranteed electricity generation for their own use. These costs include € 1.89 for the energy accounting and € 8 for meter hire from the Energie AG in addition to a monthly saving of the "value outstanding" after 12 years, which hasn't yet been financed by the feeding of power into the electrical grid.

The monthly costs are so low that every homeowner can afford them. A clear conscience due to generation of environmentally-friendly electricity can be enjoyed from the very beginning; after 12 years, homeowners also enjoy savings from their own little rooftop solar power plant.

CLIMATE-RELEVANT IMPACT

A yield of 950 kWh/kWp per year can be expected in our region. Assuming the average installation is around 3 kWp in size, a minimum of 2,850 kWh is produced per participating household and year, which equates to a saving of around 2 tons of CO₂ per year. Based on a 25-year period and the total of around 50 installations we shall install, CO₂ savings of around 2,500 tons can be achieved by the town of Laakirchen.

CAMPAIGN PROCESS

All homeowners were informed via post that a major photovoltaic campaign was to be launched. The town of Laakirchen, E-Werke Wels-AG and MEA Solar (daughter company of E-Werke Wels-AG) were presented as partners for the scheme.

- Installations are set up following clarification of all criteria on site at the individual homes.
- The panels are financed in advance by the E-Werke Wels AG who receives funding to a value of 45.99 cents/kWh for 10 +2 years as the installer and operator of these according to the applicable Eco-Electricity Act (Ökostromgesetz). This also explains the period of 12 years.
- Once these 12 years are up, the installation will become the property of the homeowner.
- Installations are estimated to return a yield of 950 kWh/kWp. Any surplus yield is credited to the homeowner – eventual deficits in yield have no impact.

Barely any costs are payable by the homeowner:

- € 1.80/installation and month for the energy accounting
- € 8/installation and month for meter hire from the Energie AG
- The remaining sum not financed over the 12 years of € 930/kWp is already saved during the 12 years with a rate of € 5.50/kWp per month and credited to the E-Werke Wels AG on a monthly basis.

The criteria for participation in the scheme is as follows:

- A suitable southward-facing roof at an angle of 30°-40°
- No shade
- Free measuring station in the meter box
- Willingness to undertake monthly energy accounting

The E-Werke Wels AG finances, mounts, operates and insures the photovoltaic panel on the homeowner's roof. A period of 12 years including advance financing by the E-Werke-Wels AG.

The following is on offer:

- Mounting and maintenance of panels of between 1.36 kWp and a maximum of 4.76 kWp in size (depending on roof space and homeowner requirements) following conclusion of a user agreement with the homeowner.
- 25-year guarantee on 80% of the panel's output power and 12 years on the inverter.
- Processing of funding requests e.g. at the processing centre for eco-power (Abwicklungsstelle für Ökostrom AG, ÖMAG).
- Ascertainment of the yield potential by the Energie AG. (energy provider)
- € 600 funding from the Stadtgemeinde Laakirchen for every installation.
- After 12 years, transfer of the installation to the property of the homeowner and 13 years of guaranteed power output from the homeowner's own roof.

COOPERATION PARTNERS

Stadtgemeinde Laakirchen

E-Werk-Wels AG

Mea-Solar, Wels, an 100% daughter company of the E-Werk-Wels AG

Fürtbauer Laakirchen installation engineers

ECONOMIC IMPACT

A total of 6 additional new qualified work positions have been created over the course of this campaign. Furthermore, local companies have been commissioned for the on-site implementation, thereby inspiring incentives in many other communities in Upper Austria.

The project has already won the 2008 Energy Globe, 2008 Austrian Solar Award

	and 2008 Pacesetter ('Schrittmacher') Award.
Initiator/project idea	Stadtgemeinde Laakirchen and E-Werk Wels AG as well as Mea Solar GmbH (a daughter company of the E-Werk Wels AG)
Financing Investor	Advance financing of the installations by E-Werk Wels AG
Service Provider	Mea Solar GmbH
Other parties involved (eg. departments)	Laakirchen project management department; local Laakirchen companies involved in system installation.
Partner responsible for Best Practice description	 Climate Alliance <small>Climate Alliance</small>

SWOT Analysis	
Strengths	<ul style="list-style-type: none"> ▪ PV installations made affordable for homeowners. ▪ The contracting model means only low fixed costs are payable every month (between € 20-36); the rest is saved through the feeding of the power into the electrical grid over a 12-year period. Straightforward processing whereby Mea Solar submits the funding application on behalf of the homeowner. ▪ The panel is fully insured; the guarantee is valid for 25 years for the installations and for 12 years for the inverters. ▪ Rational processing e.g. of funding requests, on-site inspections, installation, etc., saves a great deal of time and consequently money. There is no bureaucracy and yields are guaranteed – payments are even made in case of surplus yield.
Weakness	<ul style="list-style-type: none"> ▪ The installation only officially becomes the property of the homeowner after 12 years. Only from this point is the homeowner able to enjoy electricity from their roof – this can potentially prove a issue. ▪ The system relies on funding from the state and on the legal framework conditions.
Opportunities	<ul style="list-style-type: none"> ▪ Widespread implementation of photovoltaics has been made economically feasible for the first time and affordable to all, hence a higher market density. The impacts on the electrical grid can therefore be measured and solutions for further photovoltaics in the electrical grid calculated. ▪ The system may easily be transferred to other communities; it has meanwhile been presented to 60 other communities and many have also already offered this option to their inhabitants.
Threats	<ul style="list-style-type: none"> ▪ There are no risks for customers, as the yields are guaranteed and surplus yield remunerated. Revenue deficits may be incurred by the operator due to unfavourable

	insolation conditions (regional or through shade or the building's position).
Improvements	<ul style="list-style-type: none">▪ Faster processing of the funding provisions by the federal government, further contracting offers are currently unfeasible due to a lack of funding in Austria (Eco-Electricity Act, Ökostromgesetz).