

Workshop on Photovoltaic Energy
Roma, 08th of March 2004

INCENTIVE PROGRAMS

Austrian Experience on PV incentives



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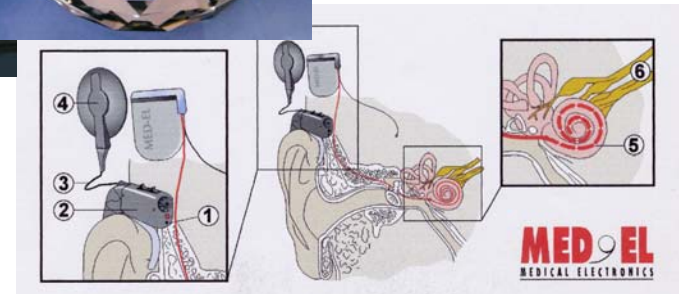
Youth Solar Award

The youth calls us, to do something for a worth living environment before wears down the clock.

Youth searches give us:
Creativity
New ideas
Propagation of photovoltaic

Some winners from 1998 till 2002

- Project Ladakh – India
- The PV-Book
- PV-LED-Streetlighting
- Hear implant running with PV



Architectural PV-integration in Buildings

- PV-Enlargement for PV-integration
- Double use of PV-integration
- Aesthetic design
- Structurised building envelope
- Noise and sun protection
- Optimising the eco-building
- Increase of the sustainable use
- Architecture as a multiplier of PV



PV-modules are manufactured as a double glazing or as a complete roof or façade element with an integrated thermal insulation. With this construction k-values of 1,0 can be reached. The module has in these cases the function of a thermal separation in the building envelope.

Austrian Workgroups for PV-Enlargement

Austrian PV-network

- BVP – Austrian Photovoltaic Association
- Technical University Vienna – Energy Economic Group
- Danube University Krems – Centre for Architecture and Environment
- arsenal research association Vienna – Renewable energies
- University of Innsbruck – Competence centre for mixed structures
- ATB/TBB – Centre for Biomass and PV-Building-Integration

The group is working for:

- Austrian PV-Data-Base
- Socio-Economical Program
- Reduction of not-monetary barriers
- Education for architectural integration
- PV-seal of approval
- Efforts to cancel the 15 MWp-limit



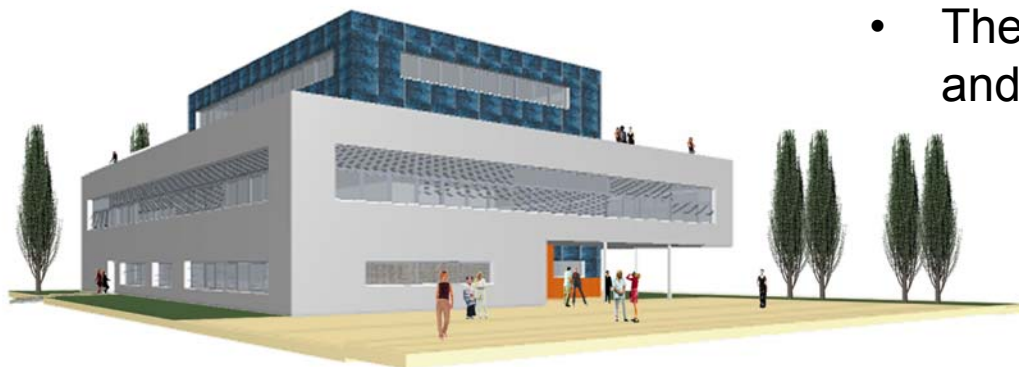
Austrian ECO-law 1th January 2003

EU-guideline 2001/77/EG

- Main points are new technologies
- Certificated electric energy from RUE
 - 2% till 1.1.2004
 - 3% till 1.1.2006
 - 4% till 1.1.2008
- Support rate guaranteed for 13 years

Regulation of prices for eco-energy from PV

- PV-Systems
 - up to 20kWp = 60cent/kWh
 - more then 20kWp = 47cent/kWh
- The limit was reached on 15.01.03
- There are no ideas for a new model and a better solution



PV-Passive-House SOL4 - Eichkogel

Austrian ECO-law 1st January 2003

Administration effort

- Three green balance group are committed to purchase eco energy
- The ministry of economic affairs has to propose the price/kWh
- The governors conference has to agree to the pay back compensation rate
- Energy control Ltd. has to control the achievement of objectives

