The Waste Electricity Recycling Processor utilises used, repaired motor vehicle batteries 2 and 3 to operate electrical appliances. The processor allegedly reduces the consumption of the appliances significantly. The repaired batteries 2 and 3 are initially fed by conventional methods of electricity production, such as solar power 1. A "desulphator" 4 increases the battery's efficiency by supplying mains electricity. Any electricity that is not used is fed to the national grid via the Feed In Tariff device 9.
Waste Electricity Recycling Processor.

- This device is very **crafty** in its design in as much as it gives you almost the **same** amount of power as you've used as part of its recycling process.

- Once an electrical appliance is switched on, and is fed, the power is recycled and is fed back to where the power came from in the **first** place, OR the recycled power can be fed to the national grid.

- This device supplies an **'On Demand'** supply, such as a **TV Pick Up**.

- This device is assisted by solar power and **doubles** its output. Natural daylight and sunlight falls on the solar panels during daylight hours and the power generated is stored ready for use in the batteries. Once stored in the primary batteries and used, power is fed to the secondary batteries, therefore **DOUBLING** the output from the input, in this case the solar panels. While the solar panels are sleeping during the winter months, appliances plugged into the mains, via the device, such as a fridge, a microwave, cleaner, electric heater etc, provide enough waste energy to be collected and stored for later use in the batteries contributing to the device's supply of power and the doubling process behaves the same.
I must be realistic here, we're not going to build a power station or be totally off grid but will compliment any power used from the national grid. Remember, we are using recycled items where possible as long as it's safe to do so.

We are not going to run washing machines, tumble dryers and other high electricity consuming appliances at this stage. (These appliances are what I call intermittent duty appliances because their unlikely to be used ALL DAY and use vasts amount of electricity when they are in use).

We are going to feed appliances that range from zero to four to five hundred watts of power, e.g. the lights, using energy saving bulbs of course, a computer with it's peripherals e.g. scanner, printer etc, a television, mobile telephone chargers, radios and other small everyday electrical items. These items are plugged into the mains electricity supply by us the consumer and constantly draining power generally. These appliances will now be fed by our system. The less electricity we use the better for us all in the long term. Here, we are going to build a 600 watt system of which will supply our lighting and other appliances. This will be a multivoltage system supplying mains voltage, 240 Volts. (circuit diagram Fig 6).

The batteries. These act as very large CAPACITORS and stabilise the required voltage. (Fig 2 and 3).

The batteries MUST be placed on wooden bench at a comfortable working height. Once placed, the connections have to be made. To feed the mentioned appliances, we will be using six or more 12 volt 170Ah (or greater capacity) batteries. Once the batteries have been obtained, place them on the bench, wipe clean the top area of the battery, Remove the filler caps. check the CELLS for water, if the are dry, top them up to about half an inch above the cells with distilled water, This is FREE, collect it from outside, rain water in plastic clean container. Do not overfill them.

Connect the kettle and a multimeter across the terminals of the one of the batteries. Make a note of the battery voltage e.g. 12.5 volts. Switch the kettle on. Watch the voltmeter reading, the voltage reading will drop, as it drops, the kettle is discharging the battery. The rate the voltage will drop depends on the health, state, of the battery. If this happens relatively sudden, look down at each cell and one or more will start to BUBBLE. Good news, this is the weak cell that has deemed the battery unfit for use on the vehicle, giving flat battery symptoms. Make a note of the voltage when the cells start to bubble. During bubbling process, brown colouring will generally appear discolouring cell's electrolyte.
Notice here we used a 24v kettle to test a 12 volt battery. By carrying out this test we have stored energy, be it small, and using electricity from the battery testing process as opposed to using a conventional battery tester.

**Cells.**

Now that we've established the faulty cells, using the hydrometer, test each cell of each battery. The weak cells will show a poor level reading on the hydrometer scale. Using the LPC (lead post connector), make a connector link to link the connectors together, bypassing the cell. reconnect the multimeter across the terminals. This will read approximately 10 volts, instead of 12 volts. You will have learned that each cell is 2 volts. Carry out this procedure on each of the other batteries. You will now have batteries that can be used for the Waste Electricity Recycling Processor the Fox. the fact that each battery is now 10 volts instead of 12 is not much use when it comes to feed a device that requires 12 volts. Using the batteries that we have tested and repaired, you may have found that each battery gave different results when it came to testing them. E.g. 2 cells may be down or even 3. if this is the case keep the weakest battery, one side, to make into a SPIDER BATTERY fig 6, 1. The good cells will come to make up 12 volts from the 10 volt and 2 volts from the weakest battery. we are now going to connect the 10 volt battery and one cell of the weakest battery to make 12 volts. Connect the positive terminal of the 10 volt battery to the negative side of the cell. Connect the positive side of the cell to connector and isolate the link to the next cell fig 6, 2. Fig 6, 3 shows the link disconnected to open circuit the cell. This connector now becomes the positive terminal. We have now created a healthy 12 volt battery. Carry out the same again. make another 12 volt battery from the other batteries.

