Claims:

1. A method for evaluating an energy efficiency of a second energy consumption scenario (20) in an industrial or commercial site that runs processes, buildings, and/or further consumers, the method comprising the steps of:

obtaining a first energy consumption scenario (10), which comprises a first time-series of energy consumption data (14) of at least one device, and a quality measure (18) of the first energy consumption scenario (10), wherein the quality measure (18) is based on a sum of energy consumptions of the at least one device;

obtaining the second energy consumption scenario (20), which comprises a second time-series of energy consumption data (24),

wherein the second energy consumption scenario (20) has a shorter duration than the first energy consumption scenario (10);

comparing, by a pattern detector (30), the second time-series of energy consumption data (24) to the first time-series of energy consumption data (14); and

if the second time-series of energy consumption data (24) is similar to the first time-series of energy consumption data (14), outputting the quality measure (18) of the first energy consumption scenario (10), wherein the quality measure (18) is used for evaluating and improving the energy consumption efficiency of the at least one device and/or controlling the at least one device.

2. The method of claim 1,

wherein the data being similar means a deviation of each data of the first time-series of energy consumption data (14) to the data of the second time-series of energy consumption data (24) of less than 1 %, of less than 5 %, of less than 10 %, of less than 20 %, or of less than 40%.

3. The method of claim 1,

wherein the data being similar means that a trained artificial neural net, ANN, according to claim 13 outputs the data of the second time-series of energy consumption data (24) being part of the data of the first time-series of energy consumption data (14).

4. The method of any one of the preceding claims,

wherein the quality measure (18) comprises an energy consumption class, a quality estimation and/or a measurement result of the energy consumed in this scenario.

5. The method of claim 4,

wherein second energy consumption scenarios (20) of essentially the same quality measure (18) are aggregated.

6. The method of any one of the preceding claims,

wherein the quality measure (18) is attributed.

7. The method of any one of the preceding claims,

wherein the at least one device comprises a machine driven by electrical, mechanical, chemical, and/or further energy sources.

8. The method of any one of the preceding claims,

wherein the first energy consumption scenario (10) and the second energy consumption scenario (20) comprise energy consumption data (14, 24) of at least two devices.

9. The method of any one of the preceding claims,

wherein the first energy consumption scenario (10) and the second energy consumption scenario (20) comprise input-data (12, 22).

10. The method of claim 9,

wherein the input-data (12, 22) comprise environment data, schedule data, production cycle data, and/or other data to influence at least one device of a scenario.

11. The method of any one of the preceding claims,

wherein, if the second time-series of input-data (22) is similar to more than one first time-series of input-data (12), namely to a primary and a secondary time-series of input-data of a primary and a secondary energy consumption scenario,

outputting the quality measure (18) of the primary and the secondary energy consumption scenario.

12. A system for evaluating an energy efficiency of an energy consumption scenario (10, 20), which is configured to execute a method according to any one of the preceding claims.

13. An artificial neural net, ANN, which is configured to:

in a first learning phase, obtaining a plurality of first energy consumption scenarios (10), which each comprise a first time-series of energy consumption data (14) of at least one device, and a quality measure (18) of the first energy consumption scenario (10);

in a second learning phase, obtaining a plurality of second energy consumption scenarios (20), which each comprise a second time-series of energy consumption data (24) of at least one device, and a similarity

assessment of each second energy consumption scenario (20) to each first energy consumption scenario (10);

in a third learning phase, analyzing the similarity assessments, by the ANN;

in a productive phase, applying, by the ANN, the similarity assessments to a newly obtained second energy consumption scenario (20); and

if a similarity assessment of the newly obtained second energy consumption scenario (20) is greater than a predefined value, outputting the quality measure (18) for the energy efficiency of the scenario.

14. A non-transitory computer-readable storage medium having a program stored therein, which, when executed on a processor instructs the processor to perform a method according to any one of the claims 1 – 11.

15. Use of a system according to claim 12 for evaluating an energy efficiency of an energy consumption scenario and/or of a site running a plurality of energy consumption scenarios.