MYRESERVE SALES ARGUMENTS – OVERVIEW

Maximum efficiency. Certified safety. Guaranteed performance.

1. INDEPENDENCE AND INCREASE OF SELF-CONSUMPTION

- A **10x faster response time** to power demands increases self-consumption. This means less grid power is purchased.
- Data from the PV system optimally calculates charging cycles. This enables the highest battery efficiency of 99.2 % with an **overall efficiency of 96 % (best point).**
- MyReserve is a DC-side installed battery. This means only one energy conversion is necessary and 90% of the energy saved is used in the household. Standard AC-side batteries require three AC/DC conversions.

2. LONG LIFE AND TOP GUARANTEE

- Charging and discharging protocols are intelligently managed by the battery management system which increases the service life of the MyReserve.
- SOLARWATT offers a **10 year performance warranty** on the battery modules. Should their usable capacity fall below 80 % of the rated capacity, SOLARWATT will cover the costs for replacement, transport, as well as de- and re-installation of the affected module. **The number of cycles is unlimited.**
- 10 year product warranty on the power electrics.
- SOLARWATT additionally provides **5 years of FullCoverage insurance free of charge**. This covers, among other things, overvoltage, lightning strike, theft, and flooding.

3. SAFETY

- MyReserve was **the first home battery to comply with the safety guideline** for lithium-ion storage.
- Safety during transport and operation is ensured by the **14mm thick aluminum housing**.

4. PLANNING, INSTALLATION, OPERATION, AND SERVICE

- Installation in splash-proof outdoor areas is possible due to IP 54 protection rating.
- MyReserve is easy to handle and can be **installed by one person** in no time.
- Each module weighs less than 25 kg.
- The battery is noiseless and maintenance-free because no no filters or cooling hoses are required.

5. MODULARITY

- Due to its modular design, MyReserve can be configured for any set of individual requirements.
- 5 MyReserve Packs can be connected per MyReserve Command: **5 x 2.4 kWh = 12 kWh / 4.5 kW.**
- 6 MyReserve Commands can be coupled per system: **Output up to 27 kW / battery capacity up to 72 kWh.**

6. ENVIRONMENTALLY FRIENDLY

- All SOLARWATT manufacturing and administration buildings run on 100% green electricity.
- During its lifetime, a MyReserve battery stores approximately 10 times more clean energy than is required for its production.
- **86%** of each battery module is recyclable.
- MyReserve battery cells are only made with ethically sourced cobalt – not from the DRC.

SALES ARGUMENTS MYRESERVE

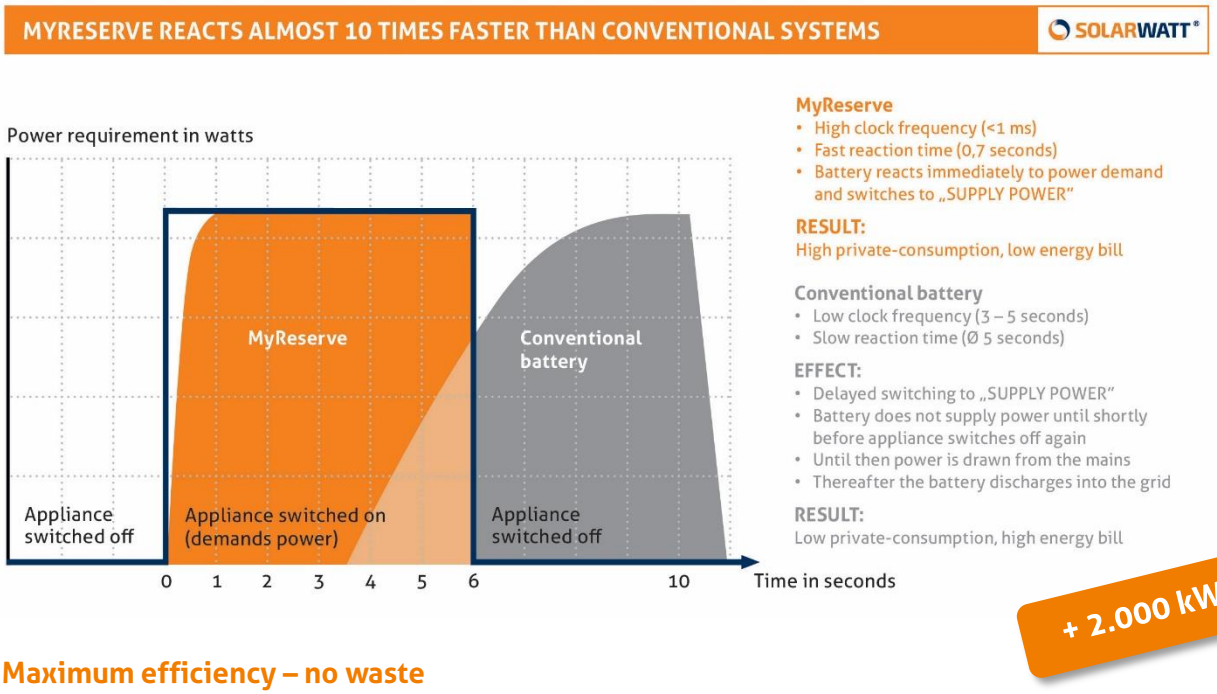
1. INDEPENDENCE AND INCREASE OF SELF-CONSUMPTION

