







# esM systems

allows to store and manage production and supply of  
**ENERGY ALONG THE ENTIRE YEAR.**





Current systems limitations

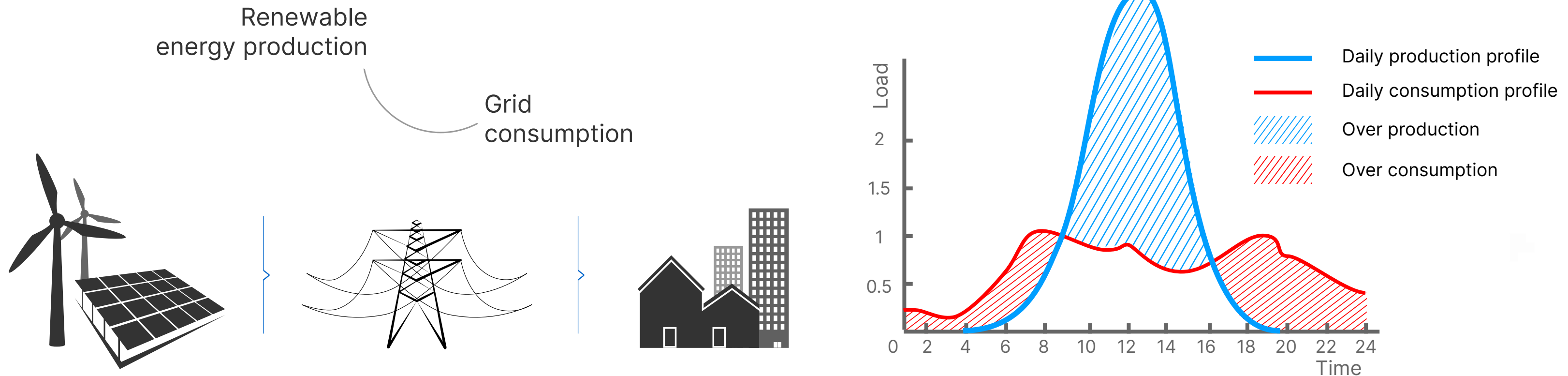
ESM Systems : Renewable energy optimization

About us

## Current systems limitations

# CYCLIC POWER DEFICIENCY

## Renewable energy direct connection



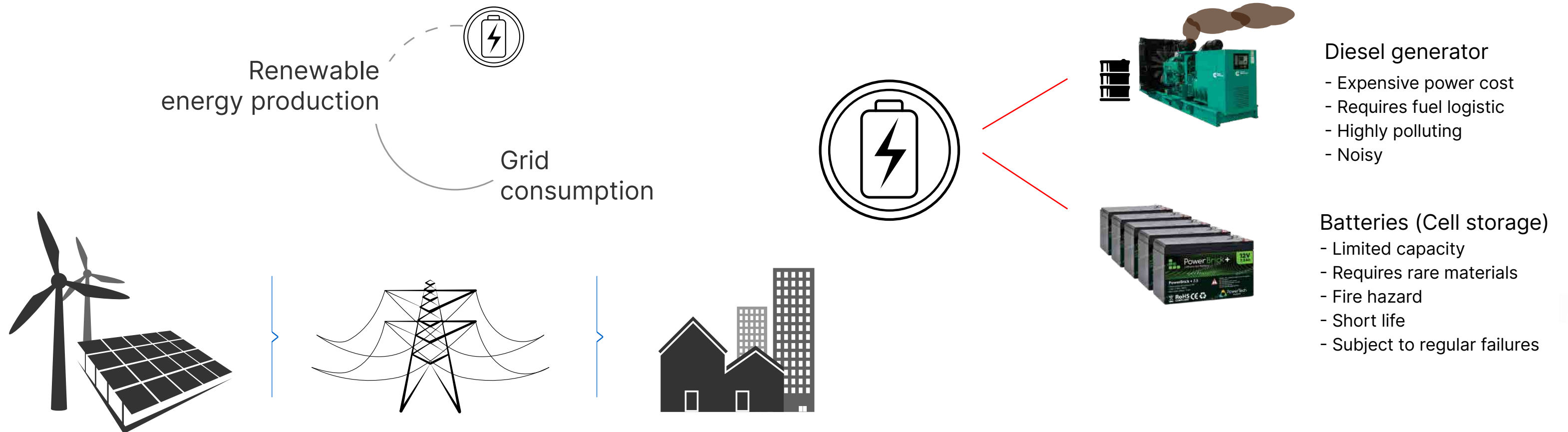
Renewable energies provide unstable output.