Always remember these batteries are FREE and are expensive new and defeats the object of recycling process. The 24v or 12v kettle will used as a BATTERY TESTER at this stage.

Once filled with water, the kettle will be connected across the battery's terminals to test the capacity of the battery, because our batteries are used, their capacity will vary.

**Batteries.**

The batteries can be new or used. One new battery is used for a particular part of the system, of which become apparent later. The batteries will be configured different voltages to run the system, repairing them using the LPC's fig 6 4 to make them fit for our purpose. We will create a Primary set, fig 1 2, secondary set fig 1 3, and an auxiliary set (optional). Fig 6 shows LPC's connected to isolated cells.

**Battery condition.**

Using a voltmeter check the voltage of EACH battery connected for the primary battery that you have made and individual cells you have made to make up the primary battery. Each cell should read 2.2 - 2.3 volts and NO higher. Look over the cells and these should NOT be bubbling furiously. They should deliver the odd bubble occasionally with relatively clear solution. If they do appear to bubble furiously the cell is coming to the end of it's life and also creating HYDROGEN! The system works happily without creating hydrogen.

Make another cell up and reconnect it to the previous cell's terminals using the LPC'S.
Primary batteries. Fig 1 2.
The Primary batteries will be fed by solar, wind and other methods of electrical power. In this case we are going to make a 26 volt battery. This battery will be store power until required. Once stored, this power will run our appliances. While our appliances are being used, this will be fed to the secondary battery.

You have now made 12 volt batteries out of batteries that would have been useless. Using this method with cells we can create any voltage we require, to feed anything we need to feed.

Secondary batteries. Fig 1 3.
We are now going to make a 12 volt battery. The secondary battery will store the power created by a discharge of the primary battery via the appliances. Once fully charged, this power can be used to run appliances OR be fed back to the primary battery, OR fed to the national grid) creating a charging process via the control panel.

Auxiliary batteries. (optional).
These are optional. These are being charged from the secondary batteries after they've been charged.

Desulphator. (Fig 3).
Lead Acid batteries suffer from sulphation after a while and reduces their efficiency, therefore reducing the life of the battery. This is due to the chemical process taking it's place during it's life. I have designed as part of the system a desulphator to reverse the effect and increase the life and efficiency of the batteries.

AC current cannot be stored.
'It is also common knowledge that Alternating Current 'AC' from the mains can not be stored. I have proved that it can, by converting the AC to DC, storing it and converting it back to AC, as does the Waste Electricity Recycling Processor as part of the recycling process.

Inverters.
An inverter is a device for converting battery DC power in to mains AC power. If a short circuit occurs for any reason across it's output it shuts down, if the battery voltage is too high it shuts down and if the battery runs low it shuts down to prevent the battery becoming over discharged.
The value of the inverter will depend on the input, output the consumer requires. In this case we require two 12 volt, 600 watt inverters. one will be connected between the primary and secondary's positive terminals and the other will be connected across the primary terminals.
Control panel.
The separate and remotely located control panel will house the inverters, diodes and various other components relating to the Waste Electricity Recycling Processor.

VARIACS. Fig 2 8.
The variac is a device which allows a VARIABLE AC output. In our case we are feeding 230 volts AC into the variac, rectifying the output and setting the output to the correct output voltage. We set this at 32.5 volts open circuit voltage. This will be fed from the inverter connected to the secondary battery and the output connected to the primary battery. This charges the primary batteries at a slightly lower rate than we are using from them. The system relies on the variac as part of the recycling process.

