Probabilistic projections of granular energy technology diffusion at subnational level

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Updated projections for 2050, using the latest data of 2022

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These probabilistic projections are an update to the work of Zielonka et al. (1), using the latest data from 2022 on the actual uptake of solar photovoltaics (PV), heat pumps, and battery electric vehicles (BEVs) in Switzerland (3–5). The provided data files contain the estimated probabilistic projections for each of 2,136 Swiss municipalities (as registered 2023-01-01 by Federal Statistical Office (6)) for these three technologies for the years 2023-2050.

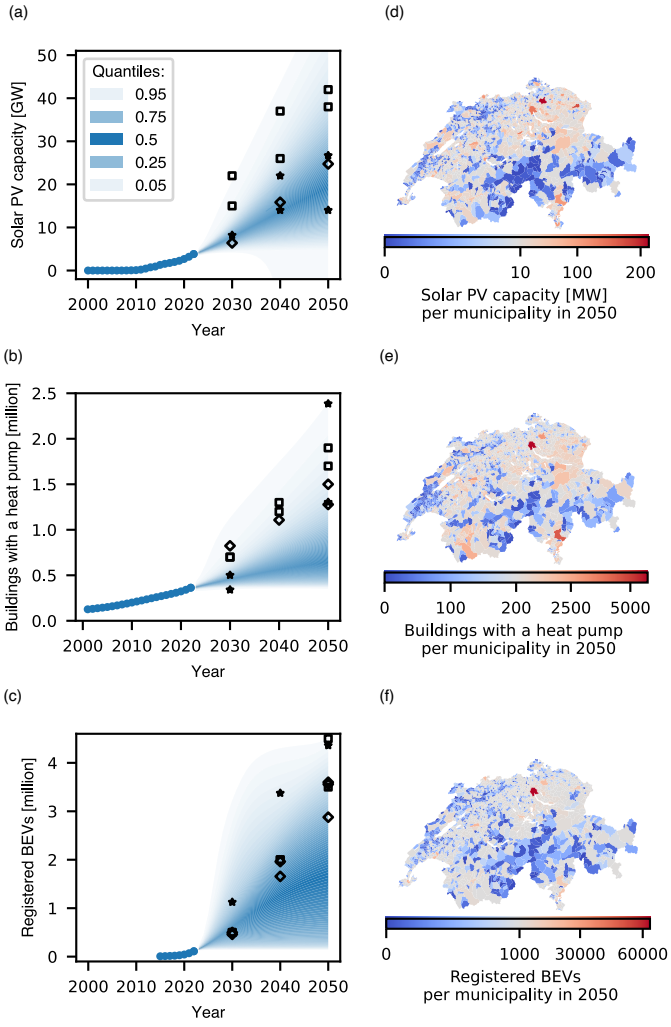

Figure 1. Probabilistic national projections (a-c) of the diffusion of solar PV, heat pumps, and battery electric vehicles (BEVs) in Switzerland until 2050 and maps (d-f) with the projected median values for each Swiss municipality in 2050, both with a quantile coloring scheme. The quantiles of the national projections are the sum of the respective quantiles of all municipalities. The markers set targets for reaching an energy system of net-zero greenhouse gas emissions by 2050, estimated in studies for the Swiss Federal Office of Energy (◊) (7), (□) (8), and for the association of Swiss electricity companies (*) (9). If different scenarios exist, highest and lowest values are shown.