Because the power demand is not continuous, the output production from renewable energy does not match the needed supply in time.

A direct connection does not allow a stable supply of energy, therefore a stabilization or backup system is required to provide energy according to power demand.

# CLASSIC SOLUTIONS

## Renewable energy with backup systems



Many workable solutions exist but they do not solve all problems.

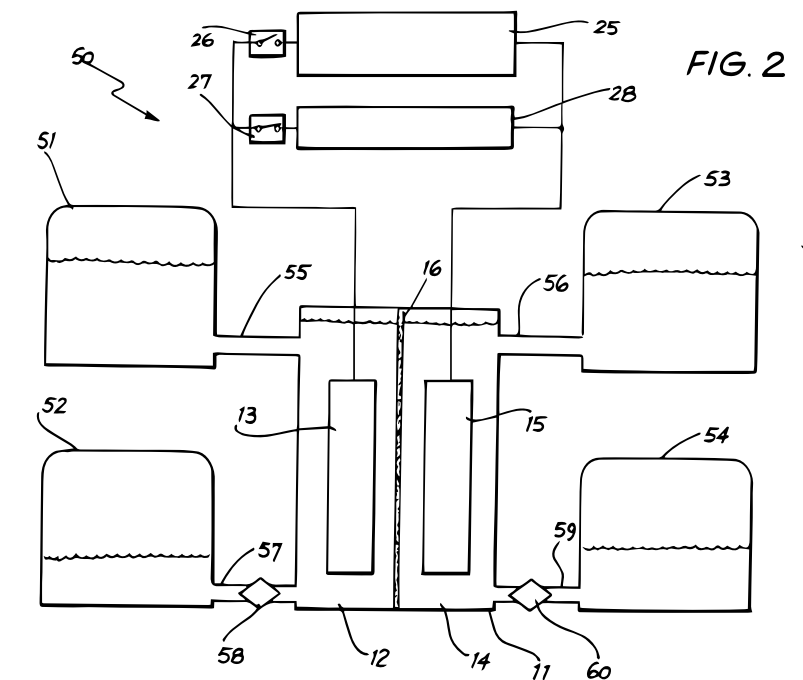
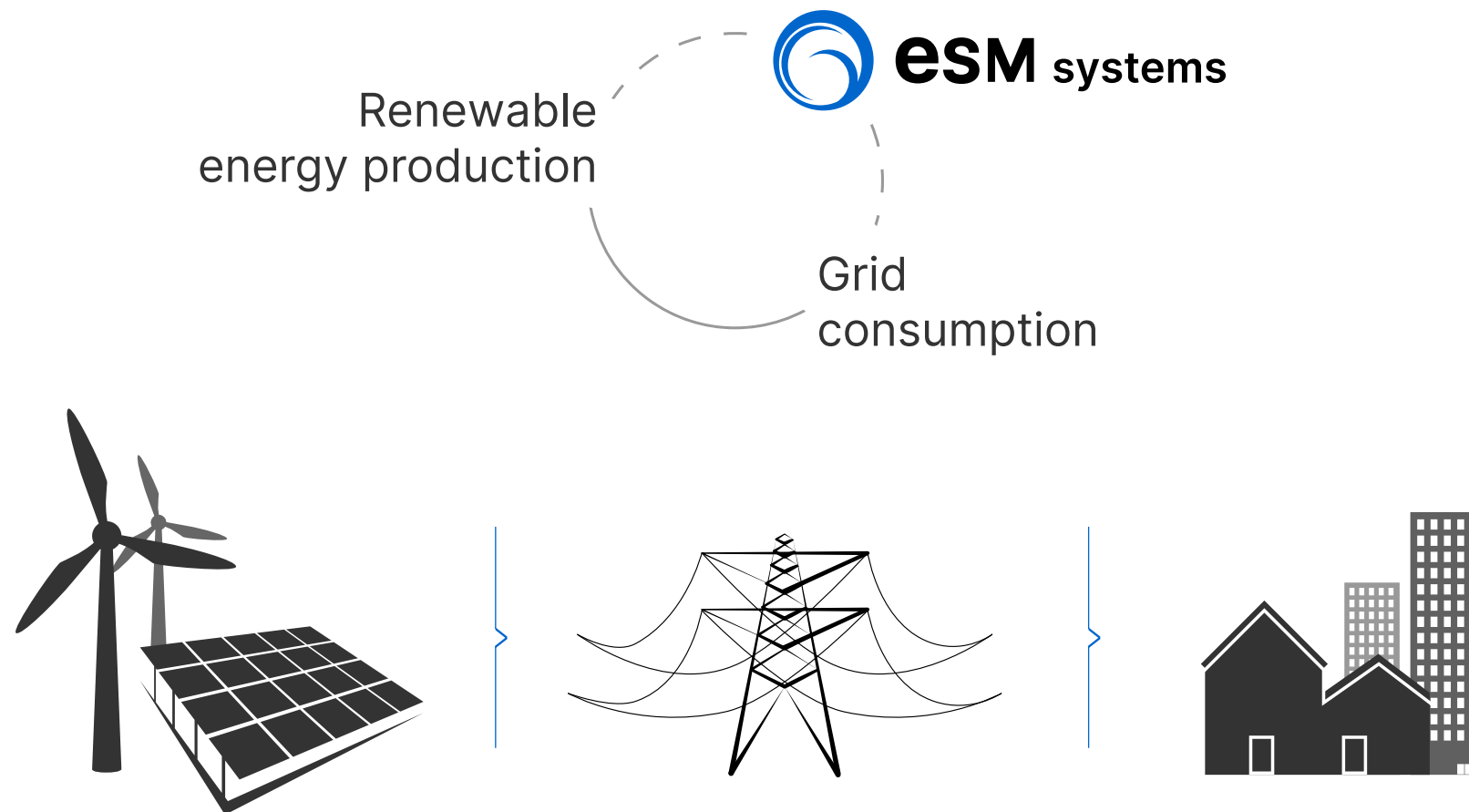
Drawbacks and dangers of Diesel Generators and Batteries are well known. From fire safety to noise and environmental problems, existing solutions have strong limitations.