Solar panels.
The value of the solar panels will depend on the input and the output the consumer requires. In this case we are going to use two 165 watt panels. These will charge the primary battery. We will also use two 60 watt panels, configured to revive a weak 12 volt battery in both the primary and secondary batteries. The connections of this panel will 'float', e.g. has no permanent connectors, as the output cables can be connected to the appropriate battery via it's crocodile clips to 'equalise' with the other batteries in the system. Each battery must be fully charged and equal before switching the system on. If one battery is flat the system will not work. Using solar panels in conjunction with the Waste Electricity Recycling Processor. Solar panels come in different voltages and different outputs. My calculations show that I would have originally required 600 watts of power to operate my appliances, but because of the efficiency of the Waste Electricity Recycling Processor, I only require 300 watts of power. The panels deliver full power in bright sunlight and approximately 1/10 of the power in overcast weather conditions, delivering approx 30 watts all day. Even at the lower end, I still end up with fully charged primary batteries. So instead if using the variac circuit to feed the primary batteries, I use the power in the secondary batteries to operate other appliances. I use the lights on the primary batteries and the computer and mobile phone chargers etc on the secondary batteries to use the power generated by the lights and TV etc. You will notice a small solar panel together with the 300 watt panels. This one is used to connect to any of the batteries or cells to LEVEL them up with the other cells or batteries. A weak cell will restrict current flowing through the system causing the system to lose power. As previously mentioned, keep regular checks on the voltages of each part of the system. By connecting this panel, this help to recover a weak cell / battery, extending it's life.

I have now created a semi-perpetual system where electricity has flown from one point in the system, through another point and is being returned to the point that gave me the power in the first place. I have called this system The Waste Electricity Recycling Processor. Figures show that the system gives a...96% efficiency rate.
Connecting the components together.

**Primary and secondary batteries.** (Fig 1 2&3).
After making 2, 12 volt batteries, connect the negative terminal of one to the other. Connect the positive terminal of one to the other. Connect the multimeter across the terminals. The multimeter will read battery voltage, 12.5 volts. You now have 10v and 2v and 10v and 2v connected in such a way to give 12v. This because the 10v and 2v are connected in SERIES to give us 12 volts. By connecting the negative of one to the other and the positive of one to the other you have connected the both 12v in PARALELL, giving 12 volts but TWICE the capacity, twice the POWER from BOTH batteries. The connections you have made creating a 12 volt supply will be used as the SECONDARY part of the Waste Electricity Recycling Processor. Using more batteries we now need 26 volts. From the remainder of the batteries and extra batteries, test, repair and create 26 volts using a combination of cells to make up the voltage. It could be 10v from one battery, 6v from another and 10v from another making 26 volts. make 2 of these and connect the negative of one to the other. Connect the positive of one to the other. same result, 26 volts twice the capacity, twice the power.
Connect 1 12 volt 600watt inverter to the 12 volt supply previously made, observing correct polarity in the process. Connect the multimeter across the battery's terminals observing the voltage, reading approximately 12.5 volts. Connect four energy bulbs to the inverter's outlet socket. switch the inverter on, observe the voltage reading. switch each light on, the voltage will start to drop. Bare in mind the batteries HAVENT been charged after repairing them. After a period of time the voltage will drop. Once the voltage drops a warning beeper will sound from the inverter at approx 10.8 volts. With the inverter kept switched on, leave the voltage drop to 10.3 volts. The inverter will switch itself off preventing batteries to become flat. Switch off the inverter, the voltage will rise slightly.
Now, connect the negative of the 26v batteries to the negative of the primary battery. Connect another 12 volt 600watt inverter to the positive terminal of the primary batteries and the positive of the secondary batteries. You will realise that when you connected the first inverter to the primary battery. You've connected black to negative and red to positive. Now we have two positive battery terminals. Connect the inverter's positive to the primary battery and the inverter's negative terminal to the secondary battery's positive terminal. With the multimeter still connected to the secondary battery as the previous test, add another multimeter, connecting to the positive on the primary battery and the negative of the multimeter to positive terminal of the secondary battery, as you've just done with the second inverter.
Both meters will read different voltages. The 12 volt reading will read 11+ volts and the 26 volt will read 14-15 volts. Now remove the plug from the first inverter and plug it in to the second inverter. Take note of the voltage readings. Switch ON the second inverter, leaving the first inverter switched OFF.
Switch each lamp on in turn, observing the voltages. As the lamps are lit, the voltage will drop slightly from 14 -15 volts and creep to a slightly to a lower voltage. Notice on the primary battery, the voltage will begin to rise and will keep rising. Observing both voltages carefully with the lamps lit, the first will continue rising and the second will drop in proportion. Keep regular voltage checks as other cells will fail and upset everything, with new batteries, these will be consistent.
**What Happened here?**

Firstly we made a 12 volt battery, (secondary), we then made 26 volt battery, (primary battery), made the connections and observed the voltage readings. during the process, we drained the secondary battery. With the SAME load connected to the primary battery. and the second inverter we noticed the voltage was rising on the first multimeter reading. Why ?, this is why I decided to design this system, because when the lamps are using electricity from the primary battery, the current flows through the secondary battery causing a reverse effect, therefore charging them.

