

# Business models for shared PV facilities

## Business models for internal consumption of power from shared PV facilities on multiple-occupancy buildings

### Starting-point (as of November 2018)

Since an amendment to Austrian law (elwog) in June 2017 it has been possible in multiple-occupancy buildings for the occupants to consume the power from a shared facility on the roof of the building directly. For invoicing purposes the quantity of electricity from the PV facility consumed by the occupants is deducted from each household’s total consumption. With each kWh of power from the PV facility the household saves around 15 cents as against using power from the grid. Currently (2018) power fed into the grid from a PV facility is paid for at the rate of 7.91 cent/kWh.

The households in question must be equipped with smart meters; in new buildings these are already standard equipment. If an old-style mechanical meter is still in place, the grid operator must replace it with a smart meter within six months of the household in question applying for one.

### Possible business models for shared PV facilities

Overview of business models for internal consumption of power from PV facilities on multiple-occupancy buildings				
Model 1 PV facility as internal infra-structure (“free power for residents”)	Model 2 Residents’ agreement	Model 3 Outside enterprise leases to residents	Model 4 Supply contracting	Model 5 Full supply by electricity company
Landlord invests in PV facility and provides power from PV to the residents free of charge (by analogy to cycle storage or shared laundry room)	Residents/land-lord invest in PV facility and arrange operation and shares of PV power internally (e.g. by setting up an association)	Outside enterprise invests in and operates PV facility, residents lease right to consume power internally	Contractor invests in and operates PV facility and supplies power from PV to residents for internal consumption	Electricity company invests in and operates PV facility and supplies both PV power <u>and power from the grid</u> to residents

**Model “PV facility as internal infrastructure”**

In this business model the landlord finances the PV facility and supplies power from it to the residents free of charge.

Here entitlement to PV power is treated as part of the building’s infrastructure, just like a shared laundry room, use of the attic, a children’s playground or a cycle storage room. This way the landlord increases the building’s value or the rent that he can collect.

Expenditure on electricity for the shared equipment in the building (e.g. lift, lighting in corridors, pumps for heating, etc.) also goes down because of the PV facility.

The proceeds from feeding surplus power into the grid accrue to the landlord.

<b>Allocation of responsibilities: “PV facility as internal infrastructure”</b>	
Investment	Landlord
Operation/service/maintenance of/repairs to facility and roof	Landlord
Chance/risk: whether more rent or a higher sales price can be realized	Landlord
Risk of unexpected change in use of roof, involving expenditure on removal/reinstallation	Landlord

**Model “Erection and operation by residents’ association”**

Those residents who wish to participate in the shared PV facility set up an association which erects and operates the facility. As an aid to this, PV Austria have drawn up a model agreement for the association statutes required: see [http://www.pvaustria.at/wp-content/uploads/2016-08-01-Vereinsstatuten\\_PVA.pdf](http://www.pvaustria.at/wp-content/uploads/2016-08-01-Vereinsstatuten_PVA.pdf) (in German).

A lease agreement for the use of the rooftop is made between the landlord and the association. PV Austria’s website includes a model lease agreement: see <http://www.pvaustria.at/wp-content/uploads/Miet-und-Dienstbarkeitsvertrag.pdf> (in German).

Responsibility for the facility lies with the association.

The association statutes lay down how investment costs are met, how much is charged for the power supplied from the PV facility and how payment flows are organized. The association members pay a share of total investment or an annual rent, which entitles them to consume power from the PV facility.

<b>Allocation of responsibilities: “Erection and operation by residents’ association”</b>	
Investment	Association members
Operation/service/maintenance of/repairs to facility and roof	Association members
Chance/risk of members’ leaving the association, in which case the remaining members’ investment shares increase	Association members
With flexible allocation: chance/risk of share of PV power allocated fluctuating	Association members
Risk of unexpected change in use of roof, involving expenditure on removal/reinstallation	Landlord and/or association members, as laid down in the agreement made

## Model “Outside enterprise leases to residents”

An outside enterprise erects the PV facility on the building and lets it to the residents at an annual rent for a defined length of time. Responsibility for the facility lies with the outside enterprise. A lease agreement for the use of the rooftop is made between the outside enterprise and the landlord.