## ESM Systems : Renewable energies optimization



# RENEWABLE ENERGY WITH ESM SYSTEMS

Long term energy storage and management



## PROVEN TECHNOLOGY

1988 first flow battery patent (Earliest patent from 1933)

U.S. Patent Nov. 22, 1988 Sheet 2 of 5 4,786,567

## KEY POINTS :

- No rare material
- Safe
- Long lifespan
- Low maintenance

Based on an existing and proven technology, ESM systems totally redefine Energy storage.

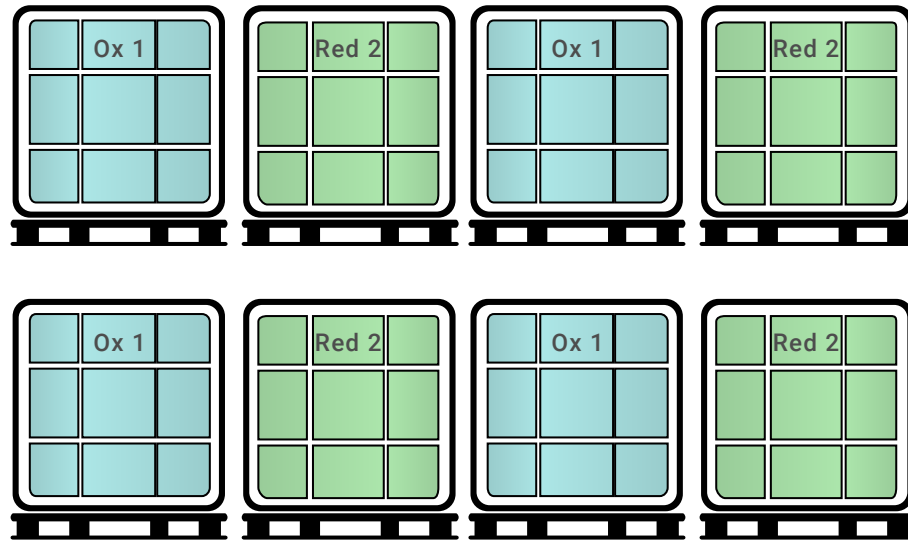
ESM systems allows to store and manage energy production and supply in a completely autonomous way during the entire year.

Totally stable and safe, the system is also easy to maintain and repair. With a long lifespan that overrun any classic solution, it is also more economical on the long run.



