ecoSTOR

Renewable energy is the future,
to make it happen, we need
energy storage solutions.

ECO STOR is investing in building a circular economy for the battery industry, providing battery energy storage systems (BESS) by giving EV batteries a second-life, but also using first-life batteries.

Why invest in energy storage?

Battery systems are at the heart of everything, from storing energy from small-scale solar arrays on rooftops to frequency regulation of the power grid.

You can contribute to creating a stronger grid, make money on an arbitrage and secure a steady supply of the cheapest power available for all times of the day, regardless of the price from hour to hour.

By investing in energy storage, you are planning for the future.

What our systems can do for you

1. Spot price optimization

Energy is stored when costs are low and used or sold when costs are high.

2. Peak shaving and Load leveling

Cut peaks to avoid high tariffs, reduce pressure on the grid and optimize your consumption curve.

3. Solar power utilization

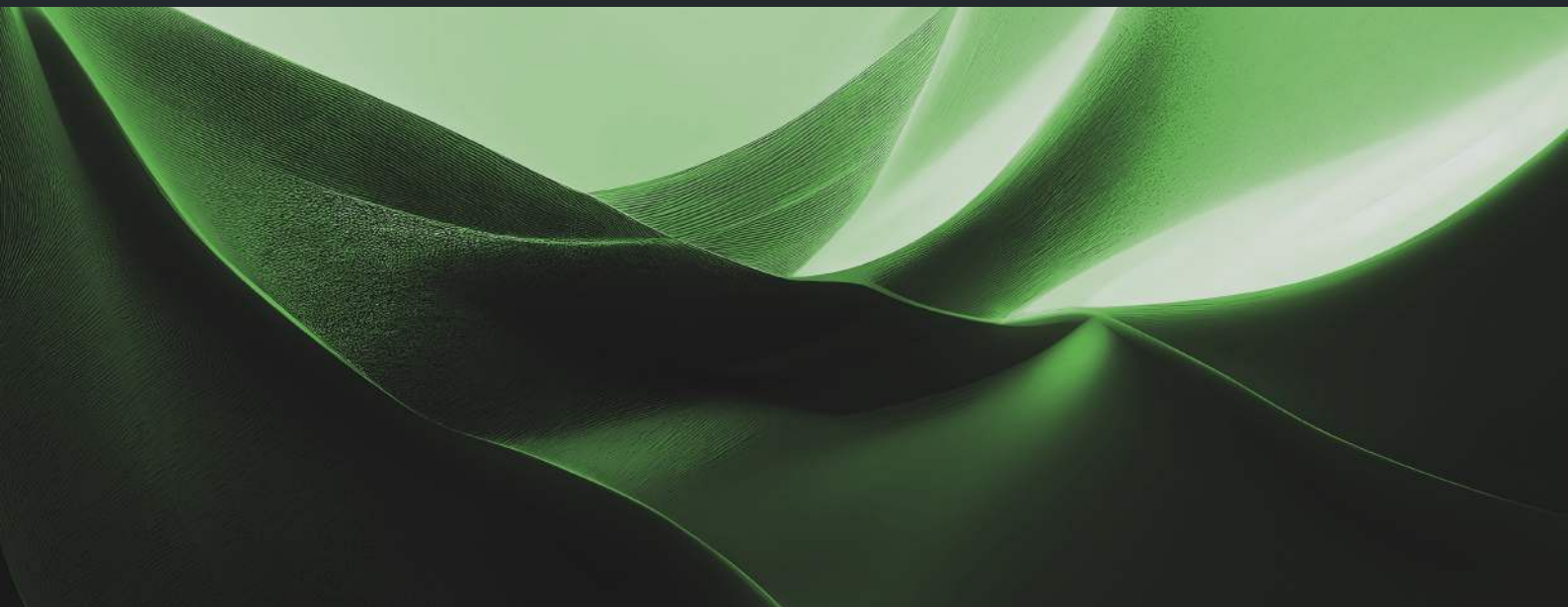
Make the most out of your solar array - store surplus energy production and use it when the sun doesn't shine.

4. Frequency services

Enter the frequency markets with your battery solution to increase the ROI further.

