Supplementary material

The present document provides supplementary information to the paper. The document is structured as follows. First, convergence of the epsilon-NSGAII search is reported in terms epsilon-progress and hypervolume values for all five optimizations carried out for the seed analysis (see section 4.2 of the paper). Then, convergence plots of the stress-test analyses (section 4.3) are reported.

Convergence of epsilon-NSGAII:

First problem formulation

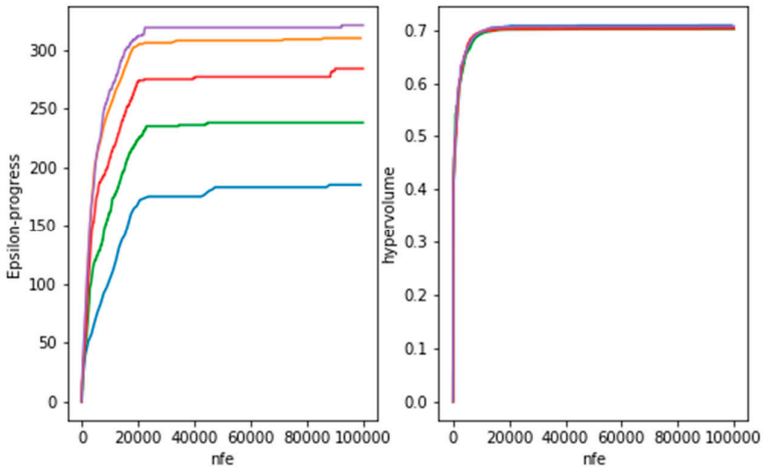

Figure S1. Epsilon-progress and hypervolume of the five optimizations carried out for the first problem formulation.

Second problem formulation

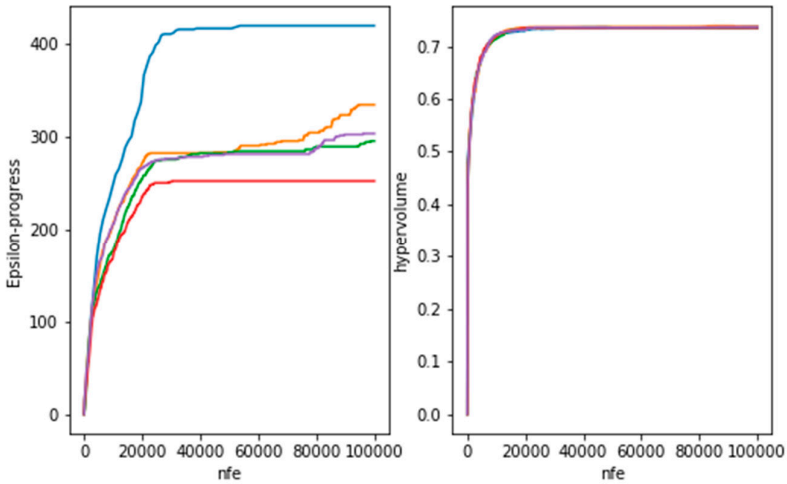

Figure S2. Epsilon-progress and hypervolume of the five optimizations carried out for the second problem formulation.

Third problem formulation

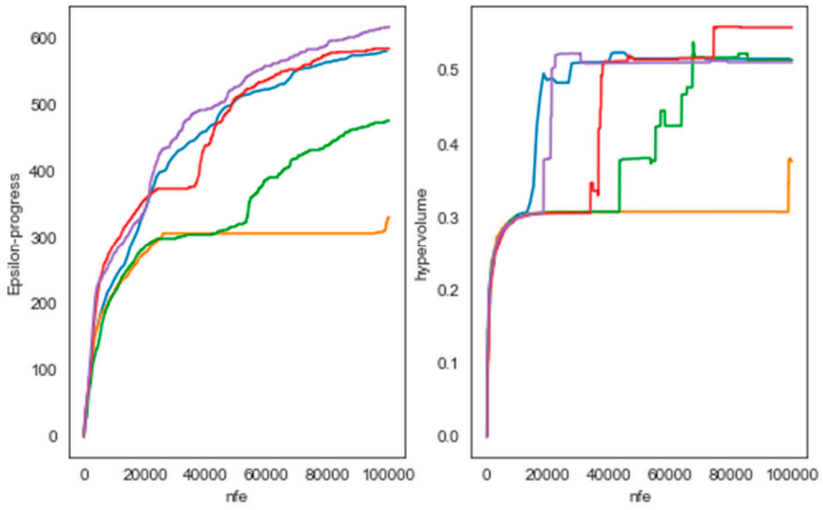

Figure S3. Epsilon-progress and hypervolume of the five optimizations carried out for the third problem formulation.

Finally, hypervolumes of the final set of Pareto dominant policies, i.e. Pareto policies across the five set of Pareto policies generated from the seed analysis, are shown in Figure 4.