# ENERGY STORAGE PRINCIPLE

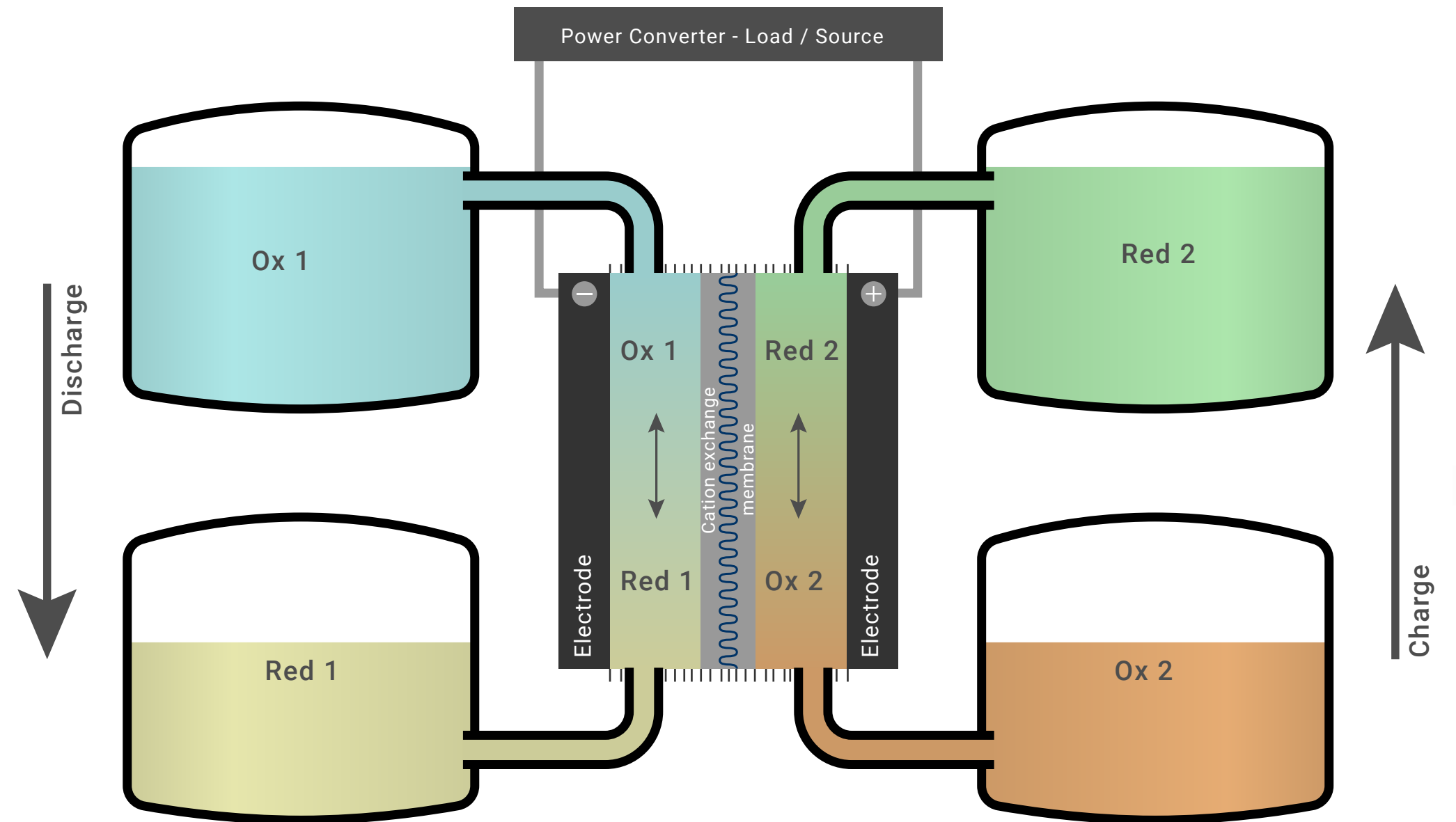
Electrolyze based system



