CLAIMS

1. A consumer access device for a smart energy system, the consumer access device comprising:

a processor,

first memory for storing at least one application,

second memory for secure storage of data representing utility usage,

first communication means for receiving secure data representing utility usage, and

second communication means for communicating with at least one server,

the processor being programmed to store secure data representing utility usage received via the first communication means in the second memory,

the processor also being programmed to execute at least one application stored in the first memory,

the processor further being programmed to request that the server establish a link with another consumer access device,

the processor additionally being programmed to respond to a request from a server to establish a link with at least one further consumer access device, to accept the request.

2. A consumer access device as claimed in claim 1, further comprising a display.

3. A consumer access device as claimed in claim 1 or claim 2, wherein the processor is further programmed to obtain confirmation from a consumer prior to accepting the request from the server.

4. A consumer access device as claimed in claim 1, claim 2 or claim 3, wherein the processor is further programmed to download applications to the first memory.

5. A consumer access device as claimed in any one of claims 1 to 4, wherein the processor is further programmed to pair with at least one user device to provide a user interface.

6. A consumer access device as claimed in any one of the claims 1 to 5, further comprising a third communication means comprising a short range wireless transceiver, preferably wherein the third communication means comprises a Bluetooth™ transceiver.

7. A consumer access device as claimed in any one of the claims 1 to 6, wherein the first communication means comprises a ZigBee™ transceiver, and/or wherein the second communication means comprises a WiFi™ transceiver.

8. A consumer access device as claimed in any one of the claims 1 to 7, wherein the processor is further programmed to receive utility data representing consumption of more than one utility.

9. A method of linking at least two consumer access devices located at separate premises so that their respective consumers can interact via their consumer access devices, the method comprising:

receiving, from a first consumer access device or a first user device associated with a first consumer access device, an indication of the identity of another consumer,

confirming that the another consumer has a second consumer access device,

sending an invitation to the second consumer access device or to a second user device associated with a second consumer access device, the invitation identifying the consumer associated with the first consumer access device, and

in response to a positive reply from the second consumer access device or from the second user device associated with a second consumer access device, storing data identifying that the first and second consumer access devices are linked and communicating link data to the first and second consumer access devices.

10. A method as claimed in claim 9, wherein the link data communicated to the first and second consumer access devices comprises address data for a peer-to-peer connection between the first and second consumer devices.

11. A method as claimed in claim 9 or claim 10, wherein the indication of the identity of the another consumer comprises at least one of street address, customer number, customer name, postal code and property number, and unique consumer access device identity.

12. A method of communicating data to both a first consumer access device as claimed in any one of claims 1 to 8 and a second consumer access device as claimed in any one of the claims 1 to 8, the method comprising:

receiving, at a server, a request from first consumer access device or a first user device associated with the first consumer access device to communicate data to the first and second consumer access devices,

confirming that the first and second consumer access devices comprise linked consumer access devices, and

communicating the data to the first and second consumer access devices.

13. A method as claimed in claim 12, further comprising:

receiving, at the server, a request from a second consumer access device or a second user device associated with the second consumer access device to communicate data to the first and second consumer access devices, and

communicating the data to the first and second consumer access devices.

14. A method as claimed in claim 12 or claim 13, wherein the server is further programmed to periodically transmit the same data to the first and second consumer access devices.

15. A method of communicating between a first consumer access device as claimed in any one of claims 1 to 8 and a second consumer access device as claimed in any one of the claims 1 to 8, the method comprising:

receiving, at a server, a request from the first consumer access device to communicate data to the second consumer access device,

confirming that the first and second consumer access devices comprise linked consumer access devices, and

sending the data to the second consumer access device.

16. A method as claimed in claim 15, wherein the data communicated to the second consumer device is alarm data in response to uncharacteristic energy consumption detected by the first consumer access device.

17. A method as claimed in claim 15 or claim 16, further comprising

sending the data to at least one user device associated with the second consumer access device.

18. A method of sharing energy usage data between at least a first consumer access device as claimed in any one of claims 1 to 8 and a second consumer access device as claimed in any one of the claims 1 to 8, the method comprising:

receiving energy usage data from the first consumer access device, and

sending energy usage data to the second consumer access device.

19. A method as claimed in claim 20 wherein the sending of energy usage data occurs over a peer-to-peer connection or via a server.

20. A method of sharing energy usage data as claimed in either claim 18 or claim 19, further comprising abstracting the energy usage data from the first consumer access device before sending the energy usage data to the second consumer access device.