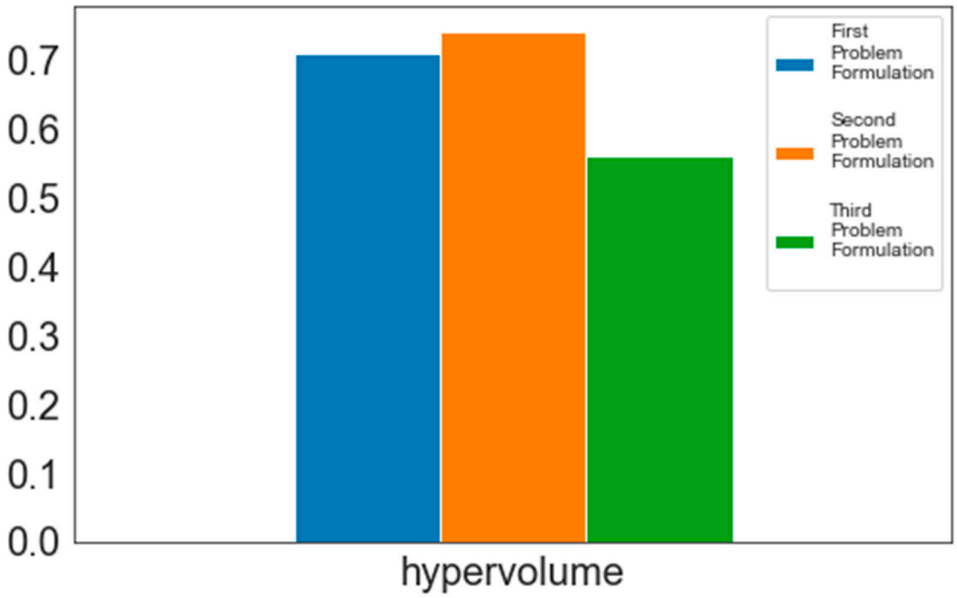

Figure S4. Hypervolume values of the final of Pareto policies (i.e. non-dominated policies across the five set of Pareto policies generated from the seed analysis) for each problem formulation.

Convergence of the stress-test under uncertainty

Figure 5 reports the convergence of the stress-test under uncertainty of all policies in terms of mean total costs in the Netherlands (top-left), Germany (top-right), for the system as a whole (bottom-left) and Gini index (bottom-right) over the number of simulations (with a total number of simulation equal to 10000).

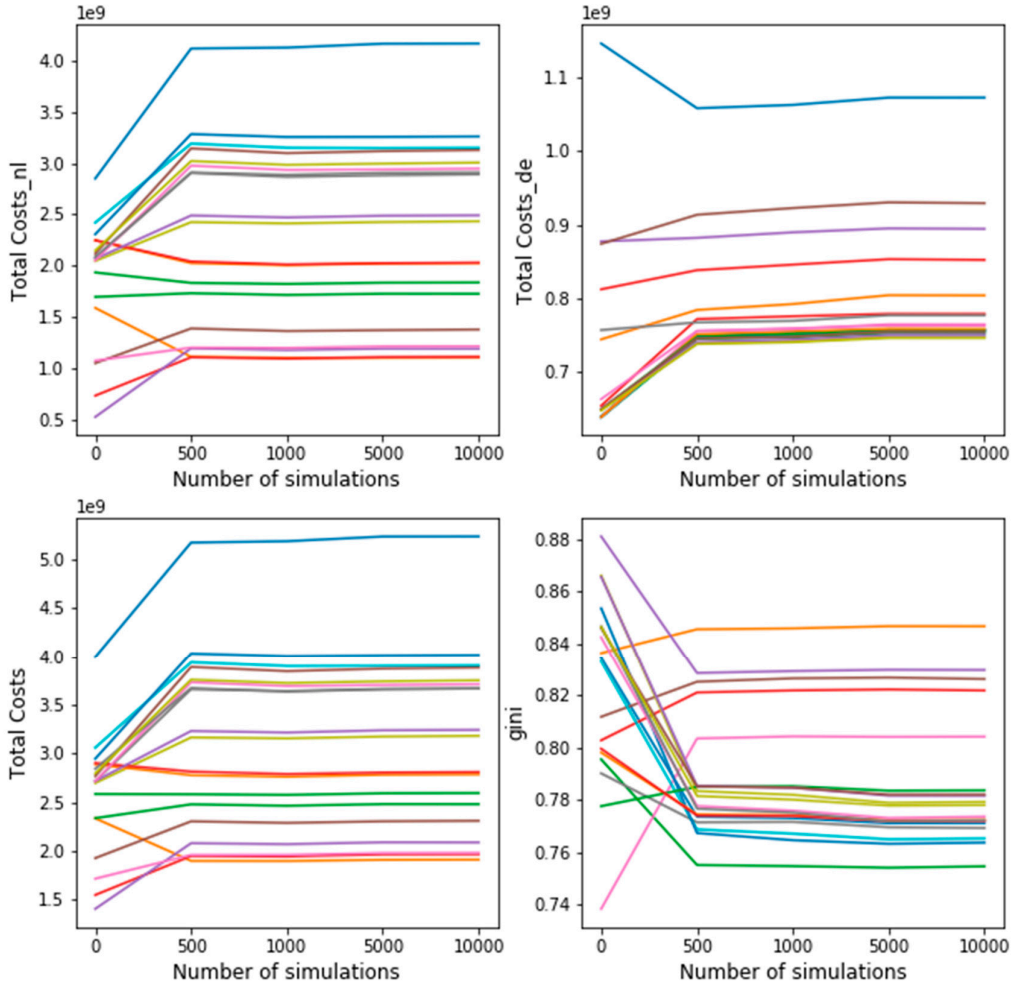

Figure S5. Convergence of the stress-test analysis of all policies.