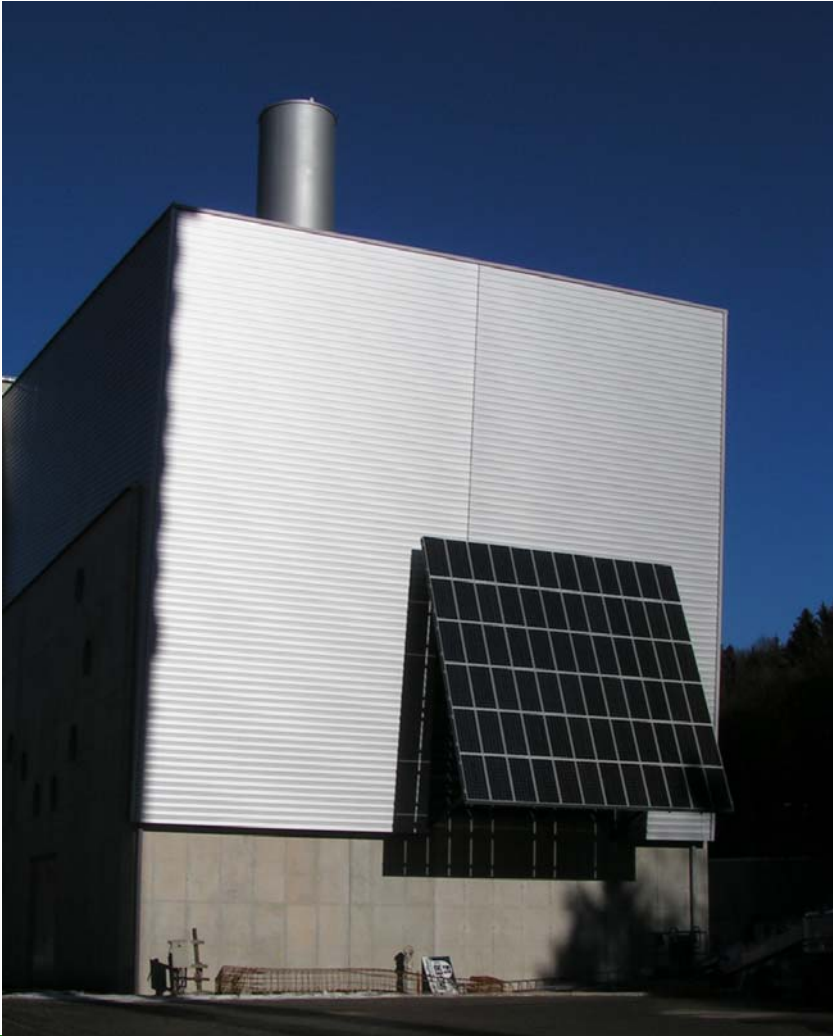
Tasks for owners of a PV-system

Owner needs for a PV-system

- the acceptance for green power system
- a building licence for more then 5 kWp-system
- a contract with the green balance group after beginning of operation
- data transfer of green electricity production



Austrian ECO-law 1st January 2003



Reports

- Energy report to EU-commission till 27.10. each year

General sanctions

- € 20.000 if inspections are not fulfilled
- €130.000 if lists of origin are not issued

Austrian ECO-law 1th January 2003

Evaluation of Austrian eco energy law

- Austrian eco energy law has the right idea with the compensation
- Amount of the compensation is confirmed by the novella of German EEG
- Compensation over 13 years makes approx. 90 % refund of investment
- Higher investment of PV-façades aren't taken into account in the law.

Barriers for Austrian photovoltaic

- 15 MWp-limit is an absolute knock out criteria for Austrian photovoltaic
- The limit was reached on 15.01.03, the limit should be unlimited
- PV need a long safety for disposition of staff
- Support is not guaranteed for delivery time
- Since 30.06.03 PV-market remains stagnant, companies must cut jobs

Austrian ECO-law 1st January 2003

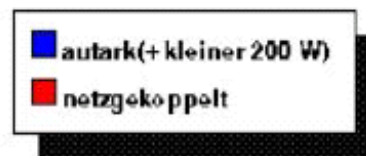
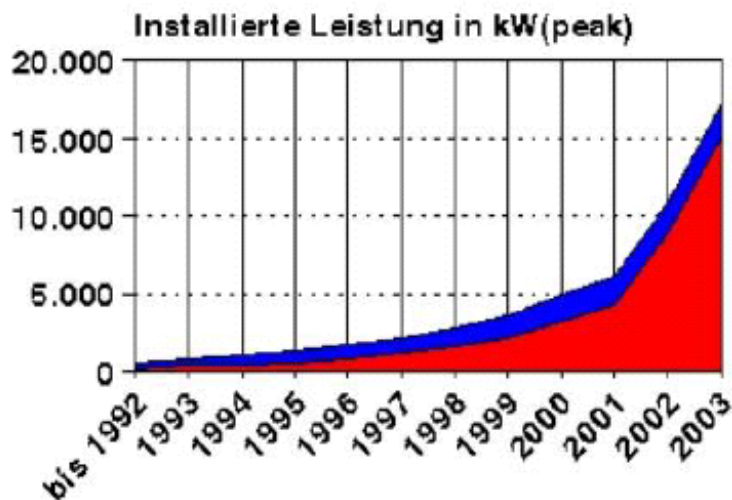
Public interest

