

PEDs & PEBs: Future of Energy Transition Basel, Switzerland

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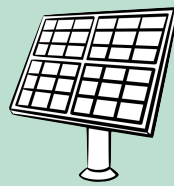
Basel-Stadt aims to become climate-neutral by 2037, as outlined in its official Climate Strategy. Since buildings account for over 40% of the canton's total energy consumption, reducing emissions from the built environment is a top priority for achieving this goal.

CURRENT FRAMEWORKS:

- Basel Energy Standard: Mandatory rules for energy-efficient construction
- Minergie Labels: Voluntary certifications for ultra-low-energy buildings
- Public buildings must meet or exceed Minergie or similar standards



Vauban, a community-led PED in Freiburg, Germany



Gebäude F, a local fully functional PEB in Erlenmatt, Basel

How Positive Energy Districts (PEDs) Contribute to Basel's Climate Neutrality Goals:

- Local, clean energy production
- Lower bills & local green jobs
- Smart, efficient infrastructure
- Supports 15-minute city living
- Driven by communities, not just tech

Key Challenges to Implementing PEDs in Basel:

- Limited space in a dense city
- Restrictions from heritage buildings
- Few suitable redevelopment areas
- Grid & infrastructure upgrades needed

How Positive Energy Buildings (PEBs) Contribute to Basel's Climate Neutrality Goals:

- Citywide, building-level solution
- Fits Basel's planning & regulations
- Works without new construction
- Ideal for public buildings & retrofits
- Easier to scale than full PEDs

Key Challenges to Implementing PEBs in Basel:

- High costs for retrofitting
- Depends on owner motivation
- Complex ownership structures
- Limited energy sharing potential
- Only a technical solution

Solution?

A Hybrid Path Forward for Basel's energy transition: Leverage the scalability of PEBs and the innovation potential of PEDs.

- Retrofit with PEBs: Upgrade existing buildings using Minergie and Basel Energy Standard.
- Pilot PEDs: Focus on areas like Dreispitz or Klybeck+ for innovation and testing.
- Build local capacity: Train actors, test regulations, and prepare the grid.
- Support with policy: Enable energy sharing and citizen participation