Charged electrolyte can be stored for later use

Lithium free  
Vanadium free  
Lead free

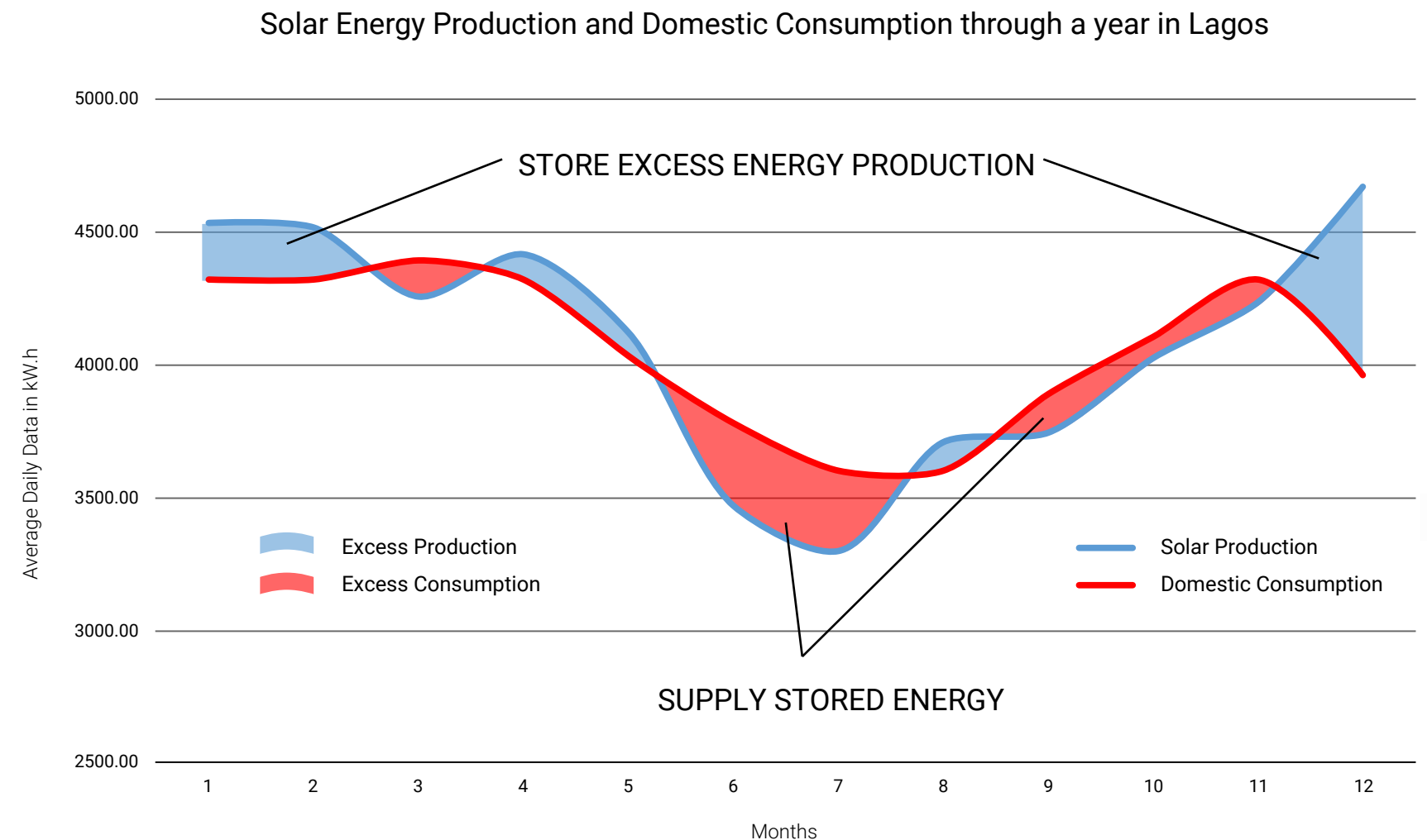
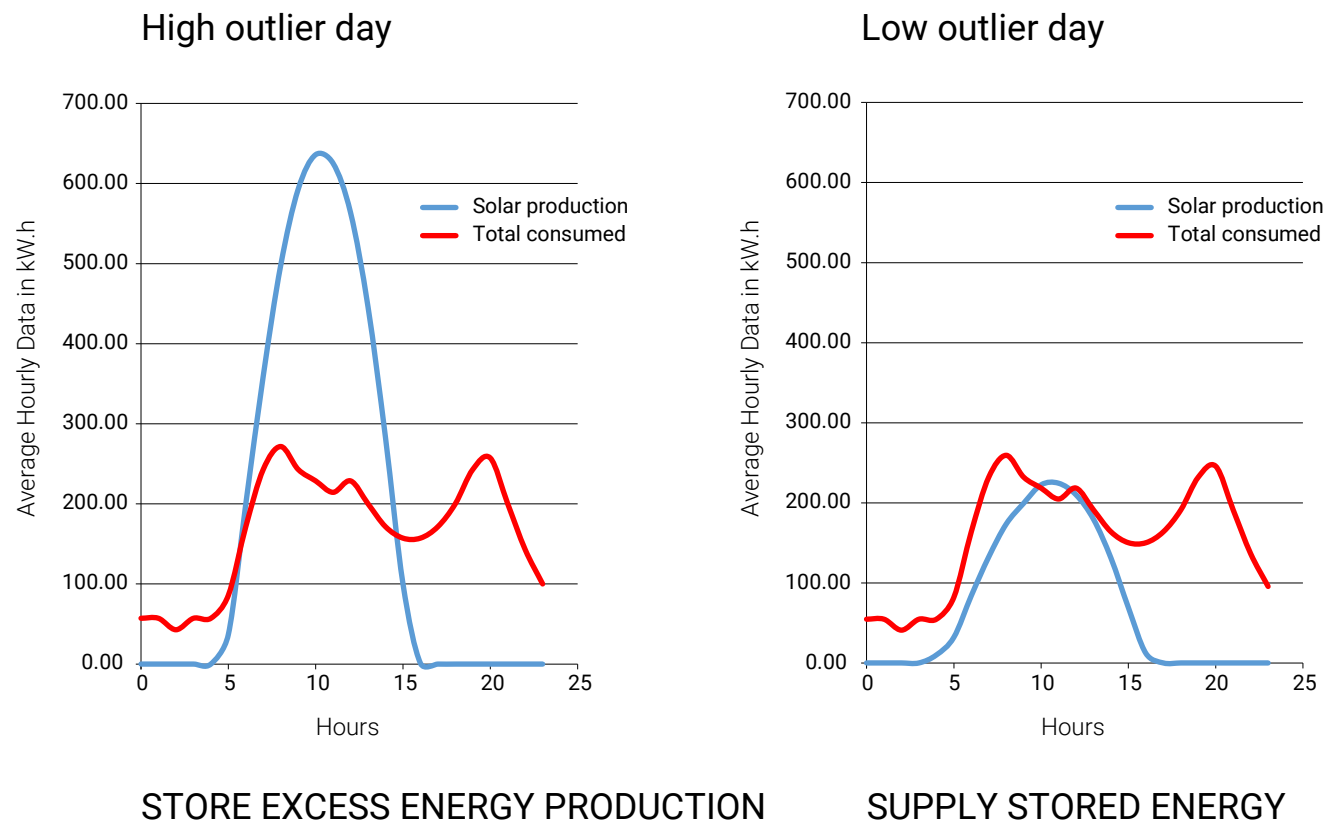
Natural elements  
based electrolyte