Reactivity and speed

- **AC-sensor:** particularly precise, developed in-house – the new AC-Sensor Flex measures up to 63A directly and a transformer measurement for currents from 75 to 4,500 Ampere, so the AC-Sensor Flex can also be used for larger mains connections.
- **3 x 168 MHz single-core processors:** high clock frequency (< 1 millisecond) = fast reaction time
- Step response of 0.7 seconds at 66 % output
- **Why is that important? Cycling household appliances...**
  - **... discharge in the evening:**
    When necessary the MyReserve switches to discharge and quickly off again when the stored power is no longer required.
    Result of SOLARWATT: increase of self-consumption.

    Competitors' battery storage systems react much more slowly to the power demand. This means that the power initially comes not from the battery storage system, but from the grid. The battery storage system can only reacts and supply power with a delay. This slow reaction is also apparent when power is no longer required. The battery storage system again reacts too slowly, so that in the meantime (the electrical appliance is switched off and no longer requires electricity) the stored electricity flows into the grid.
    Result of competitors: lowering self-consumption and increasing electricity bills.
  - **...charging during the day:**
    For any household appliances running during the day – solar power directly from the roof can be used. As soon as the household appliances stop demanding power, MyReserve begins to "store". If a power requirement occurs again in the household, the MyReserve stops charging immediately so that the solar power can be sent directly into the household.
    Result of SOLARWATT: increase in self-consumption of solar power.

    Competitors' battery storage systems react slowly. An electrical appliance in the household is switched off and if the battery does not immediately start charging – solar power gets sent directly into the grid. It switches to "store" only after a delay. If the appliance requires electricity again and the battery does not immediately stop charging, it will charge from the grid since solar power is being sent to the household appliance.
    Result of competitors: lowering self-consumption, increasing electricity bill.

