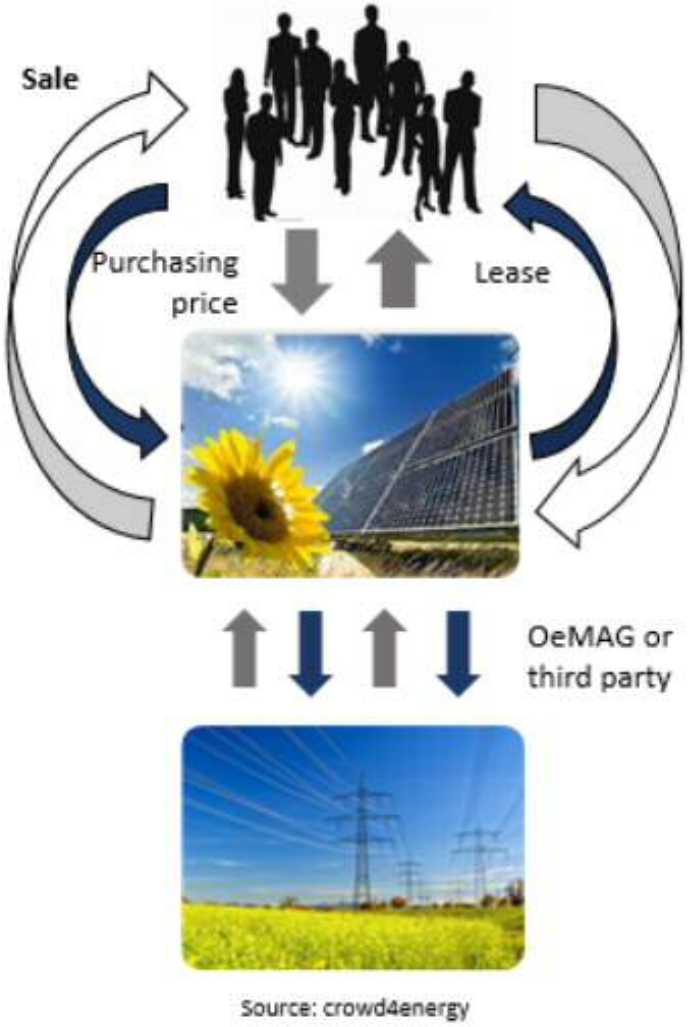
<Austria> Case Study: Crowdfunding for PV

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 785081. Disclaimer: The content of this material does not reflect the official opinion of the European Union. Responsibility for the information and views expressed lies entirely with the author(s).

Project overview & model

- Aim of the project: to install photovoltaic systems on the rooftops of buildings owned by two neighboring communities with the financial contribution of local citizens
- Approach: crowdfunding based on a ‘Sale and Lease Back Model’
  - PV modules sold to local citizens,
    PV modules leased back by implementing project organization
  - lease rate incl. interest rate paid to the investing citizen, feed-in tariff for electricity sold to the grid (via OeMAG, settlement agency for green electricity)
  - no banking license, no prospectus requirement
  - typically used for PV projects



Source: crowd4energy

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Potential contributors

- Target groups: people of legal age living in the two communities
- Benefits for the crowd investors:
  - safe regional investment with fairly attractive interest rates supporting the development of one's own community
  - contribution to a sustainable energy supply even without using one's own rooftop
  - development of a sense of ownership for a community project
  - capital and leaseback guarantee

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Basic project information

- Key data on the two photovoltaic systems:

Community	PV location	Dimension [kWp]	Expected annual yield [kWh/year]	No of PV modules
Community A	Storage place for construction material	125	125,000	447
Community B	Waste collection center	140	140,000	500
	Total	**265**	**265,000**	**947**

- Local citizens to invest in approx. 950 so-called “solar bricks” with an interest rate of 1.39%
  - solar brick = a PV module with a dimension of 1.6 m2 and approx. 280 Wp peak performance
  - 10 solar bricks generate annual power of approx. 3,000 kWh, which corresponds to the electricity demand of an energy efficient household
- The project gathered 62 contributors from the region