Proton exchange system - > store energy in liquid electrolyte then supply energy from charged liquid electrolyte

# STABILIZATION ACROSS 365 DAYS

## Outlier days compensation

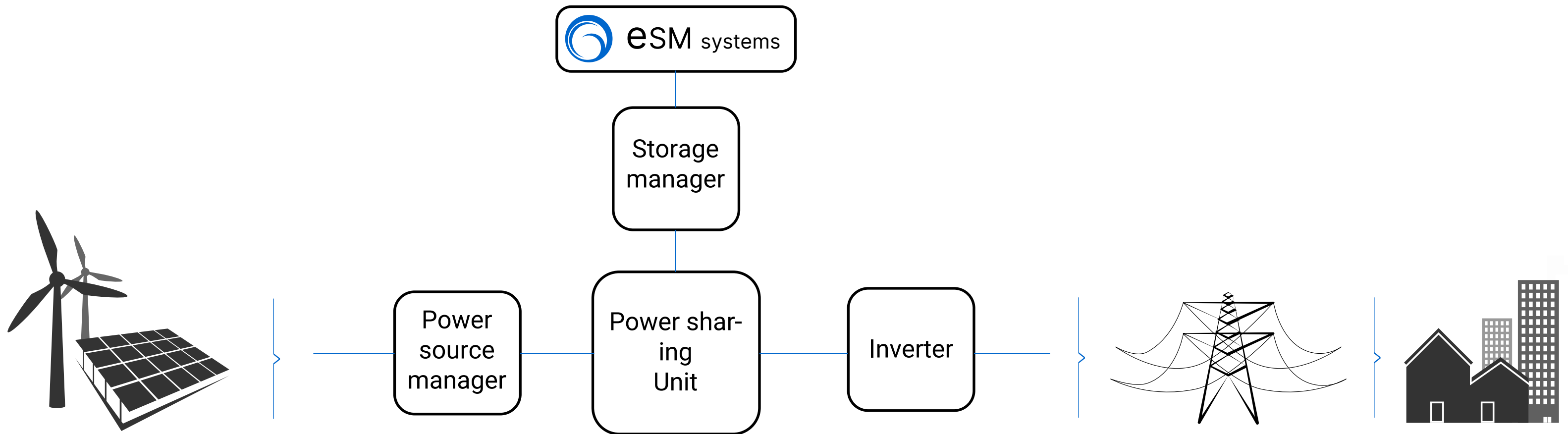


ESM systems are dimensioned to match the demand on a year long basis. They are not sized to match low outlier day.

Cyclic power production is taken care of by our system, assuring energy supply all day of the year!

# ESM SYSTEMS INTEGRATION

Smart energy management

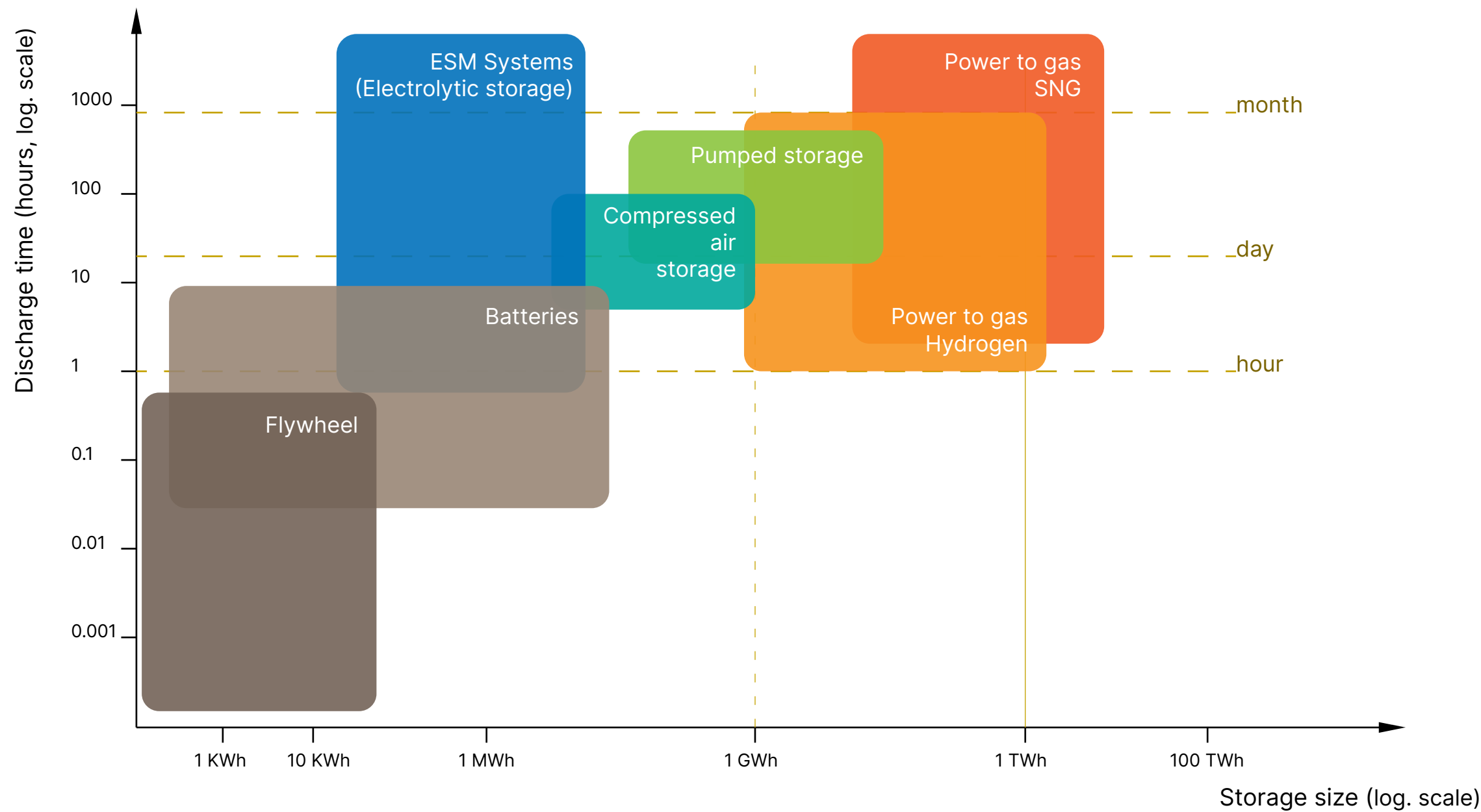


ESM systems use common industrial technology to connect to the network.  
ESM systems is revolutionary approach using only existing and proven technology.