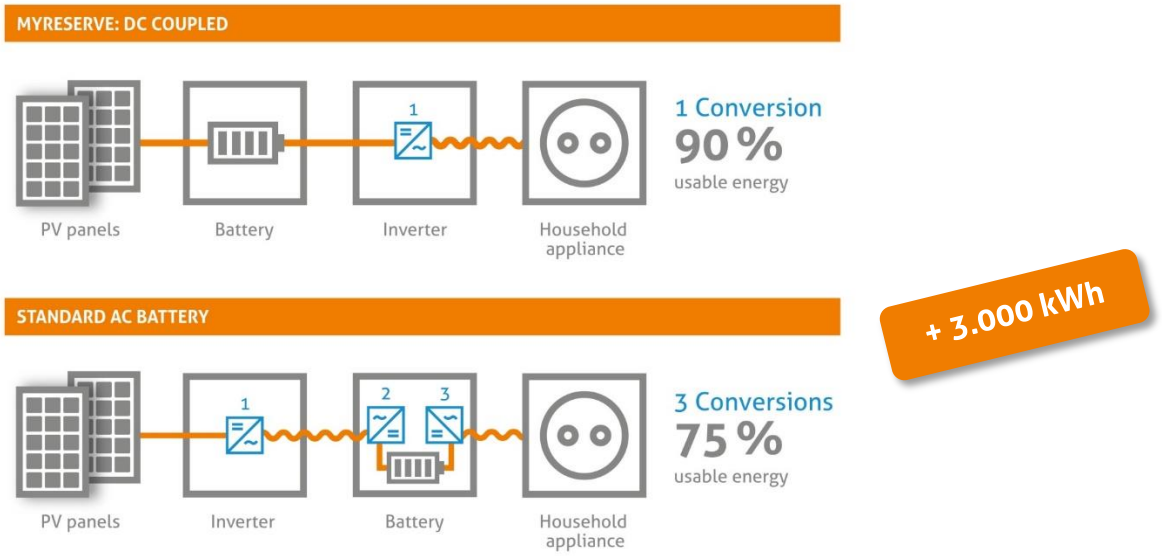


Maximum efficiency – no waste

- **Maximum battery efficiency** of 99.2 %
- **Highest overall efficiency** with 96 % at best point, 93 % in full cycle
- No battery cooling is necessary
- No deep discharge: sleep mode minimizes MyReserve's energy consumption in the discharged state (6 months in the discharged state without damage)

Fewer conversions means more usable solar power:

- **90% usable energy** through fewer conversions than standard AC storage
- MyReserve is installed upstream of the inverter and directly stores direct current from the PV system. Only when the household demands electricity, a conversion from direct current to alternating current takes place.
- **Result SOLARWATT**: more than 90% usable energy
- **Competition result**: only 75% usable energy
- Standard AC batteries are installed behind the inverter. This means that only 3 conversions in total are necessary.
- This means that an **additional yield of 2,000 kWh** is possible with SOLARWATT's MyReserve



Weather station on board:

- MyReserve uses the photovoltaic system as a weather station
- Weather reports are calculated for the respective location from current and historic data. These determine the charging and discharging behaviour of the battery storage system.
- With an EnergyManager, weather forecasts can also be used for yield prediction.
- The intelligent charging electronics increase not only the lifetime of the battery modules, but also the degree of self-sufficiency.

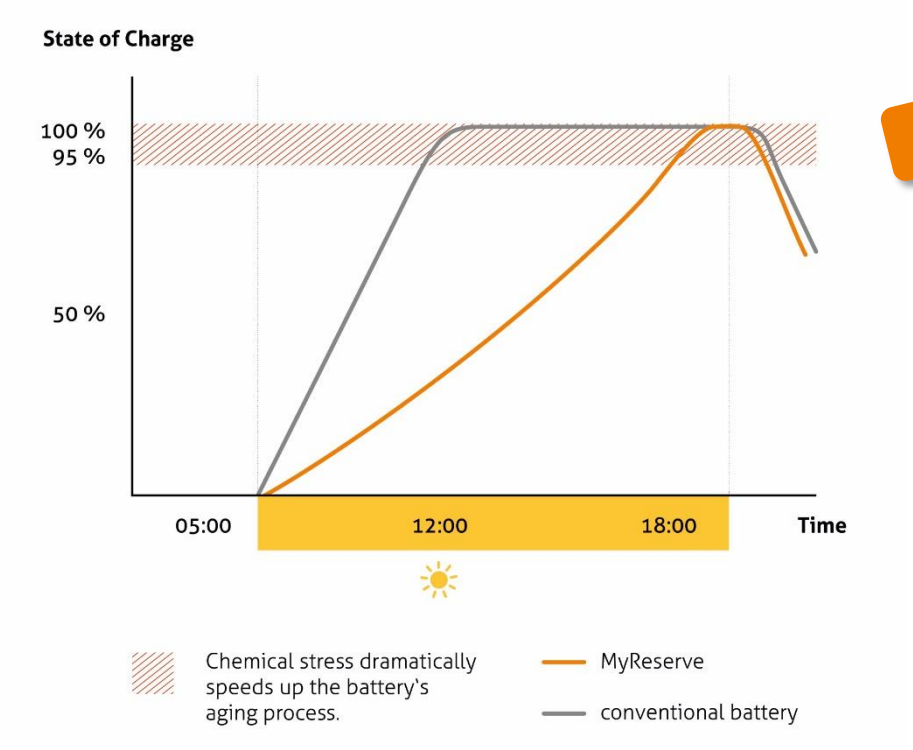
Conclusion:
The fastest reaction speed in combination with the highest battery efficiency on the market, MyReserve enables one to increase self-consumption of free solar electricity and permanently reduce electricity bills.