Using the four lamps is good example of the operation of the *Waste Electricity Recycling Processor*. These lamps could each be a lamp in the property for example. Once the secondary batteries are charged, this power can be used in many ways, running a computer or TV or any other appliance, OR the power can be fed back to the primary battery (26 volt). By doing this we are creating a further recycling process.

Using the power to run the four lamps from the primary batteries and charging the secondary batteries on it's return, the primary batteries will eventually become flat. To increase the time they take to become flat, we feed power from the secondary batteries, which are being charged, back to the primary battery.
Desulphator.

I have built an add on unit called a DESULPHATOR, Fig 3. (a process that breaks up the crystals that form on the cells of the battery during it's working life, therefore reducing the life span of the battery, the desulphator reverses that process). E.g When I boil a kettle, when the fridge switches on and runs, as it does each day, or use the microwave, cleaner, for the short time these appliances are consuming power from the mains supply via socket fig3 11, the waste electricity is fed to the primary batteries keeping them well. This part of the system acts as a DESULPHATOR because of pulsating current flowing through the batteries continuing 24 hours day, winter and summer. This device is connected at the mains supply socket 14 and has it's own socket to provide the power previously mentioned called a desulphator socket. The power is processed via the control panel 4 and made suitable for the batteries. During the winter months the output from the solar panels is very poor and unusable, however keeping a low output keeps the batteries alive.

To keep the batteries happy and to keep the house warm I developed this additional piece of equipment. This device connects to the desulphator socket, operating the desulphation process for the primary battery. I decided on developing a device that would create heat, collect the some of the heat and transfer it into hot water, collect the waste electricity and feed the primary batteries to keep the system operating. Having not used the mains electricity for nine months of the year to run these appliances, and reduced my electric bill by 53%, I could use the mains electricity for this part of the system. I decided that electricity is far more efficient, now that I've made it become far more efficient, with my design. This piece of equipment contains heating elements, while the electricity is flowing through the elements kettles are placed over them, heating the room and slowly boiling the kettles as a byproduct of heating the room. This hot water can be used for any domestic purpose. More to the point this power once again is processed via the control panel and made suitable for the batteries, creating the desulphating process.
9.

Connecting the desulphator.
This part of the system requires two 1kw elements mounted on an insulated frame. These are connected via a rectifier on the control panel, being fed an AC current from the mains via an RCD of the correct value. The DC current is fed to the primary battery via the rectifier. Current flowing through the rectifier and the elements allows the elements to act as a RESISTOR, controlling current flowing through the primary battery. Switches must be connected before the elements to switch them on and off. Place a full kettle of water over each of the elements, switch one element on with an ammeter connected, current flowing will be approximately four amps, this will depend on the state of charge of the primary battery. Switch the second element on and the reading will rise to approximately eight amps. With both elements switched on the elements will glow dimly due to the resistance of the primary battery and the kettles will eventually boil. During this time the primary battery voltage would rise until they have reached their optimum voltage and would be desulphating in the process, over time they will become more efficient. During this process, inverter L1 fig 6 would switched on running your lights and other appliances, using some of the power created by the desulphator.

Portable Multi-voltage desulphator / Charger.
This device works on the same principle. With an appliance plugged into the socket, current flowing through the unit will allow any cells to be charged, ranging from two volts upto fortyeight volts, good for equalising cells and batteries. As with the desulphator on the control panel, while a fridge is connected for example, and switches itself on and off, this allows the charging process to be more efficient. The current being fed to the cell or battery will be switched on and off on proportion with the fridge. Batteries don't like being charged constantly. Switching the supply on and off allows the chemical reaction to become more efficient allowing the cell or battery operate at optimum power. Solar panels also do this, not intentionally but as it gets dark and the output drops, the batteries respond favourably and as daylight approaches the output rises, the batteries start responding more efficiently and the charging process starts all over again, resulting in the day, night, on off effect of the daily cycle. After repairing the batteries I tend to leave them for a few days as they perform better as mentioned above, I then start to use them and repair other batteries to do the same. The deliver power for longer.
1A
Diagrams reference.