- 31.12.2001: cumulated 6,2 MWp-PV were installed with local grants
- 31.12.2002: cumulated 10,3 MWp-PV were installed with local grants
- 31.12.2003: cumulated 16,8 MWp-PV were installed with eco-law

The interest of the investors was very great.

- 01.01.2004: 24 MWp-PV interested parties are waiting for a higher limit

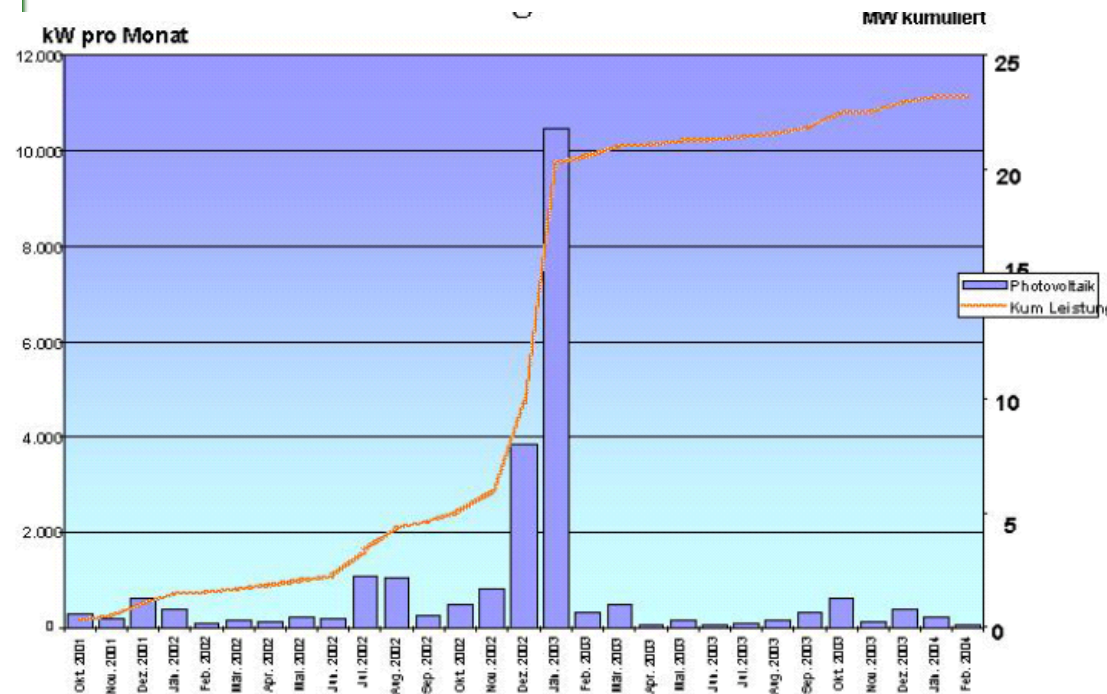
- The fast attainment of the upper limit of 15 MWp is the best proof, that the population would like to invest in building environmental plants with PV



Austrian ECO-law 1st January 2003

Public interest and knock out criteria for jobs

- 31.12.2002: 3,9 MWp-PV applications were submitted for PV-systems
- 15.01.2003: 12,5 MWp-PV applications were submitted for PV-systems
- Since 01.02.2003 we see the knock out for PV-Enlargement



This diagram shows the conflict of a bad eco law for future technologies, which need a constant research program for the entrance in the market

German EEG as advantage for Italy

Results of the German EEG for Renewable Energies

- 50 Mio to CO₂-reduction and 130.000 new jobs with RUE
- 1999 before the EEG the market share was 5,6% → 2003 = 8% → 2010 = 12,5%
- 5 Mill.€/year investment for the German RUE-industry

