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Community scale PV installations in Switzerland Interview

Questions according to CPR design principles (internal reference)

1. Clearly Defined Boundary Conditions

Community Attributes

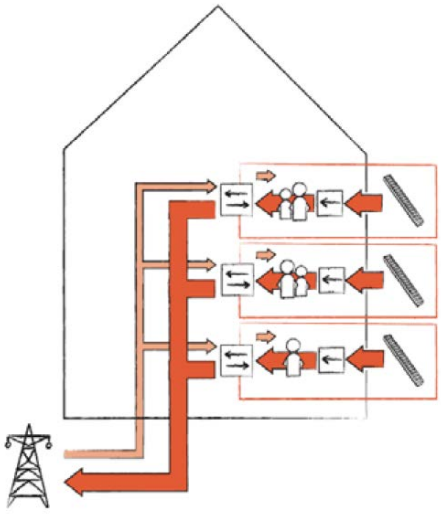
1. Community name and address?
2. How many resident?
3. How many employees?
4. What is the total residential area (m^2)
5. What is the total commercial area (m^2)

PV System Attributes

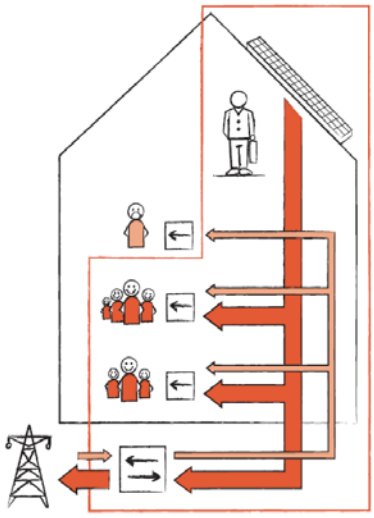
6. What is the installed system capacity in kWp?
7. What is the annual kWh output?

Connection to the grid

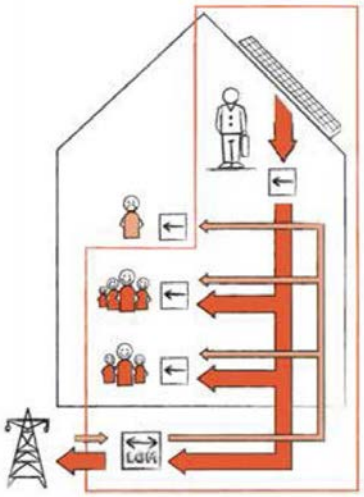
8. How is the system connected to the utility grid? (Ref Figure 1)
9. How many tenants and/or buildings are connected to the PV system?
10. What are the use types of the respective buildings connected to the PV System?
11. What is the total floor area by use type connected to the PV System?



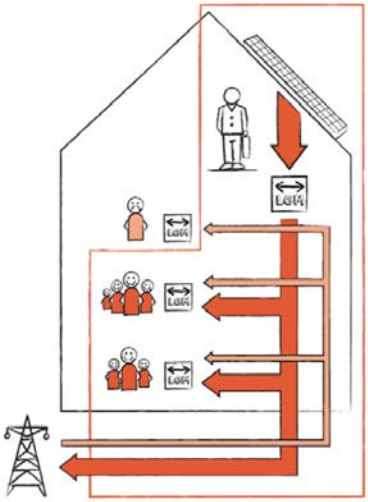
a) Multi-family, individual systems per unit



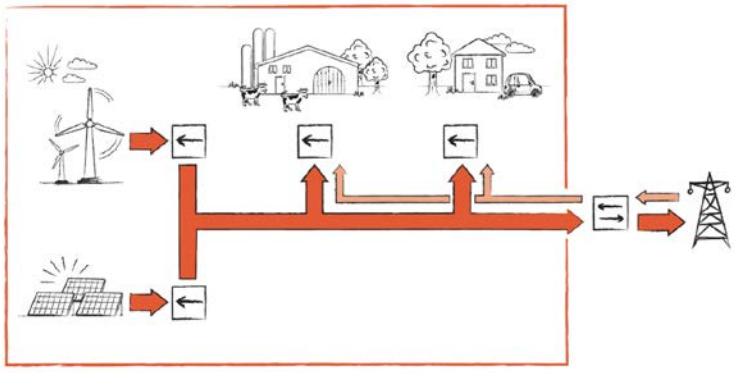
b) Multi-family shared PV system, ≤ 30kVA



c) Multi-family shared PV system, ≥ 30kVA
Single, bi-directional LGM meter



d) Multi-family shared PV system, ≥ 30kVA
bi-directional LGM meter per user + PV system



d) Multi-building complex with shared PV system

Figure 1: Five metering schemes for community scale PV or *Eigenverbrauchsgemeinschaft* applications by Vollzugshilfe Eigenverbrauch (EnG; SR 730.0)

2. Appropriation rules adapted to local conditions

Means of paying for electricity and community agreements

12. How do residents/office owners pay for the PV system?
13. How does the community coordinate the cost of electricity?
    a. Single bill from utility, arrangements through community agreements or other
    b. Assistance from utility company
    c. Combination of the (a) and (b)

3. Collective-choice arrangements

Community space

14. Does the community hold discussions about the electricity produced by the shared PV system? (Yes/no) If yes, how?
15. Does the community coordinate the use of electricity during the hours of self-consumption? (Yes/no) If yes, how?
16. Do users have an agreement to share the electricity produced during self-consumption? (yes/no) If yes, what is the agreement?
17. Do users set energy saving targets, load shifting targets, solar fraction targets? (Yes/no) If yes, what are they?

Community space

18. Does the building/complex have a shared community space(s)?
19. If yes, what types of space? for example washing rooms, playgrounds, kitchens, garden, roof terrace, reading rooms?
20. Are these spaces used frequently and by what fraction of the tenants use the shared space?
21. Does the community have existing internal groups or meetings (for example grilling and for non energy related issues?)

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4. Monitoring

Energy information

22. Do users know how much energy they are using at a given instance in time?
23. Do users know how much energy is being produced by the system at any time of day?
24. Is there an app/website where they can review this information?
25. Are users alerted when to use more/less energy according to the self-consumption availability?
26. How often is the app/website actually used?

Available information for further analysis

27. Does the community have hourly building/complex electricity consumption data for any 1 year time period that we can use for further analysis?
28. Would users connected to the PV system, be willing to share 1 year of consumption data
29. Does the community have hourly PV production data available for the same 1 year time period?

5. Graduated sanctions & 6. Conflict resolution

Energy efficiency accountability

30. Does the community make agreements for a consequence/fine/fee/sanction for those who do not meet the energy target?
31. Does the community provide options for tenant conflict-resolution, for energy related issues or otherwise?

7. Minimal recognition of rights to organize

Means of acquiring the system

8. When was the community PV system installed?
9. Did the tenants collectively decide to invest in the system?
10. Did the owner of the building invest in the system independently?
11. What is the average tenancy?
12. What fraction of residents/companies own?
13. What fraction of the residents/companies rent?
14. Is there a good 'sense of community'?

8. Clearly Defined Boundary Conditions

Means of acquiring the system

15. Are the community members aware of the following organizations, reports, and regulation, which support community scale solar PV installations in Switzerland?
    a. Verband unabhängiger Energieerzeuger (VESE)
    b. Energie Zukunft Schweiz Eigenverbrauch Solarstrom
    c. Energie Schweiz Eigenverbrauch

16. Does your community have a Minergy rating? If so, which rating?
17. Is your community awarded a 2000 Watt Society label?
18. Does your community have any other sustainability recognition?