2. LONG LIFETIME AND TOP GUARANTEE

- 10-year performance guarantee on the MyReserve Pack battery modules with at least 80 % of rated capacity and 10 year product warranty on the MyReserve Command power electronics
- In the event of a warranty claim, SOLARWATT bears the costs for transport as well as demounting and replacing new components
- Damage caused by, among other things, overvoltage in the supply network, lighting strike, theft, and flooding is covered by SOLARWATT FullCoverage.

Maximum efficiency – no waste

- The batteries were specially developed for the charge cycle behavior of home energy storage (slow charging and discharging).
- Batteries age faster if they are constantly fully charged or fully discharged. The BMS of MyReserve therefore controls the charging behavior in such a way that the batteries are fully charged as late as possible. The lifetime of the batteries is also significantly extended by the fact that they are only in the fully charged state for a very short period each time.

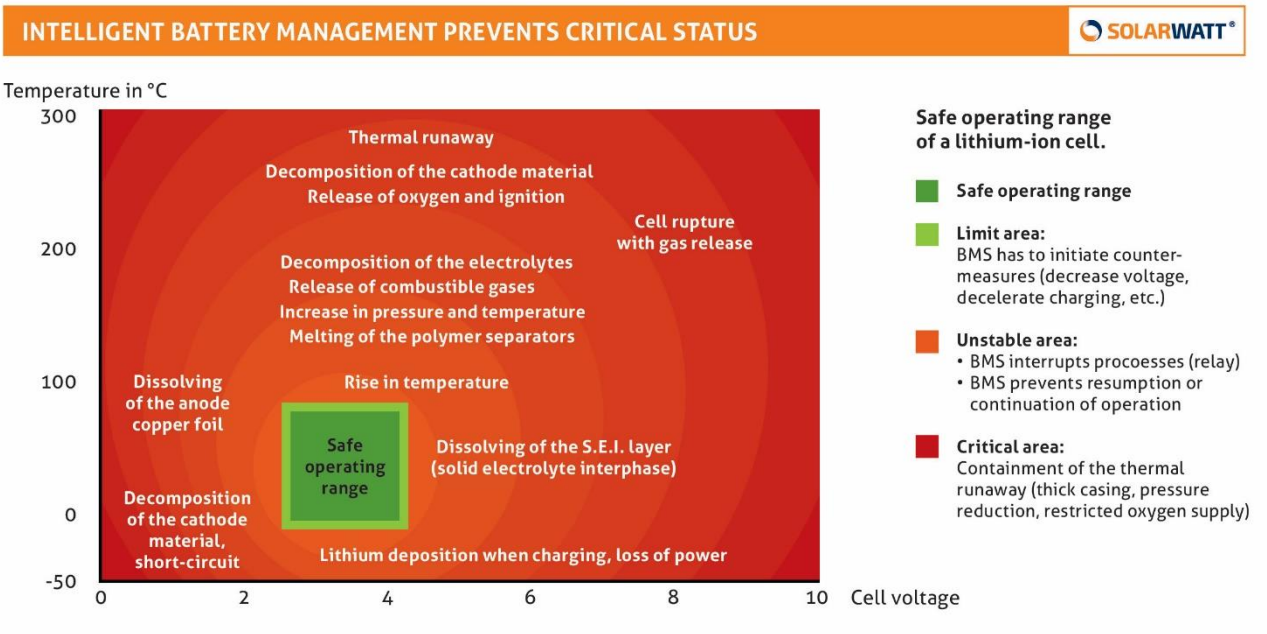


Conclusion:
MyReserve extends the lifetime of the batteries through intelligent charging and discharging.
SOLARWATT guarantees battery module performance for 10 years.