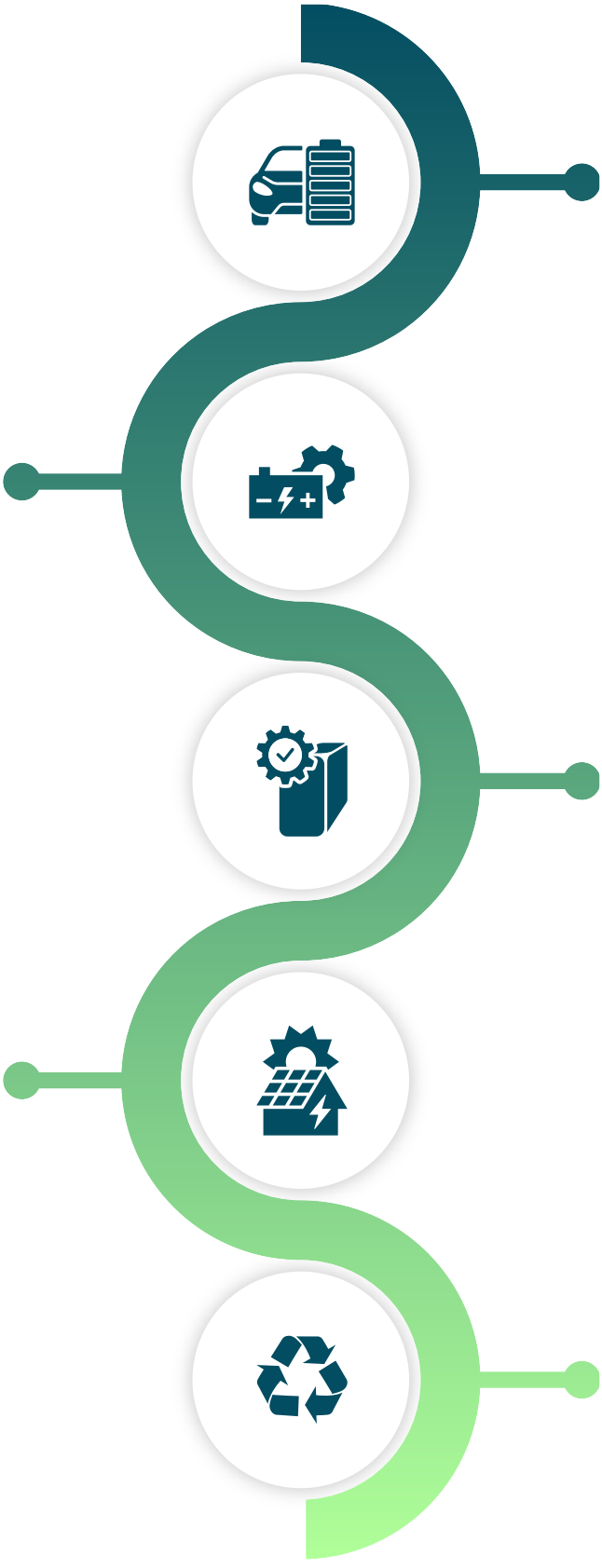
5. Virtual Power Plant

Connect with other storage systems to be part of the virtual power plant.



Our process

We follow the complete cycle of Li-ion batteries for different use, from first-life as EV Batteries through second-life as energy storage systems for energy storage, peak shaving and grid support, to recycling the batteries.



Qualification

- EV batteries are tested and approved for second-life usage.
- There are strict requirements set for passing the tests.
- All warranties follow the batteries, as we use them as-is.

Engineering

- Our engineers build storage systems tailored to your needs.
- The system is scalable and can be as small as one battery or coupled in series to build container-sized systems

Installation

- We install the battery energy storage system in its right place and ensure you are online and can start using it from day one.
- You will receive all the necessary documentation needed.

