A SYSTEM AND METHOD FOR

ADAPTIVELY MAXIMIZING COST SAVINGS OR PROFITS

ABSTRACT

[95] According to the first aspect of the invention, a system for adaptively maximizing cost savings or profits over a period of time in response to a time-bound variable is provided, comprising: a limited capacity energy storage device configured to provide energy to or receive energy from an electrical consumer and/or producer and to alternatively receive energy from or supply energy to an electrical grid; a bilateral flow link operatively coupled to the energy storage device and configured to control a direction and a magnitude of a flow of the energy from or to the energy storage device, the magnitude of the energy being within an operating range comprising a maximum possible flow of energy to the energy storage device (in-flow limit) and a maximum possible flow of energy from the energy storage device (out-flow limit); and a control device operatively coupled to the bilateral flow link; wherein the control device controls an energy flow via the bilateral flow link in response to the time-bound variable used to adaptively maximize the cost savings or profits based on an estimated quantity of energy required by or provided by the electrical consumer and/or producer, the fill level of the storage device resulting from a rate of in-flow to the energy storage device or a rate of out-flow from the energy storage device over the period of time.

Figure 1