SAFETY

- Safe operation is always the top priority for SOLARWATT. MyReserve was the first battery storage system that fulfilled the safety guideline for lithium-ion home storage systems. It has been tested at laboratories of the CTC advanced GmbH and TüV Rheinland and meets the safety requirements of the VDE application rule AR-2510-50 Stationary energy storage systems with lithium batteries.
- Lithium-ion storage systems have to be operated within very tight operating limits in order to prevent critical states. The limits refer to temperature and cell voltage. Irreversible damage can occur due to electrochemical reaction if the cells are operated outside of the safety window. In the ideal case an intelligent controller ensures that this doesn't happen. If the battery nevertheless does reach a critical state, immediate countermeasures are necessary. Last but not least, passive protection against mechanical damage and the input of heat from the outside cannot be neglected.
- MyReserve ensures through continuous monitoring and active battery management that the battery cells are not operated outside of the safety window. If necessary it switches them off. That is not always guaranteed with battery storage systems from other manufacturers, so extremely dangerous operating states can arise:
  - **Overcharging, i.e. cell voltage too high**
    If the cell voltage increases beyond a critical value, gases with a low combustion point are generated by decomposition processes. A fire or an explosion can occur if these gases escape from the cell. Pressure relief valves would prevent the uncontrolled bursting of the casing, but also allow flammable gases to escape.
  - **Deep discharge, i.e. cell voltage too low**
  - **Charging at too low a temperature**
    Both deep discharge and charging at too low temperature can lead to an internal short-circuit in the cell. This may damage the cell so badly that it can never be charged again and has to be disposed of.
  - **Excessively high temperatures in the cell**
    These are caused, for example, by a high internal resistance in the battery cell. The internal resistance can increase due to the individual ageing process of a cell and must therefore be monitored constantly. The cell must be switched off if specified limits are exceeded. Otherwise excessively high temperatures can lead to the generation of flammable gases.
- Every battery cell ages differently so it is important to monitor each one continuously. Often only 50 % of the cells are monitored at most, sometimes only every tenth cell. In contrast, the battery management system (BMS) of the MyReserve continuously monitors every single cell for charging current, cell temperature, voltage, and its internal resistance. If there is a threat of deviation from the target values, it takes early action so that every cell operates within the safe operating range again. An emergency shutdown is possible at all times thanks to multiple redundancies.

If there is a lack of charging current, for example in winter or a lengthy period of storage, a "hibernation" mode prevents deep discharging. To this end the electronics of the MyReserve switch on at regular intervals and check all systems. If no error is detected, the BMS switches back to "hibernation" mode and reduces the power consumption to an absolute minimum. The battery can thus go six months without being charged.



Safety during operation:

- Interlock on the DC isolating switch: the cover can only be removed when the isolating switch is deactivated.
- The battery can only be switched on when it is connected to the MyReserve Command (safety check).
- Switching off is possible at any time thanks to the autonomously functioning relays. These relays operate completely independent from one another and are each responsible for system security.
- Operation is possible only if all systems are running correctly and are at "Go". The BMS carries out constant safety checks for this.

Safety during transport:

- Sealing the battery modules in a cast aluminum casing with a thickness of up to 14 mm protects them against penetration during transportation or damage from being dropped. This casing can only be opened with special tools.

Conclusion:
MyReserve fulfills all safety standards for lithium-ion home storage systems and has been tested by CTC advanced GmbH and TüV Rheinland and meets the safety requirements of the VDE application rule AR-2510-50. Safety is the top priority for SOLARWATT and is nonnegotiable.

The battery management system of the MyReserve continuously monitors and controls all components of the device in order to ensure safe operation of the system at all times. In addition to that, the BMS intelligently controls the charging and discharging processes. This ensures the optimal operation of the battery storage system.

3. PLANNING, INSTALLATION, OPERATION, AND SERVICE

Planning process:

With MyReserve Command 25 it's possible to plan more flexible and creative installations.

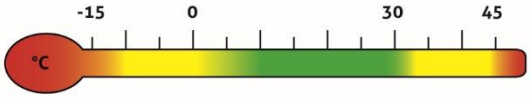
- Due to a higher PV input voltage of up to 1,000 volts and a higher PV input current of 25 amps; newer, more future-proof PV panel classes can be connected in parallel string.
- Up to 5 MyReserve Pack 24.3 can be connected per Command 25. A charge/discharge capacity of up to 900 W per pack is possible. In the largest constellation with 5 MyReserve Packs, a charge/discharge capacity of up to 4.5 kW can be achieved.

Installation location:

- Thanks to an improved IP 54 protection rating, installation in splash-proof outdoor areas is possible.
- Care should be taken to mount the storage tank in a shaded location to guarantee full performance. At temperatures above 30°C or below 10°C, performance is automatically regulated to protect the battery; operation is not permitted above 45°C or -15°C

NOTE

- There are no limitations on performance for the household in the range from appr. 0°C to appr. 30°C.
- While charging there is a power throttling on appr. +10°C and colder to zero at appr.-2°C.
- Operation does not take place below appr. -15°C or above appr. +45°C.
- Accelerated aging of the cells should be expected at temperatures above appr. +45°C.



Fastest installation:

- Installation possible by one person since each battery module weighs less than 25 kg. The MyReserve is thus quick to install and easy to handle. No long full-day installations need to be planned.