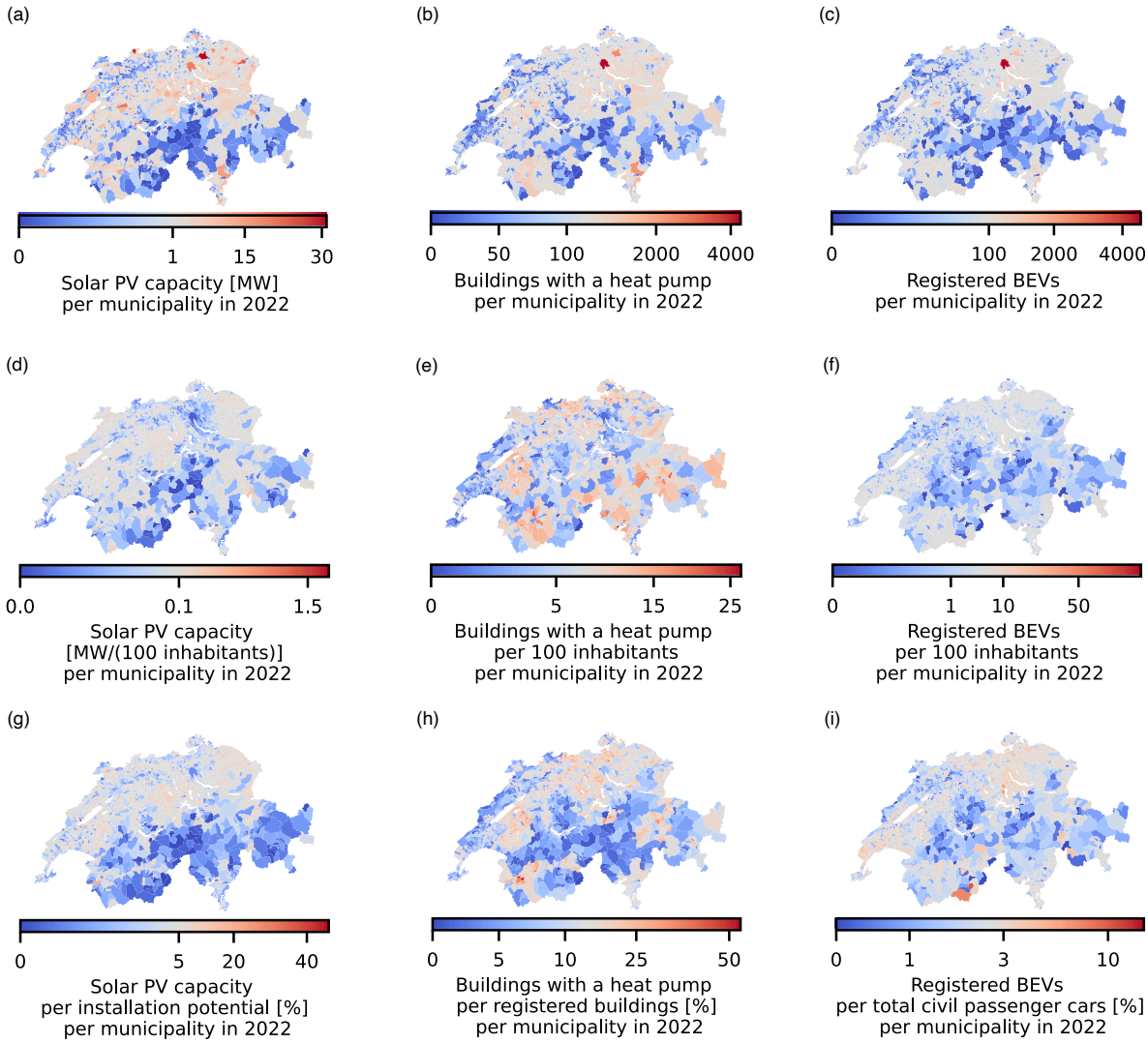

Figure 2. Distribution of solar PV capacities, heat pumps, and battery electric vehicles (BEV) in total (a-c), per 100 inhabitants (d-f), and per potential (g-i) across Switzerland in 2022 with a quantile coloring scheme. Own visualization based on data from Swiss Federal Office of Energy and Federal Statistical Office (3–5, 10, 11).

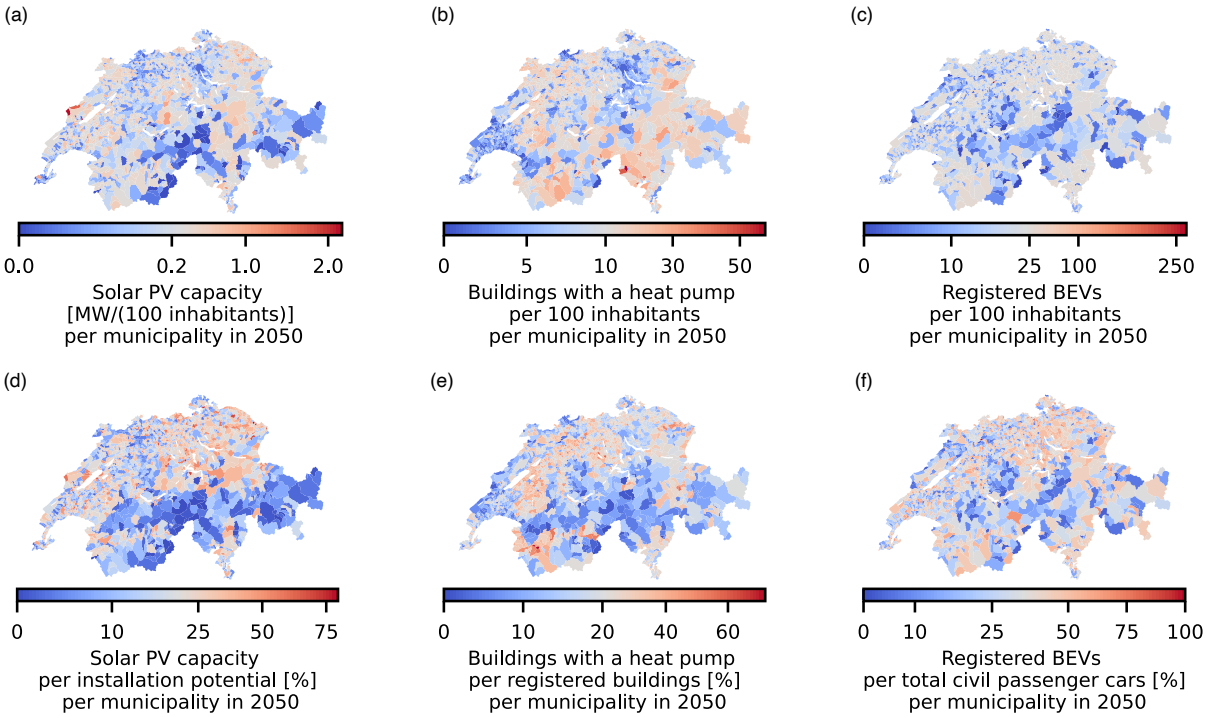

Figure 3. Distribution of solar PV capacities, heat pumps, and battery electric vehicles (BEV) per 100 inhabitants (a-c), and per potential (d-f) across Switzerland in 2050 according to the projected median values of the probabilistic projections of each municipality and a quantile coloring scheme.

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