

Two limitations that decreases the life of batteries

[Technology](#), [Information Technology](#)



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Two limitations that decreases the life of batteries which are written as follows.

Temperature Effect

The performance of batteries can be affected by an extreme temperatures that is at very low and high temperatures. When temperature is high, battery does not work properly. In this case due to high temperature, heat increases inside the battery which causes battery's fluid to evaporate which causes serious damage inside the battery([www. batteryuniversity. com](http://www.batteryuniversity.com)). Firstly, it affects the voltage indicator due to this it fails to indicate voltage then it allow the battery to charge at a very high temperature which leads to loss of electrolyte and this affect life of battery. On the other side cold temperature also affect the battery performance. We all know that in cold batteries of cars does not work properly. In this case battery performance is very low because electrochemical in the batteries are not active and due to cold temperature thickness of engine oil also increases which make the engine very difficult to turn on which totally affect on the batteries powers and life

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of batteries are decreases². Recharge rate: When we continue charge and discharge the batteries. It's life decreases.

Due to pressure sensitive valve inside the batteries i. e. which do not have ability to regain pressure inside the batteries. So that's why in this types of batteries which is mainly occurs in the lead types of a batteries hydrogen and oxygen ion would be lost to the surroundings that affects the electrolyte and separators which further affect the life of batteries(www. civicsolar. com) i. e. batteries hard to charge again and take more voltage to charge again. So life of batteries increases when charging and discharging the batteries are slow. If we charge the battery of 100V it will take 110-120V. In this way the life of batteries goes decreases continuously after charging and discharging.

According to my opinion batteries are safe when used with precautions: When we properly use the batteries it is very good for all of us. For example children's toys contains batteries which contain very harmful acid which can cause very serious injuries even death if swallowed by child but if we properly used , installed , stored and disposed batteries. it can never make problem and also lithium ion batteries can cause fire or explode when we overheat batteries(www. rbbattery. com). So that's why used batteries in a proper way and charge lithium ion batteries in a room temperature and never charge this types of batteries below freezing temperatures and don't exceed the limit of recommended charging. There are some precautions if we followed that ones then batteries are safe. First don't allow children to install batteries. Always read and follow instruction on battery packaging.

Don't use batteries which are dented and swollen. Don't store batteries where they can touch metals like coins. Avoid throwing batteries out in garbage. Never throw batteries into a fire. In this way if we proper used batteries it is safe.

Tesla Powerwall Home Battery

It is a rechargeable lithium-ion home battery that uses solar power to charge. The technology works behind this is solar panel installed on your roof and an inverter that converts current electricity from solar panel into alternating current.([www. bussinessinsider. com/homebattery](http://www.businessinsider.com/homebattery)). The Powerwall battery stores the excess energy and energy from the utility grid when rates are low. Firstly, solar panel stores the sun's energy throughout the day, storing it for use as it's needed and this energy is converted into alternating current. This electricity is used during evenings. In this tesla Powerwall home battery works.

Positive Impacts

This home battery has several benefits such as lower energy bills, increased property value, power to your home at all times, even during outages, less impact on the environment. Power to your home at all times, even during outages: To eliminate the worry of being without power during inclement weather, solar is a viable option because it Powerwall included as a receptor for excess energy. In this way it is very good to give power to your home even after a severe storm. Less impact on the environment: This home battery never create pollution because it store energy which is directly coming from the sun. In this way it makes our home ecofriendly.

Drawback of this technology

Although it is one time investment but it is very costly. Some of the charges include the cost of the solar panels, installation, the cost of the tesla unit itself and the installation costs and city permit is very expensive.

References:

1. www.civicsolar.com
2. www.batteryuniversity.com
3. www.rbbattery.com
4. www.bussinessinsider.com/homebattery
5. www.doityourself.com