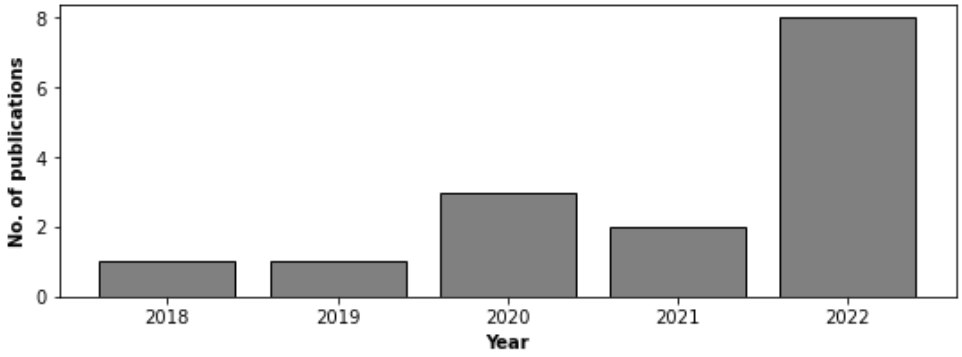
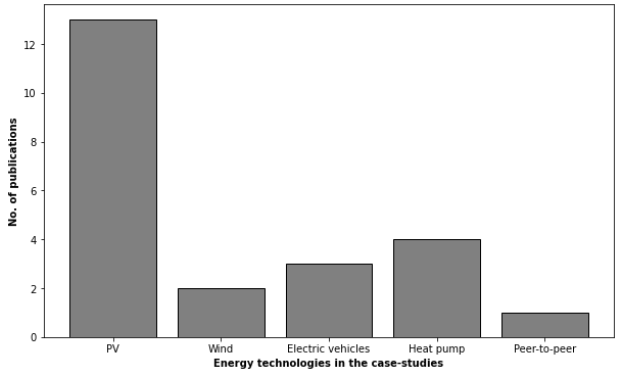
The review of open-source tools in Energy community research papers from 2018 to 2022



Open-source Tool	Main purpose	Publications	The most used/descriptive keywords
LoadProfile Generator	Residential electrical and water consumption profiles based on psychological and behavioral profiles of the residents	18 in total, e.g., in 2022: [1], [2], [3], [4], [5],	Benefit allocations, Business models, Energy communities, Scenario analysis, Energy sharing, Grid tariff, Battery energy storage, Investment optimization, Sector coupling, Model predictive control, Neural networks, Electricity market, CO2 emissions, Bidding strategy; Grid singularity exchange; Multi agent system; Peer-to-peer, Economic performance, Increased self-consumption, Power system modelling.
CREST Demad Model	High-resolution stochastic demand profile generator: database of 34 types of appliances, matching annual household appliance consumption statistics in the UK	[6], [7], [8].	Photovoltaic systems, Uncertainty, Microgrids, Pricing, Dynamic scheduling, Electric vehicle charging, Community Energy Storages System, Battery Sizing, Capacity Market, Firm Frequency Response, Energy communities, Sustainable lifestyles, Discrete choice experiment, Market segmentation.

EnergyPlus	Dynamic building simulations and HVAC, climate data, heating and cooling	[9], [10], [11], [12], [13], [14], [15].	Building information modeling, Low carbon city, System dynamic modeling, Carbon footprint, Energy systems analysis, Power (co-) generation, Urban energy system modeling, Heat pump, Energy Community, Smart grid; Optimization; Energy storage; Energy performance, Renewable energy system, Community energy planning, Multi-criteria integrated evaluation.



The most used keywords:

Energy communities/Renewable energy communities/Community energy system/Zero energy community	
Renewable energy/Alternative energy sources/Distributed power generation	
Scenario analysis/Energy systems analysis	
Greenhouse gas emission/CO2 emissions/Carbon footprint	
Net zero carbon districts/Positive energy districts/Nearly zero energy design	
Load flow modelling/Urban energy system modeling/System dynamic modeling	

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