A lease agreement is made between the lessor and each individual resident. Rent can be in the form of a fixed sum per period of time (e.g. per annum), say. PV Austria provide model agreements for such arrangements: see <http://www.pvaustria.at/wp-content/uploads/Miet-und-Dienstbarkeitsvertrag.pdf> (in German).

A theoretical quota of PV power is made available to each household participating. The proceeds from feeding surplus power into the grid are shared out among the residents participating.

<b>Allocation of responsibilities: “Outside enterprise leases to residents”</b>	
Investment	Outside enterprise
Operation/service/maintenance of/repairs to facility and roof	Outside enterprise
Risk of individual participants dropping out, reducing proceeds from lease	Outside enterprise
With flexible allocation: chance/risk of share of PV power allocated fluctuating	Residents participating
Chance/risk of residents’ behaviour causing quota availability to fluctuate	Residents participating
Risk of unexpected change in use of roof, involving expenditure on removal/reinstallation	Landlord and/or outside enterprise, as laid down in the agreement made

**Model “Supply contracting”**

A contractor (outside enterprise) erects and operates the PV facility on the roof of the building. The power from the facility is shared out among the residents participating (internal consumption); residents pay the contractor for their actual internal consumption of PV power at a fixed rate in cent/kWh.

The proceeds from feeding surplus power into the grid accrue to the contractor.

<b>Allocation of responsibilities: “Supply contracting”</b>	
Investment	Contractor
Operation/service/maintenance of/repairs to facility and roof	Contractor
Risk of individual participants dropping out, reducing proceeds	Contractor
Chance/risk of residents’ behaviour causing quota availability to fluctuate	Contractor
Risk of unexpected change in use of roof, involving expenditure on removal/reinstallation	Landlord and/or contractor, as laid down in the agreement made

**Model “Full supply by electricity company”**

Several electricity companies offer this model, which differs from the “Supply contracting” model in that the electricity company supplies both power from the PV facility and the residual power required. In this case only customers who buy grid electricity from the company in question can purchase PV power for internal consumption.

For the electricity company this model serves to boost customer loyalty, or to attract new customers.

Two subvariants:

- 6a) Separate tariffs for grid power and PV power (internal consumption)
- 6b) Uniform tariff for all power purchased from supplier, regardless of the share of internal consumption.

<b>Allocation of responsibilities: “Full supply by electricity company”</b>	
Investment	Electricity company
Operation/service/maintenance of/repairs to facility and roof	Electricity company
Risk of individual participants dropping out, reducing proceeds	Electricity company
Chance/risk of residents’ behaviour (e.g. presence at midday and in summer) causing quota availability to fluctuate	Electricity company
Risk of unexpected change in use of roof, involving expenditure on removal/reinstallation	Landlord and/or electricity company, as laid down in the agreement made

## Website [www.PV-Gemeinschaft.at](http://www.PV-Gemeinschaft.at)

The information platform [www.PV-Gemeinschaft.at](http://www.PV-Gemeinschaft.at) provides details of how to erect a shared PV facility. The section on “best practice” documents 12 projects so far (with more to come) involving a shared PV facility. (in German)



As part of The EU project SEFIPA suggestions for improving the legislative draft have been submitted (dynamic distribution ratio), while stakeholders have been informed about the advantages of making shared PV facilities possible, and project promoters showing interest have been advised on possible business models in connexion with shared PV facilities.

**The Platform will be glad to provide further information on this subject:**

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### Platform / SEFIPA team

Responsibility for the Platform lies with ÖGUT (Austrian Society for Environment and Technology) and Energy Changes Projektentwicklung GmbH, who share the goal of developing pioneering facilities (financial instruments, regulatory measures and information campaigns) together with policymakers, so as to stimulate additional investment in sustainable energy systems in Austria. As part of this project a special crowd-investing platform for sustainable energy systems ([www.crowd4energy.com](http://www.crowd4energy.com)) has been set up.



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