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Basic project information

Key figures of the crowdfunding project	
No. of available PV modules	947 modules
Purchasing price per PV module	270 EUR/module
Interest rate	1.3925 %/year
Leaseback	22.85 EUR/year
Project life	13 years
No of PV modules available for purchase	2, 4, 6, 8 or 10
Min. financial participation	540 EUR (2 PV modules)
Max. financial participation	2,700 EUR (10 PV modules)
Administration fee in case of early termination of contract	100 EUR

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Basic project information

- Calculation for 2 to 10 PV modules for a project period of 13 years

No of PV modules	Contribution [EUR]	Leaseback rate [EUR/year]	Interest rate for the period of 13 years [EUR]	Total repayment [EUR]
2	540	45.7	54.1	594.1
4	1,080	91.4	108.2	1,188.2
6	1,620	137.1	162.2	1,782.3
8	2,160	182.8	216.3	2,376.4
10	2,700	228.5	270.4	2,970.5

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Process & project timeline

September 2019

- Start with a non binding list, where potential contributors could show their interest; announcement of details and conditions

24th of September 2019

- Info session for local citizens

Until the 5th of October 2019

- Allocation of PV modules according to the first come, first serve principle

Until the 18th of October 2019

- Contracts signed and payment

October until December 2019

- Installment of the two PV systems

15th of January 2020

- Start of the leaseback period

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Cost calculation based on interest rate of 1.4905%

Contribution:	270.00	€
Repayment per year:	23.00	€
Interests:	29.00	€
Total back payment:	299.00	€
No of PV modules:	947	modules
Project life:	13	years
Yearly interest rate:	1.4905	%
Sum of total interests:	27,463.00	€
Size of pv system:	264	kWp
Specific yield:	1,038	kWh/kWp
Yearly degression:	0.4	%
Compensation up to 13 years:	0.0791	€/kWh
Price for surplus electricity:	0.0400	€/kWh
Own requirements:	2	%
Yearly increase of electricity prices:	2	%
Costs of pv system:	256,000.00	€
Costs of pv system:	970.00	€/kWp
Subsidy:		%
Total costs without interests:	256,000.00	€
Total costs with interests:	283,467.00	€
Possible yearly costs:	500.00	€
Yearly inflation rate:	2.00	%
Margin:	-15,756.00	€
Yearly leasing payments:	*21,781.00*	*€*

Tariff support

Own assumption/data

Year	Electricity price	Yield	Costs	Cumulative balance sheet
1	0.16	21,678.00	500.00	21,178.00
2	0.16	21,591.00	510.00	42,259.00
3	0.17	21,505.00	520.00	63,244.00
4	0.17	21,418.00	531.00	84,131.00
5	0.17	21,331.00	541.00	104,921.00
6	0.18	21,244.00	552.00	125,613.00
7	0.18	21,158.00	563.00	146,208.00
8	0.18	21,071.00	574.00	166,705.00
9	0.19	20,984.00	586.00	187,103.00
10	0.19	20,898.00	598.00	207,403.00
11	0.20	20,811.00	609.00	227,605.00
12	0.20	20,724.00	622.00	247,707.00
13	0.20	20,637.00	634.00	267,711.00
14	0.21	14,250.00	647.00	281,314.00
15	0.21	14,474.00	660.00	295,128.00
16	0.22	14,701.00	673.00	309,156.00
17	0.22	14,931.00	686.00	323,400.00
18	0.22	15,164.00	700.00	337,865.00
19	0.23	15,401.00	714.00	352,552.00
20	0.23	15,642.00	728.00	367,465.00

All information without guarantee of completeness and correctness

Yearly revenues OeMAG-compensation (without degression): *21,678.00€*

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Risk mitigation

- Project has been promoted with community support in public media, website, and social media
- The “sale-and-lease-back” model was considered the best option for financing the project, with standard contracts being available for the community
- However, heavy personal commitment from mayor and local council members was required to convince residents to invest in that model

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Conclusions

- Main lessons learned for crowdfunding projects: personal identification and emotion from local investors is required
- The role of the community (mayor, council members) is crucial, demonstrating personal commitment and “safety” for investors
- Further campaigns can be promoted more easily in the future, also potentially for energy efficiency projects (community infrastructure investments)