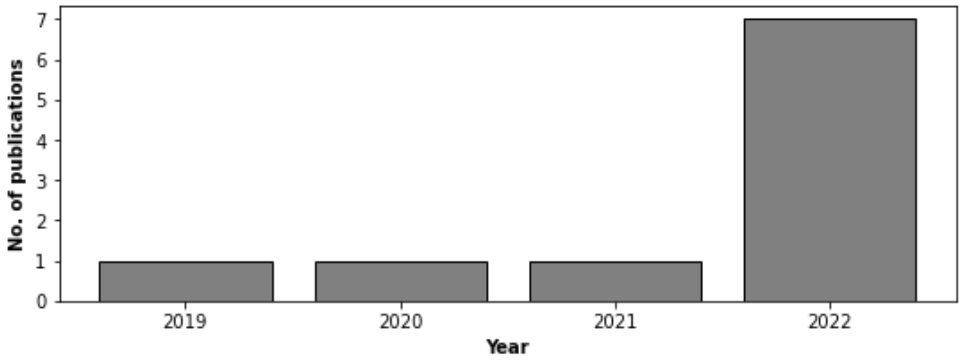
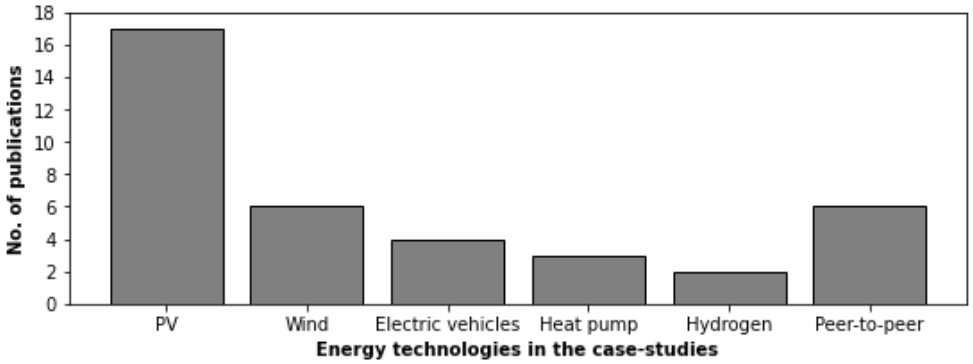
The review of open-source tools for energy generation in Energy community research papers from 2018 to 2022



Open-source Tool	Main purpose	Publications	The most used/descriptive keywords
Pv-lib	Provides a set of functions and classes for simulating the performance of photovoltaic energy systems	[1]	Energy storage systems, Self-consumption, Demand side management, Batteries, Heat pumps
renewables .ninja	Estimate PV and wind electricity power output for any location, using merra-2 reanalysis dataset.	[2], [3], [4], [5], [6].	Multi-energy-system modeling, Capacity expansion, Stochastic programming, Energy flexibility, Sector coupling, Local renewable energy generation, Decarbonization, Climate change, Expansion planning, Green hydrogen, Bidding strategy, Local energy market, Multi agent system, Peer-to-peer, Energy communities, Optimization model, PV sharing, Willingness-to-pay, Microgrids, heat pumps, ancillary services

PVGIS	Provides information about solar radiation and photovoltaic (PV) system performance for any location	27 in total, e.g in 2022: [7], [8], [9], [10].	Model predictive control, Neural networks, Energy communities, Electricity market, CO2 emissions, Sharing mechanism, Load demand, Virtual net-metering, MILP, self-consumption, self-sufficiency, net present value, payback time.



The most used keywords:

Energy community/Renewable energy communities	[redacted]
Peer-to-peer	[redacted]
Renewable energy sources	[redacted]

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