Simple operation:

- Very quiet, noiseless operation
- No maintenance necessary, since there are no ventilation filters or cooling hoses to be changed.

Uncomplicated service:

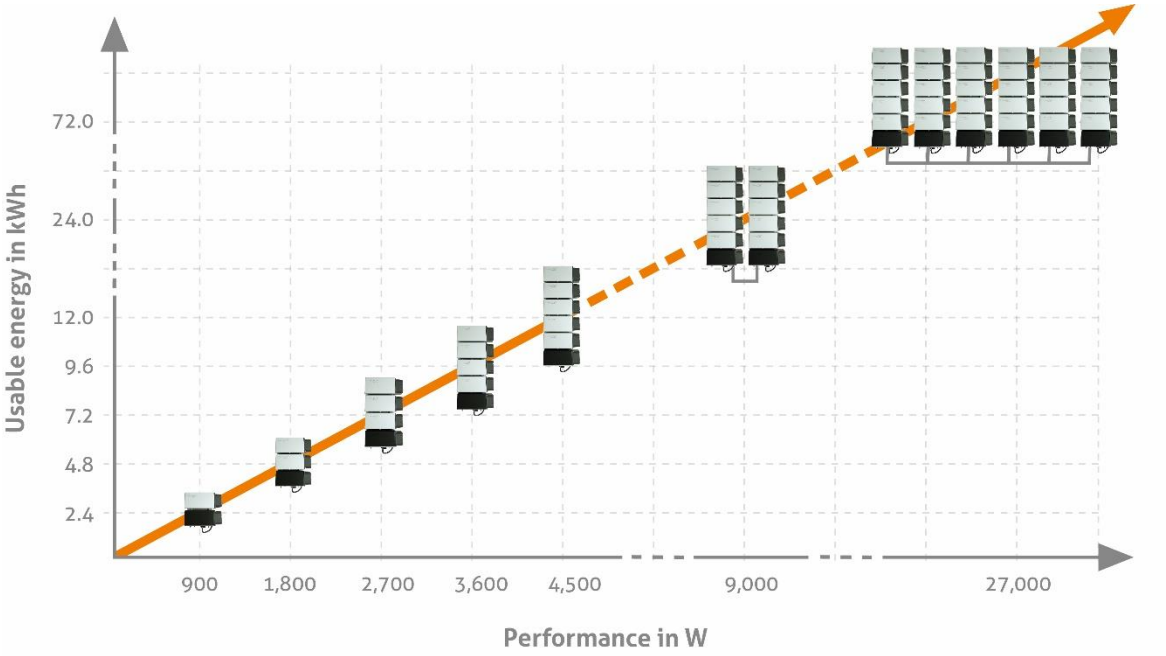
- A repair or replacement of parts is easy to do at any time thanks to its modular structure.
- Through the connection to the EnergyManager, the installer can make an initial remote diagnosis and detect errors without being on site.
- Status of the MyReserve can be checked at any time with the MyReserve App.
- By means of remote updates via the network, software updates are installed easily without a physical visit to the customer.

Conclusion:
Thanks to improved protection class (IP 54), MyReserve can be installed in splash-proof outdoor areas.
MyReserve is easy to handle and can be installed in a very short time by a single person.
Remote maintenance is possible thanks to the EnergyManager.

4. MODULARITY

- All power electronics are housed in the MyReserve Command. Up to five MyReserve Pack battery modules (up to 12kWh) can be connected per MyReserve Command. If more capacity is required, additional MyReserve Commands can be connected with their own respective Packs.
- Thanks to its modular design, MyReserve can be dimensioned for practically any individual requirement.
- Retrofitting is uncomplicated and quick thanks to the modular design.