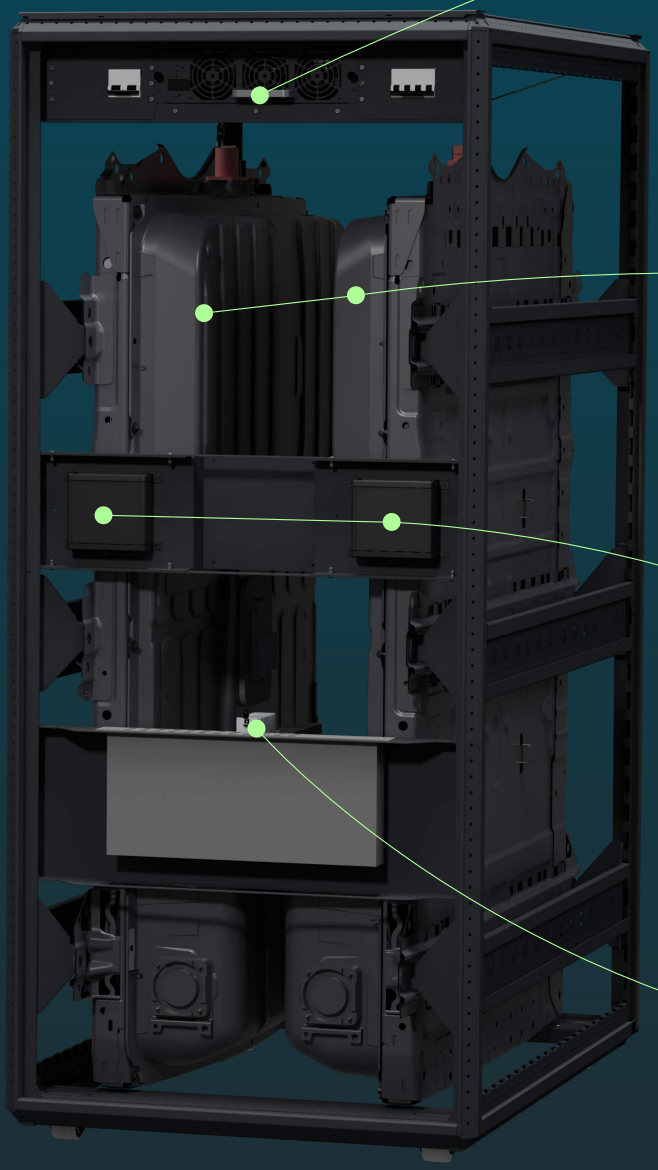
Optimizing

- We monitor your battery energy storage system and ensure that the batteries are always in optimal health.
- When needed, we take out low-performing batteries, substituting them with new ones.

Recycling

- At the end-of-life of a battery, we ensure that the battery is recycled and all materials reused to make new batteries.

The parts of an ECO STOR second-life system



PCS

Power Conversion System

A PCS is a device for the bidirectional conversion of electrical energy. The PCS is connected between the battery system and the grid and/or load and has charge and discharge functions, active and reactive power control functions, and offline switching functions.

Battery

According to your needs, ECO STOR supplies first- or second-life battery energy storage systems (BESS) for efficient energy utilization. The second-life batteries come from electrical vehicles, but in some systems, using first-life batteries is more viable.

BIU

Battery Interface Unit

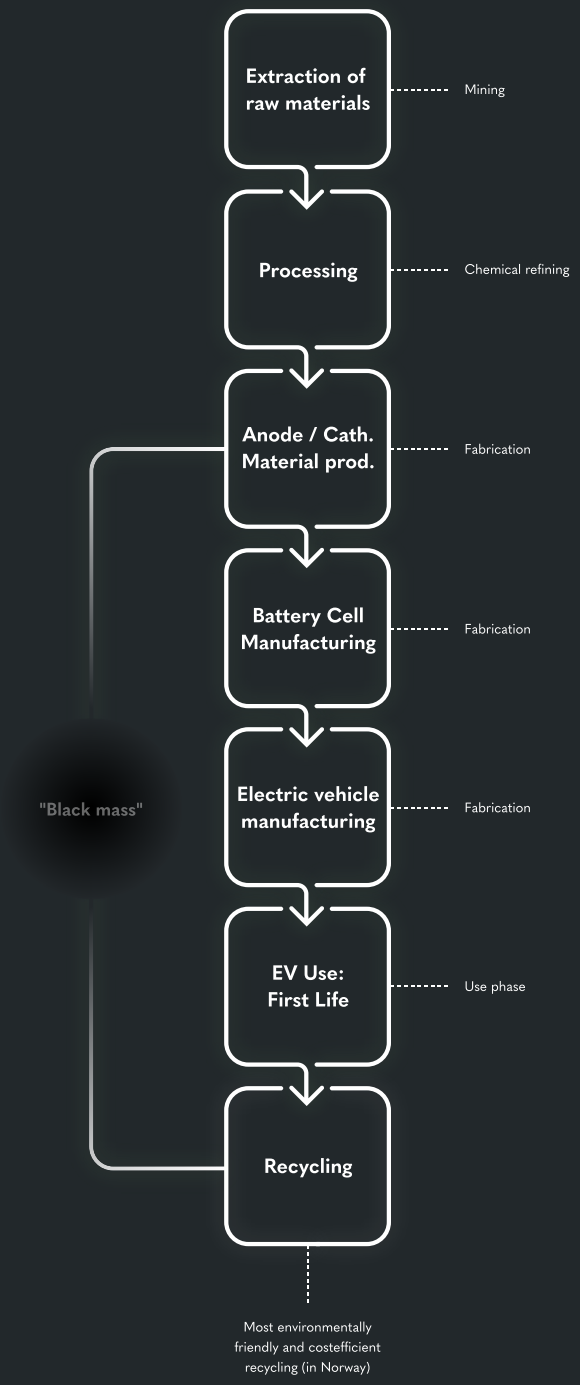
The Battery Interface Unit monitors parameters and controls the internal contractors of the implemented battery pack. Also, it handles safety limits and adds preemptive fault mitigation. The BIU sends data to the MBMS, ensuring safe operation and lifetime optimization.

