

# Technical Note – How to Set Virtual Battery Allocation on mySigen APP

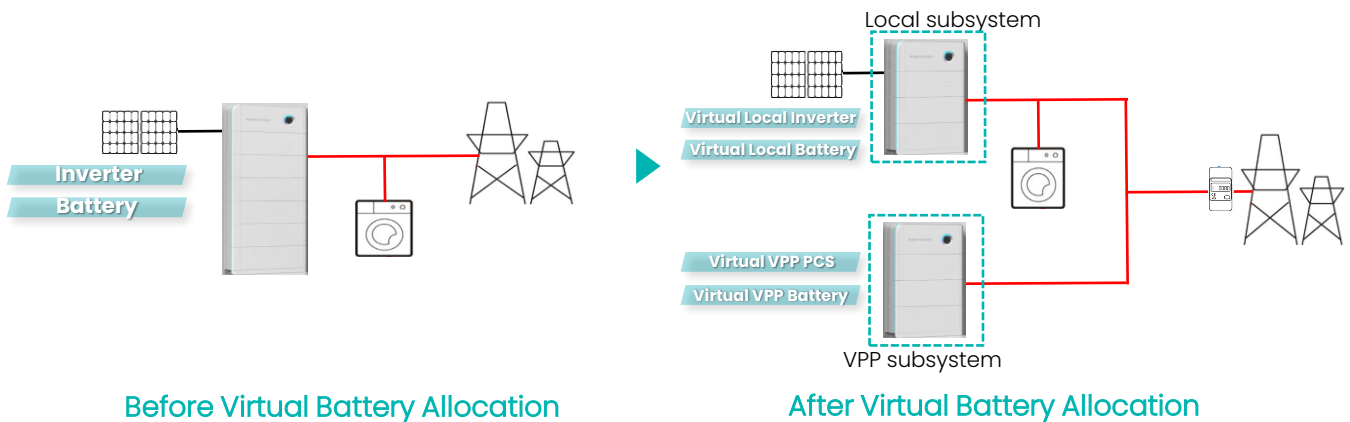
## 1. Introduction

Traditional Home ESS system only works in one operational mode in one period. Either the system supplies loads or follows remote commands. There are some scenarios where system cannot be fully used because of single working mode. In contrast, Sigenenergy system allows users to virtually split one ESS plant into two separate subsystems. One subsystem supplies loads and the other follows VPP commands in parallel.

## 2. Virtual Battery Allocation

Sigenenergy system allows users to set Virtual Battery Allocation, which will virtually divide one ESS system into two subsystems – one for local usage, the other for VPP. Local subsystem contains PV, inverter, BAT, EV charger and loads. VPP subsystem contains inverter and BAT, which is ESS-only system .

Users are allowed to set Virtual Battery values – Virtual Battery capacity, inverter max active input power, inverter max active output power, battery max charging power and battery max discharging power as scheduled by VPP aggregator.