Maximum efficiency requires individual dimensioning:

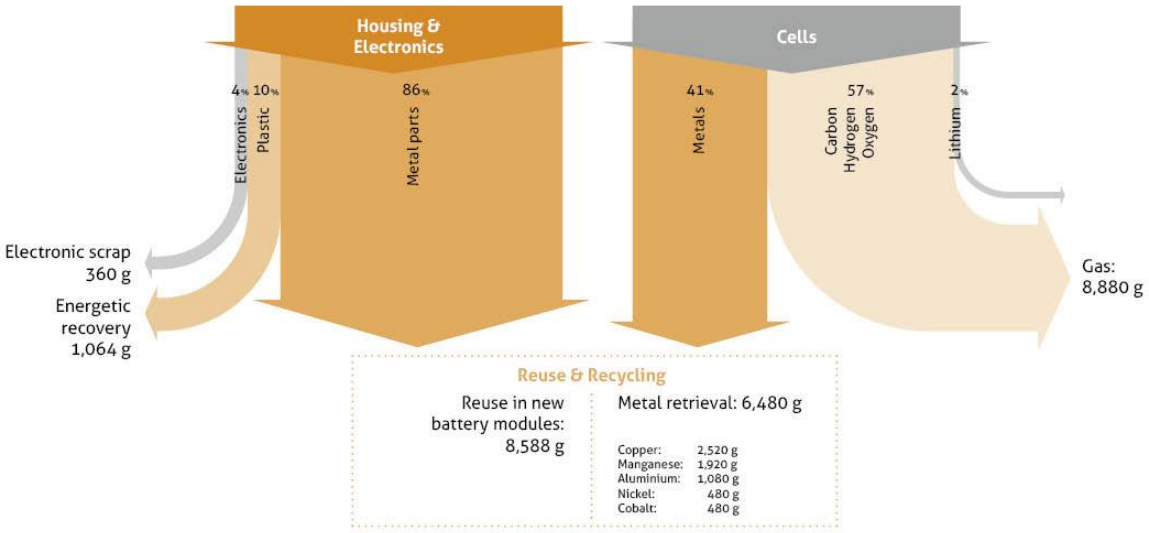


Conclusion:
Thanks to its modular design, MyReserve can be configured to meet individual requirements and thus creates optimum customer value.

5. ENVIRONMENTALLY FRIENDLY

- Over the course of its service life, MyReseve stores about ten times more clean energy than was necessary to produce it.
    - The majority of energy[1] required for manufacturing is in the production of the lithium-ion cells. The CO_2 footprint is calculated based on cell production and the transport of the cell from the country of origin to Germany.
        - The energy required for production of the cells is 586 MJ/kWh. With a storage capacity of 7.2 kWh, this results in 4,219.2 MJ, or 1,172 kWh. The CO_2 emissions for the South Korean energy mix are put at 552 g CO2/kWh. Derived from this, 647 kg CO_2 is produced during the production of the cells for a 7.2 kWh battery.
        - Transporting the cells for a 7.2 kWh battery from South Korea to Germany by cargo ship (the CO_2 emissions of a cargo ship are on average 20 g/tkm), produces 3.46 kg CO_2.
        - In total, 650 kg CO_2 is produced during the production and transport of the cells for a 7.2 kWh battery.
    - For a 10 kWp system with a 7.2 kWh energy and an assumed household consumption of 6,000 kWh per year, the proportion of self-supplied energy provided by the battery is approx. 21%[2] (self-supplied energy from the entire PV system naturally being higher). The savings therefore amount to 1,260 kWh, per year. Based on a specific emission in the German electricity mix of 489g CO_2 per kWh[3], the CO_2 savings amount to about 616 kg CO_2 per year. Over the warranty period of 10 years, MyReserve saves 6,162 kg CO_2.
    - Conclusion: After a good year, MyReserve has thus saved the amount of CO_2 generated for the production of the cells and their transport to Germany.
- Cobalt used for the MyReserve battery cells is mined ethically – NOT in the Democratic Republic of the Congo or any mines associated with child labour.
- The compact design saves space during storage and transport and needs less raw materials for manufacturing.
- Repairs are also made more eco-friendly. In service cases, only the affected modules needs to be replaced and shipped instead of having to demount and ship the *entire* battery.
- All components are designed in such a way that they can be dismantled easily without destroying the device.
    - SOLARWATT has a competent partner, Nickelhütte Aue, for the collection and professional recycling of critical waste or defective equipment.
    - The recycling percentage of 86% for SOLARWATT components is exceptional in the industry

[1] L. Ager-Wick Ellingsen et.al., J. Industrial Ecology 18(1) 2014, 113-124
[2] https://pvspeicher.htw-berlin.de/unabhaengigkeitsrechner/
[3] https://www.umweltbundesamt.de/themen/klima-energie/energieversorgung/strom-waermeversorgung-in-zahlen#Strommix



Conclusion:
With MyReserve you not only get a product that supplies green electricity, but also a product that pollutes the environment as little as possible.