MBMS/EMS

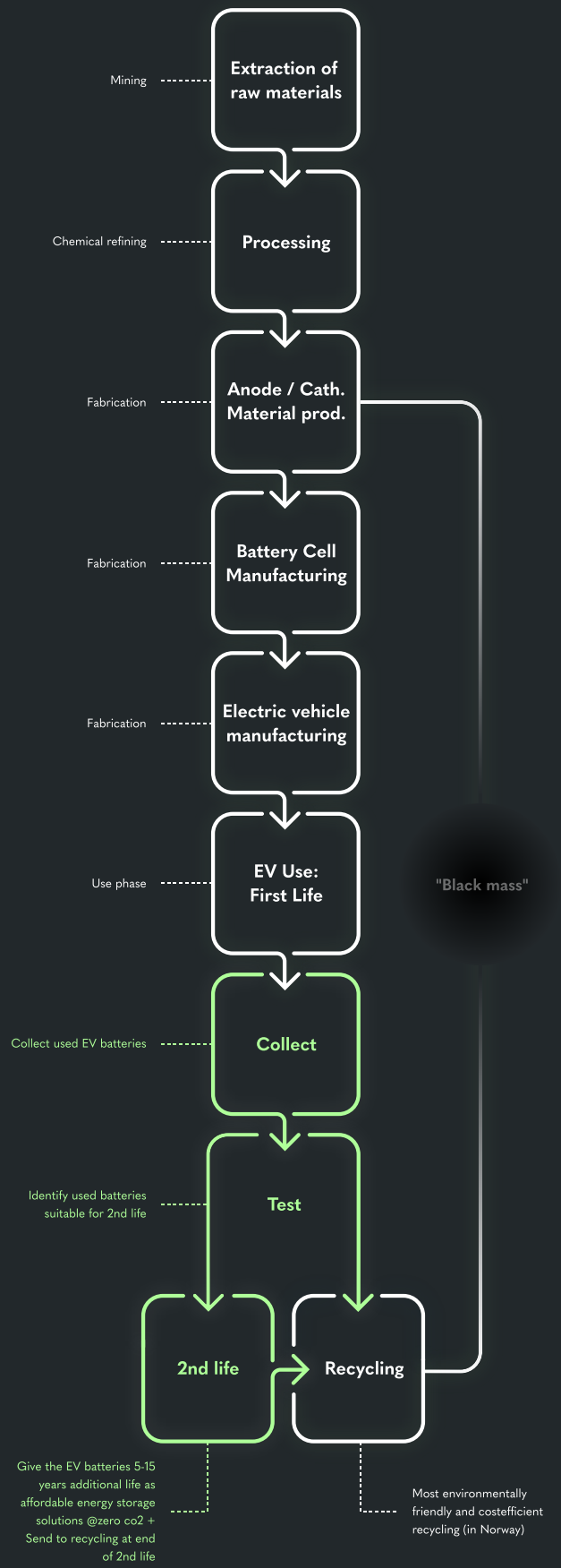
Master Battery Management System/Energy Management System

MBMSs are connected to each BIU and PCS (Power Conversion System) and handle requests on charge/discharge dispatches from the EMS. The EMS makes decisions on battery operation based on implemented functionality and prioritization, which come from parameters for the entire battery system published by the MBMS.

Traditional value chain



ECO STOR´s value chain



Timeline – Our history

ECO STOR's purpose is to contribute to a clean energy future for our planet through the development of a circular economy for the battery industry. We also want to contribute to providing an energy-secure future through battery energy storage solutions.

This is our history

2015 - 2018

R&D completed concept evaluations.
Customers, suppliers and OEM partnerships established.
ENOVA and IN grants.

2019

ECO STOR AS established.
Patent applications filed.
First contracts signed.
Financing secured.

2020

Systems delivered to customers.
Pipeline of projects established.
MoU signed with Nissan and NG.
Product portfolio established.

2021

German expansion
ECO STOR GmbH
Product expansion to include 3,45++ MW grid connected 1st life systems.

2021

Delivery of Norways largest 2nd life system delivering 1MW/800kWh along with several other 150+kWh systems.

2022

ECO STOR GmbH secures orders for approximately 50m EUR.
100MW, to be delivered in 2022.
Product expansion to include 3,45++ MW grid connected 1st life systems.

2022

ECO STOR partners with Li-cycle and Morrow batteries to form a JV and construct a recycling facilities in southern of Norway.