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Virtual self-consumption community (vZEV)

Introduction

In Switzerland, more and more property owners are deciding to install a photovoltaic system ("PV system") on their buildings. The electricity generated by a PV system can be used directly for personal consumption or fed into the power grid in return for compensation.

In order to make the use of PV systems as efficient as possible and to further promote self-consumption, a few targeted amendments to the Swiss Energy Act (EnG) and the Energy Ordinance (EnV) have established, as of January 1, 2025, the legal basis for the virtual self-consumption community (in addition to the existing physical self-consumption community, or "ZEV").

ZEV and vZEV

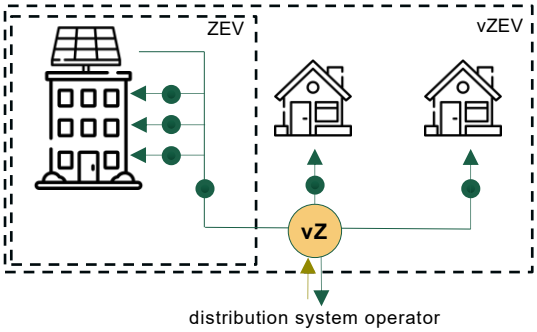
In a ZEV, several end consumers join forces to consume the solar power they generate themselves. ZEV members with a PV system benefit from a better tariff for selling electricity to other ZEV members than if they feed the electricity into the public grid. In addition, by consuming their own energy, they avoid the grid usage tariffs that would be charged by the distribution network operator.

The ZEV acts as a single end consumer vis-à-vis the distribution system operator ("DSO"). There is a connection cable and an electricity meter from the DSO. The individual ZEV members are no longer end consumers of the DSO. ZEV members are connected to private electrical power lines and equipped with a private meter. The ZEV administration bills the costs incurred to the respective end consumers based on the measurement data from the private meters.

The vZEV is also intended to promote self-consumption. As with ZEV, vZEV is also treated as a single end consumer by the distribution system operator. However, unlike a ZEV, a vZEV allows the connection of ZEV participants at the place of production to be made via the distribution network operator's connection line. Based on the addition to Art. 16 para. 1 EnG, the use of existing connection lines of the DSO for own consumption is permitted. Therefore, unlike with ZEV, vZEV allows the use of the distribution network operator's lines, eliminating the need to lay and finance private lines.

The distribution system operator uses a virtual metering point to determine the consumption and feed-in of electricity purely mathematically ("virtually"). The distribution system operator periodically summarises the measurement data at the virtual metering point and transmits this data to the vZEV contact person. The settlement for the individual members of the vZEV must be carried out by the members themselves (as is the case with the ZEV).

In simplified graphical form, a ZEV and a vZEV can be represented as follows:



Advantages of the ZEV

Due to the possibility of using existing local infrastructure, for example, neighbouring properties separated by a residential street can jointly form a vZEV by using the existing connection lines of the distribution network operator to transmit self-generated electricity. The prerequisite is that the connection cables and the local electrical infrastructure are rated at less than 1 kV. (Art. 14 Abs. 3 EnV). Unlike the ZEV, a vZEV therefore allows for aggregation for own consumption within a larger geographical area.

Foundation of the vZEV / ZEV

A vZEV / ZEV is concluded by means of an agreement between the members of the community. The agreement regulates, for example, the rights of continued use and shared use of the PV system, possibly by means of a servitude agreement. The terms of use and billing can be set out in a set of regulations. In the case of condominium ownership, the existing regulations may be supplemented if necessary. For parties in rental or lease agreements, a supplementary agreement to the rental or lease agreement must be added.

The notification of a merger must be submitted to the distribution system operator three months in advance and must designate the representative of the community.

From 1 January 2026: Local electricity community ("LEG")

From January 1, 2026, the establishment of so-called local electricity communities ('LEG') will be permitted. This gives property owners the opportunity to sell electricity they generate themselves within a neighbourhood or even within a municipality via the public distribution network. The members of a LEG must be located in the same network area, at the same network level and close to each other. Corresponding maps from network operators show where such LEGs will be possible in the future.

The vZEV and LEG models show promising approaches to increasing self-consumption. They have the potential to further advance the expansion of photovoltaic systems in Switzerland and sustainably increase electricity production from renewable energies It will soon become clear whether there is demand for these models.

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