A simple and clear law

- The costs are shifted to the production costs for electrical energy
- The additional costs for a household with an averaged consumption are 1€/month
- A yearly degression of 5% will reduce the production costs for photovoltaic
- Spain took also the German ideas, this could be a sign for a common European solution

EEG as advantage for Italy

The quintessences of German EEG

Pay back rate Cent/kWh for 2004

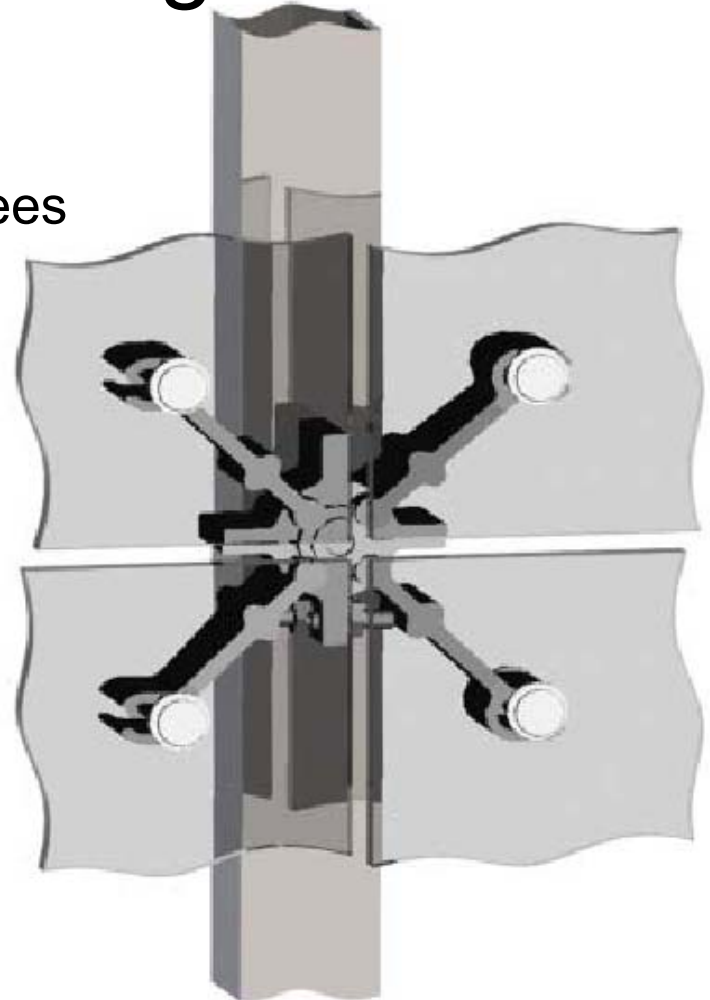
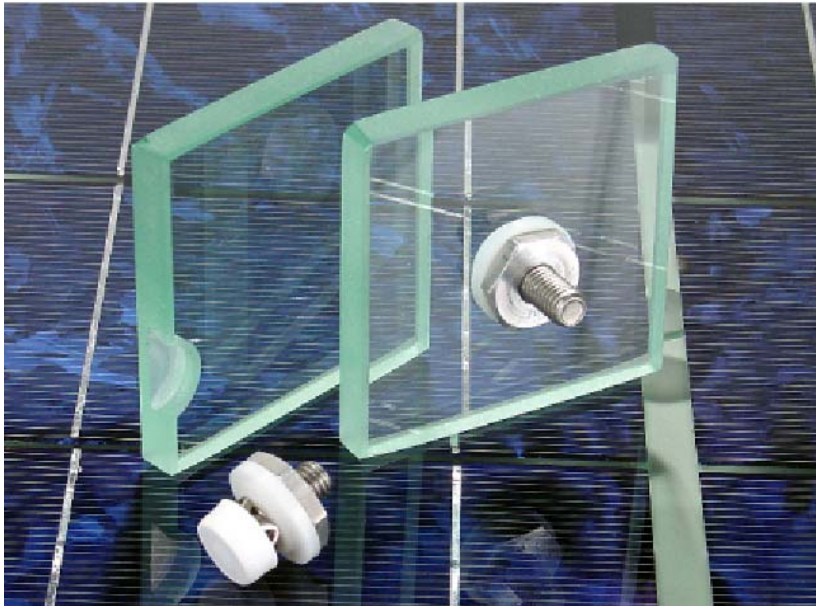
- Freestanding PV-systems = 45,7 Cent/kWh
- PV in buildings and as noise protection up to 30 kWp = 57,4 Cent/kWh
- PV in buildings and as noise protection more then 30 kWp = 54,6 Cent/kWh
- Façade-integration bonus payment = 5 Cent/kWh
- PV-systems > 100 kWp = 54 Cent/kWh for the part over 100 kWp
- Yearly depression = 5% for each following year
- Pay back time = 20 years beginning with operation and feed in into the grid

