Claims

1. An energy management server comprising:

an estimator~~ion unit configured to~~ that estimates an energy demand in a building where electrical apparatuses including an energy consumption apparatus and an energy storage apparatus are equipped based on data associated with the electrical apparatuses;

a receiver that receives a demand response signal including an~~condition setting unit configured to set a plurality of~~ energy consumption suppression condition~~s~~;

a calculator~~ion unit configured to~~ that calculates, before arrival of the demand response signal, ~~an~~ plurality of operation schedules of the electrical apparatuses, which are~~is~~ configured to optimize an energy balance in the building, based on the energy demand and a plurality of energy consumption~~the~~ suppression conditions set before the demand response signal arrives;

~~a reception unit configured to receive a demand response signal including an energy consumption suppression condition;~~ and

a controller~~ unit configured to~~ that controls the electrical apparatuses based on the operation schedule calculated based on~~under~~ a suppression condition

corresponding to the suppression condition included in the received demand response signal.

2. The energy management server according to claim 1, wherein the electrical apparatuses include an energy production apparatus,

the estimator~~ion unit~~ estimates an energy product by the energy production apparatus, and

the calculator~~ion unit~~ calculates the operation schedule based on the energy product.

3. The energy management server according to claim 1, further comprising a designator~~ion unit configured to~~ that accepts designation of a reducible amount of energy consumed by the energy consumption apparatus,

wherein the calculator~~ion unit~~ calculates the operation schedule based on the designated reducible amount.

4. The energy management server according to claim 1, further comprising a weather data receiver~~reception unit configured to~~ that receives weather data,

wherein the calculator~~ion unit~~ calculates the operation schedule based on the weather data.

5. The energy management server according to claim 1, wherein the estimator~~ion unit~~ estimates a plurality of energy demands based on different criteria, and

the calculator~~ion unit~~ calculates the~~a plurality of~~ operation schedules based on the plurality of estimated energy demands.

6. The energy management server according to claim 5, further comprising an interface that~~unit configured to~~ prompts a user to designate one of the plurality of operation schedules,

wherein the controller~~ unit~~ controls the electrical apparatuses based on the operation schedule designated via the interface~~ unit~~.

7. The energy management server according to claim 6, wherein the interface ~~unit~~ visually displays the plurality of operation schedules and the suppression conditions corresponding to the respective operation schedules.

8. The energy management server according to claim 6, wherein the interface ~~unit~~ visually displays the plurality of operation schedules and peak values of received power amounts corresponding to the respective operation schedules.

9. An energy management method comprising:

estimating an energy demand in a building where electrical apparatuses including an energy consumption apparatus and an energy storage apparatus are equipped based on data associated with the electrical apparatuses;

receiving a demand response signal including an~~setting a plurality of~~ energy consumption suppression conditions~~;~~

calculating, before arrival of the demand response signal, ~~an~~ plurality of operation schedules of the electrical apparatuses, which are~~is~~ configured to optimize an energy balance in the building, based on the energy demand and a plurality of energy consumption~~the~~ suppression conditions set before the demand response signal arrives;

~~receiving a demand response signal including an energy consumption suppression condition;~~ and

controlling the electrical apparatuses based on the operation schedule calculated based on~~under~~ a suppression condition corresponding to the suppression condition included in the received demand response signal.

10. The energy management method according to claim 9, wherein the electrical apparatuses include an energy production apparatus, and the method further comprising

estimating an energy product by the energy production apparatus, and

calculating the operation schedule based on the energy product.

11. The energy management method according to claim 9, further comprising

accepting designation of a reducible amount of energy consumed by the energy consumption apparatus, and

calculating the operation schedule based on the designated reducible amount.

12. The energy management method according to claim 9, further comprising

receiving weather data, and

calculating the operation schedule based on the weather data.

13. The energy management method according to claim 9, further comprising

estimating a plurality of energy demands based on different criteria, and

calculating the~~a plurality of~~ operation schedules based on the plurality of estimated energy demands.

14. The energy management method according to claim 13, further comprising

prompting a user to designate one of the plurality of operation schedules, and

controlling the electrical apparatuses based on the designated operation schedule.

15. A program executed by a computer,

the program comprising:

estimating an energy demand in a building where electrical apparatuses including an energy consumption apparatus and an energy storage apparatus are equipped based on data associated with the electrical apparatuses;

receiving a demand response signal including an~~setting a plurality of~~ energy consumption suppression condition~~s~~;

calculating, before arrival of the demand response signal, a~~n~~ plurality of operation schedules of the electrical apparatuses, which are~~is~~ configured to optimize an energy balance in the building, based on the energy demand and a plurality of energy consumption~~the~~ suppression conditions set before the demand response signal arrives;

~~receiving a demand response signal including an energy consumption suppression condition;~~ and

controlling the electrical apparatuses based on the operation schedule calculated based on~~under~~ a suppression condition corresponding to the suppression condition included in the received demand response signal.

16. The program according to claim 15, wherein the electrical apparatuses include an energy production apparatus, and the program further comprising

estimating an energy product by the energy production apparatus, and

calculating the operation schedule based on the energy product.

17. The program according to claim 15, further comprising

accepting designation of a reducible amount of energy consumed by the energy consumption apparatus, and

calculating the operation schedule based on the designated reducible amount.

18. The program according to claim 15, further comprising

receiving weather data, and

calculating the operation schedule based on the weather data.

19. The program according to claim 15, further comprising

estimating a plurality of energy demands based on different criteria, and

calculating the~~a plurality of~~ operation schedules based on the plurality of estimated energy demands.

20. The program according to claim 19, further comprising

prompting a user to designate one of the plurality of operation schedules, and

controlling the electrical apparatuses based on the designated operation schedule.