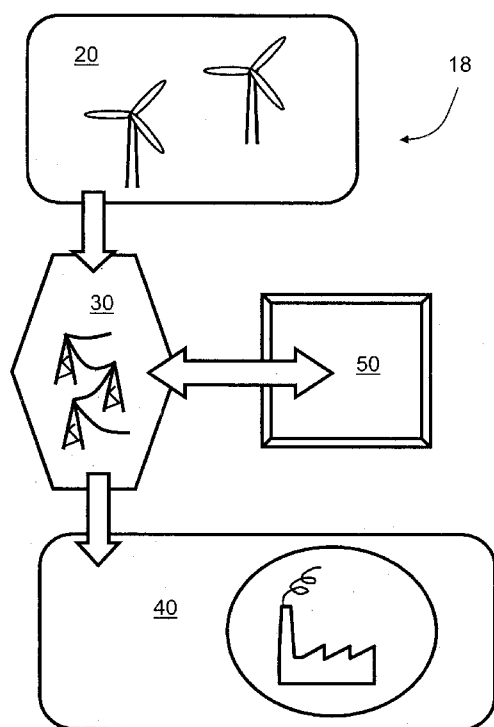




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[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR MANAGING STORED ENERGY



(57) Abstract: There is provided an apparatus for correcting net energy when providing a load balancing service (50) to an electrical power supply network (30). The load balancing service (50) includes one or more energy storage devices which are charged and/or discharged from energy supplied from and/or to the electrical power supply network (30) respectively, wherein the apparatus associated with the one or more energy storage devices is operable to control their state-of-charge (SOC) as a function of an operating frequency (f) of the electrical power supply network (30), and wherein the apparatus is operable to apply a bias of peak high-excursions and/or low-excursions in frequency for ensuring that the one or more energy storage devices are maintained at nominal charge. Beneficially, the apparatus is operable to employ a piecewise linear control algorithm for managing the state-of-charge (SOC) of the energy storage devices.

FIG. 1



TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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A. CLASSIFICATION OF SUBJECT MATTER  
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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 H02J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Date of the actual completion of the international search

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International application No  
PCT/EP2014/001125

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |                                                                                                                                                                                                                                                                                                                      |                       |
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International application No

PCT/EP2014/001125

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