The shortest way to German EEG

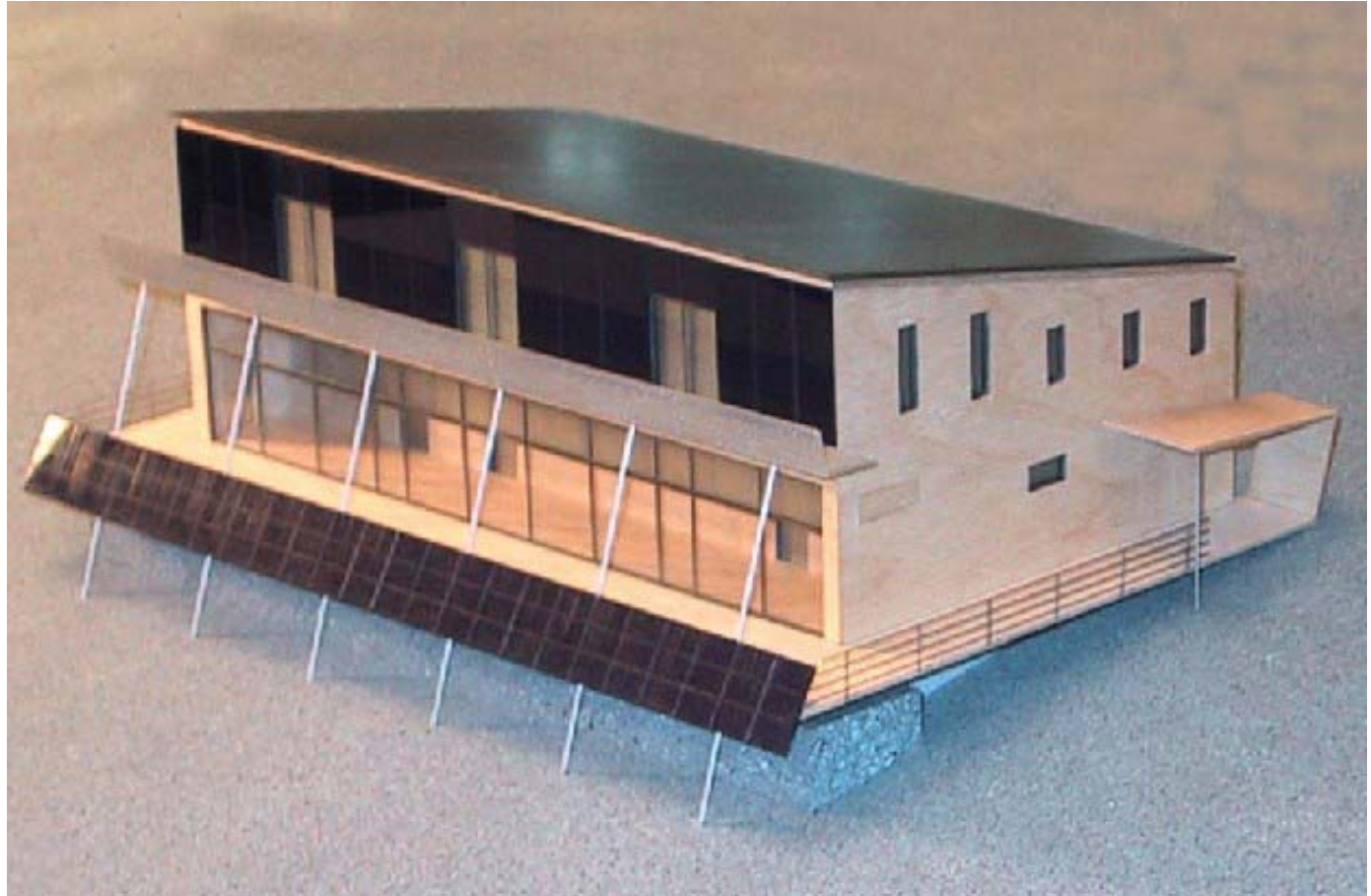
<http://www.solarserver.de/solarmagazin/eeg.html>

Quality for new PV-Technologies

- Transparency of PV-quality
- Commitment for PV-quality of all PV-partners
- Higher education and qualification of employees
- No PV-products without certification
- Guaranteed yield before the client contract



Thank you for your attention



Solar4Alpin – Alpine Refuge 2.200 m sea level