Fig 1.
1) Input.
2) Primary battery.
3) Secondary battery.
4) Desulphator.
5) TV Pick up.
6) Output device (inverter L1).
7) Output device (inverter L2).
8) P.T.O (power take off).
9) Feed In Tarrif device.

Fig 2.
2) Primary battery.
3) Secondary battery.
6) Output device (inverter L1).
7) Output device (inverter L2).
8) PTO (power take off).
10) Recycling path of current flow.

Fig 3.
14) Mains outlet socket.
10) Path of current flow.
11) Connection to appliances, fridge etc.
4) Desulphator unit.

Fig 4.
5) TV Pick up supply.
7 & 8) Either output can be used.
12) Electric kettle.

Fig 5.
3) Secondary battery.
9) Feed In Tarrif device.
13) Output.
15) Grid.

Fig 6.
1) Spider battery.
2) Isolated cell (disconnected cell link).
3) Isolated cell with lead post connectors.
4) Lead post connector, connected to cell.
1. The Waste Electricity Recycling Processor uses new or used batteries and are repaired and configured to supply an output for electrical components and appliances where once the power is used, the power is fed back to the batteries creating a recycling process of electrical power, creating a semi-perpetual (and sometimes perpetual) effect together with desupphating device, TV Pick up facility together with a Feed In Tariff system, doubles the output from solar panels, and is quiet during operation.

2. The Waste Electricity Recycling Processor according to claim 1, wherein increases battery performance, reducing their capacity to fail, therefore extending their life.

3. The Waste Electricity Recycling Processor according to claim 1, wherein allows alternating current supplied by the mains electricity (AC) to be stored, allowing it to be used when required, until now this has never been done.

4. The Waste Electricity Recycling Processor according to claim 1, wherein replaces most of the power consumed by the components and appliances reducing the overall consumption of the appliances significantly, yet allowing them to operate in the conventional manner and can be installed within a conventional input, output system to save energy.

5. The Waste Electricity Recycling Processor according to claim 1, wherein has a desupphating device to extend the life of the batteries resulting in greater efficiency, charging them at the same time.

6. The Waste Electricity Recycling Processor according to claim 1, wherein has a TV Pick up facility to allow a supply on demand for use of an electric kettle for example during television viewing, instead of using a rush of power from the national grid, saving energy.

7. The Waste Electricity Recycling Processor according to claim 5, wherein is a device connected to a mains outlet socket, feeding intermittent duty appliances such as a refridgerator, electric kettle, microwave, cleaner etc via the mains electricity, keeping the batteries charged, desulphating them at the same time.

8. The Waste Electricity Recycling Processor according to claim 2, wherein the electricity replaced by the recycling process has an efficiency rating of approximately ninetysix percent, the remaing four percent made available by the desulphator and other inputs.

9. The Waste Electricity Recycling Processor according to claim 3, wherein together with the desulphator input, other inputs can also be applied to charge the batteries, e.g solar energy, wind energy etc.

10. The Waste Electricity Recycling Processor according to claim 1, wherein is made available as a portable system where electrical energy is unavailable.

11. The Waste Electricity Recycling Processor according to claim 1, wherein any available input / output is required such as transport, maritime, aviation and other areas where electricity is required.

12. The Waste Electricity Recycling Processor according to claim 1, wherein throughout the whole use of electricity, the electrical principles remains the same, saving energy during the process.
Amendment to the claims have been filed as follows
Claim;

A system comprising;
    a primary battery which is made up of repaired motor vehicle batteries
    connected in series;
    a secondary battery which is made up of repaired motor vehicle batteries
    connected in parallel.
    a first inverter connected between the positive terminal of the primary
    battery and the positive terminal of the secondary battery;
    a second inverter connected across the secondary battery;
    a variac connected to the output of the second inverter;
in which the voltage of the primary battery is greater than the voltage of the
secondary battery, the output of the first inverter is used to power a load, and the
output of the second inverter and variac is rectified and fed to the primary battery.
Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

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<th>Category</th>
<th>Relevant to claims</th>
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GM SOC see whole document |
| X        | 1 at least         | US2005/173996 A1  
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Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC

Worldwide search of patent documents classified in the following areas of the IPC

H02J; H02N

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC

International Classification:

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