plurality of boundaries;

an estimate model storage unit storing the estimate model; and

an estimate model correction unit configured to correct the estimate model stored in the estimate model storage unit, based on the quantity of energy consumption and the quantity of energy conversion and to store the corrected estimate model in the estimate model storage unit, the energy consumption and the energy conversion being caused by operation of each of the plurality of boundaries.

~~12~~11. An energy management system GUI method, comprising:

defining a plurality of boundaries for targets of energy management;

monitoring a time-transitionable status of at least one of the plurality of boundaries;

defining an estimate model associated with at least one status in each of the plurality of boundaries;

estimating, based on the defined estimate model, a quantity of energy consumption and a quantity of energy conversion, the energy consumption and the energy conversion being caused by operation of the targets of energy management; and

displaying first and second boundaries in association with one another, the first boundary including energy demand facilities as the targets of energy management and the second boundary including at least one of energy generation facilities and energy allocation facilities as the targets of energy management.

~~13~~12. The energy management system GUI method according to claim ~~12~~11, wherein

displaying the first and second boundaries comprises displaying first-order information of a past facilities energy value, and second-order information, which is processed or generated based on the first-order information, the first-order information and the second-order information distinguished from each other.

~~14~~13. The energy management system GUI method according to claim ~~13~~12, wherein

displaying the first and second boundaries comprises displaying discriminately a first display/operation window screen handling only the first-order information and a second display/operation window screen handling only the second-order information.

~~15~~14. The energy management system GUI method according to claim ~~12~~11, wherein displaying the first and second boundaries comprises displaying the status in the form of a dynamic state transition diagram.

~~16~~15. The energy management system GUI method according to claim ~~15~~14, wherein the dynamic state transition diagram is a hierarchically structured bubble chart with correspondence to facilities within boundaries of the targets of energy management.

~~17~~16. The energy management system GUI method according to claim ~~16~~15, wherein the bubble chart includes:

bubbles performing input definition and/or output display associated with each of statuses of each of the targets of energy management that transition along the time axis, caused by operation of the targets of energy management; and

a state transition route providing a connection between arbitrary bubbles and specifying a transition path between the statuses of each of the targets of energy management,

wherein the state transition route defines, as a boundary condition, a state during transition between the arbitrary statuses of each of the targets of energy management.

~~18~~17. An energy management method according to claim 1, wherein the targets of energy management operate based on production schedule information,

the energy management method further comprises:

estimating the quantity of energy consumption and the quantity of energy conversion in the future, based on the estimate model and the production schedule information.

~~19~~18. An energy management system, comprising:

energy management facilities being operable based on a production schedule information and consuming and converting energy by operation;

a monitoring unit configured to monitor the time-transitionable status, the quantity of energy consumption, and the quantity of energy conversion of the energy management facilities;

an external information input unit configured to obtain and output external information; and

an energy management apparatus configured to manage the quantity of energy consumption and the quantity of energy conversion of the energy management facilities, based on the external information,

wherein, in the energy management system:

the energy management apparatus comprises:

a production schedule information storage unit that stores the production schedule information,

a facilities information storage unit that stores facilities information of the energy management facilities,

an external fluctuation factor information storage unit that stores the external information obtained by the external information input unit,

a facilities actual performance value storage unit that receives as facilities actual performance values from the monitoring unit and stores a quantity of energy consumption and a quantity of energy conversion of the energy management facilities,

a boundary setting unit configured to define a plurality of boundaries for the energy management facilities,

an estimate model definition unit configured to define a plurality of estimate models to estimate a quantity of energy consumption and a quantity of energy conversion associated with at least one status in each of the plurality of boundaries, based on the production schedule information, the facilities information, and the facilities actual performance value,

an estimate model correction unit configured to correct the plurality of estimate models, based on the facilities actual performance value and the external information, and

a GUI display unit configured to synthesize and display by a GUI the plurality of estimate models corrected by the estimate model correction unit.

~~20~~19. The energy management system according to claim ~~19~~18, wherein the GUI display unit is configured to estimate and display the quantity of energy consumption and the quantity of energy conversion in the future, based on the estimate models and the production schedule information.

~~21~~20. The energy management system according to claim ~~19~~18, wherein the GUI display unit is configured to display a performance index that compares first and second relationships, the first relationship being defined by between the quantity of energy consumption and the quantity of energy conversion of an arbitrary boundary and a variable related to the energies in a baseline time period serving as the reference for comparison, and the second relationship being defined by between the quantity of energy consumption and the quantity of energy conversion of the boundary and a variable related to the energies of the boundary in a reporting time period.