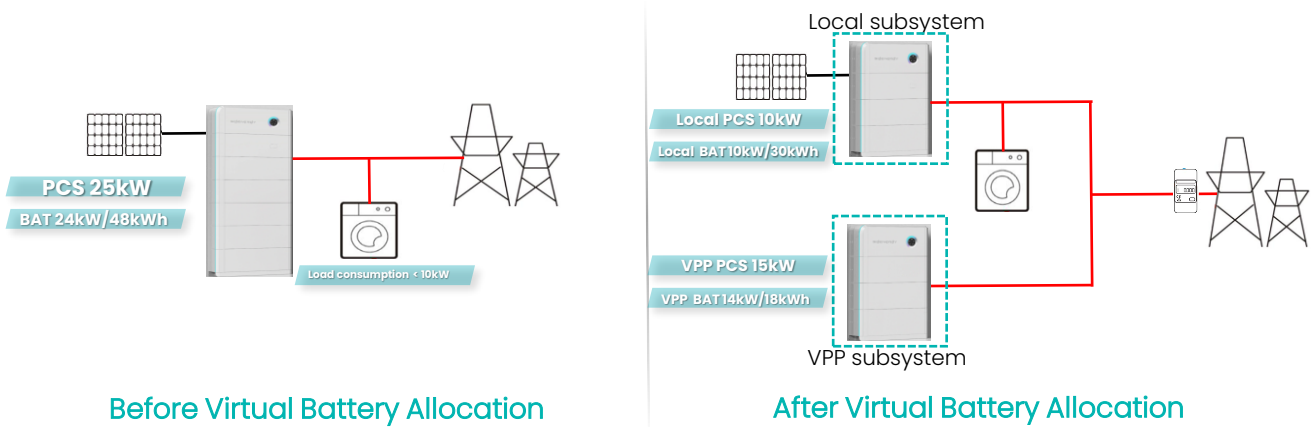


## 3. Applicable Scenarios

If users would like to use part of the installed battery capacity to participate in VPP, they can divide the system into two subsystems and leverage idle capacity to participate in VPP.

With Virtual Battery Allocation activated, the power of different phases can be arranged to supply the imbalance load. If load consumption on phase A exceeds the max output power of phase A from local subsystem, power of phase A from VPP subsystem will be drawn to supply load. The other two phases from local subsystem can be used to compensate the VPP subsystem and ensure that the total power of VPP subsystem remains unchanged.

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An applicable scenario is shown above. The original PCS + BAT system is sufficient for daily. SOC is between 40~100% during daily use. As a result, there is idle power which is not used. After activating Virtual Battery Allocation, local subsystem can be set to PCS 10kW + BAT 10kW/30kWh and meet the load consumption. VPP subsystem can use the remaining power to participate in VPP.

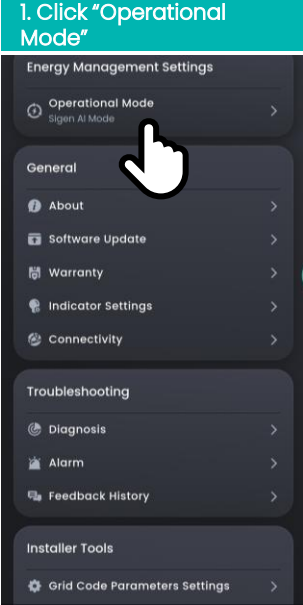
## 4. Important Notice

1. After activating Virtual Battery Allocation, the VPP subsystem only supports using Remote EMS Control to participate in VPP.
2. Two subsystems will use one device to detect power at POC, which can be smart meter or Gateway. The power at POC for each subsystem should be determined separately. However, there is only one detected value. Thus, the power at POC of local subsystem = detected value – the power at POC of VPP subsystem.
3. After activating Virtual Battery Allocation, operational modes such as self-consumption and peak shaving are still available. The settings will apply to local subsystem.
4. Virtual Battery Allocation only works in on-grid scenario. After switching to off-grid mode, two subsystems will return to one system and work in backup mode.
5. When dividing into two subsystems, the charge/discharge rate in one virtual subsystem can be higher than 0.5C as long as the total real charge/discharge rate doesn't exceed 0.5C.

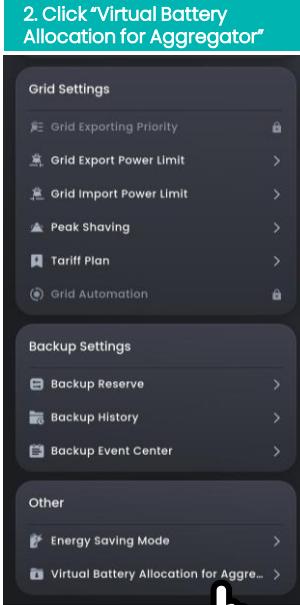
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## 5. How to set Virtual Battery Allocation on mySigen APP


**1. Click "Operational Mode"**



**2. Click "Virtual Battery Allocation for Aggregator"**



**3. Set Virtual Battery values**



**4. Select "Remote EMS Mode" and Set Cut-off SOC**