# COMPARISON OF ENERGY STORAGE

Storage technology usage

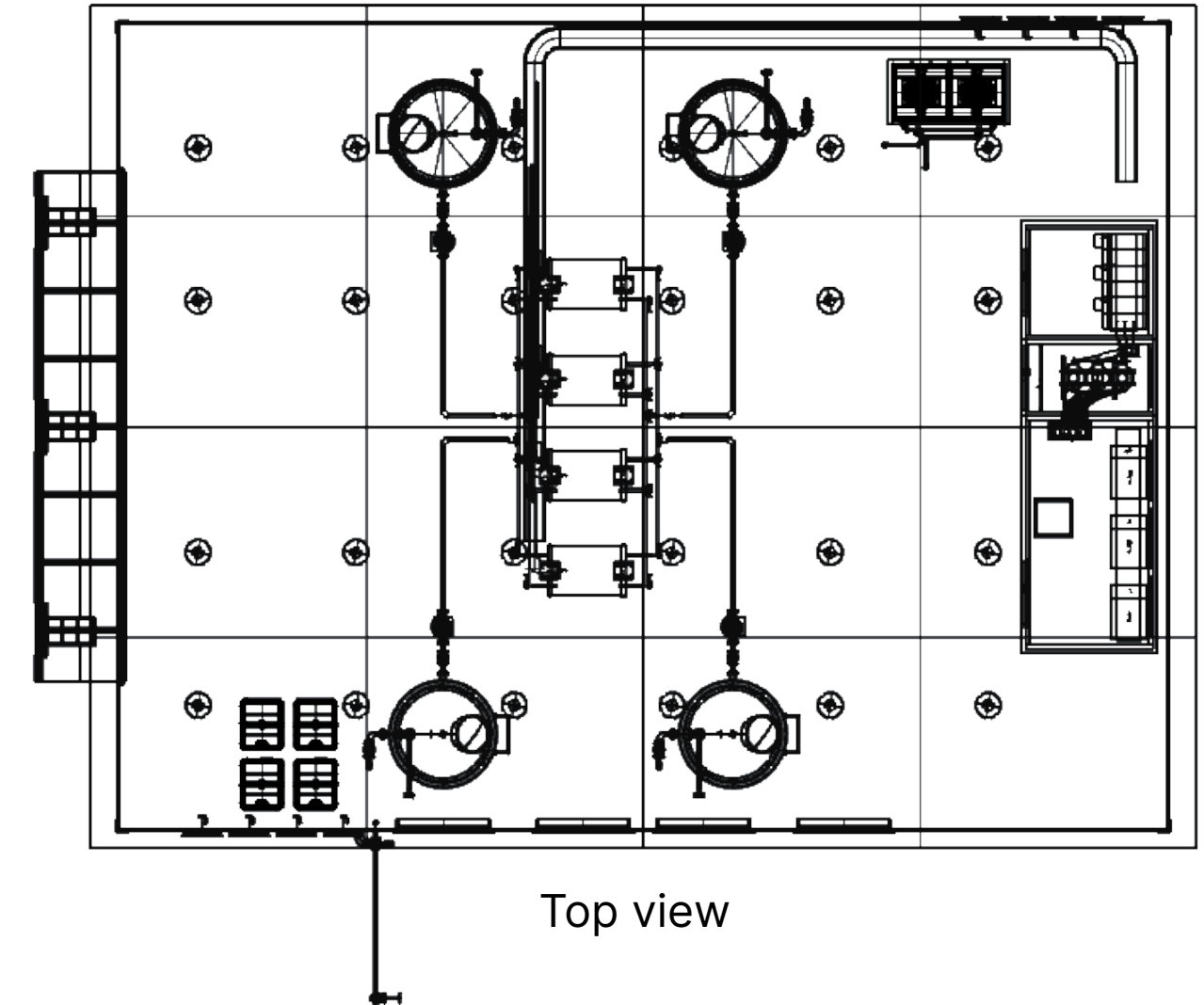
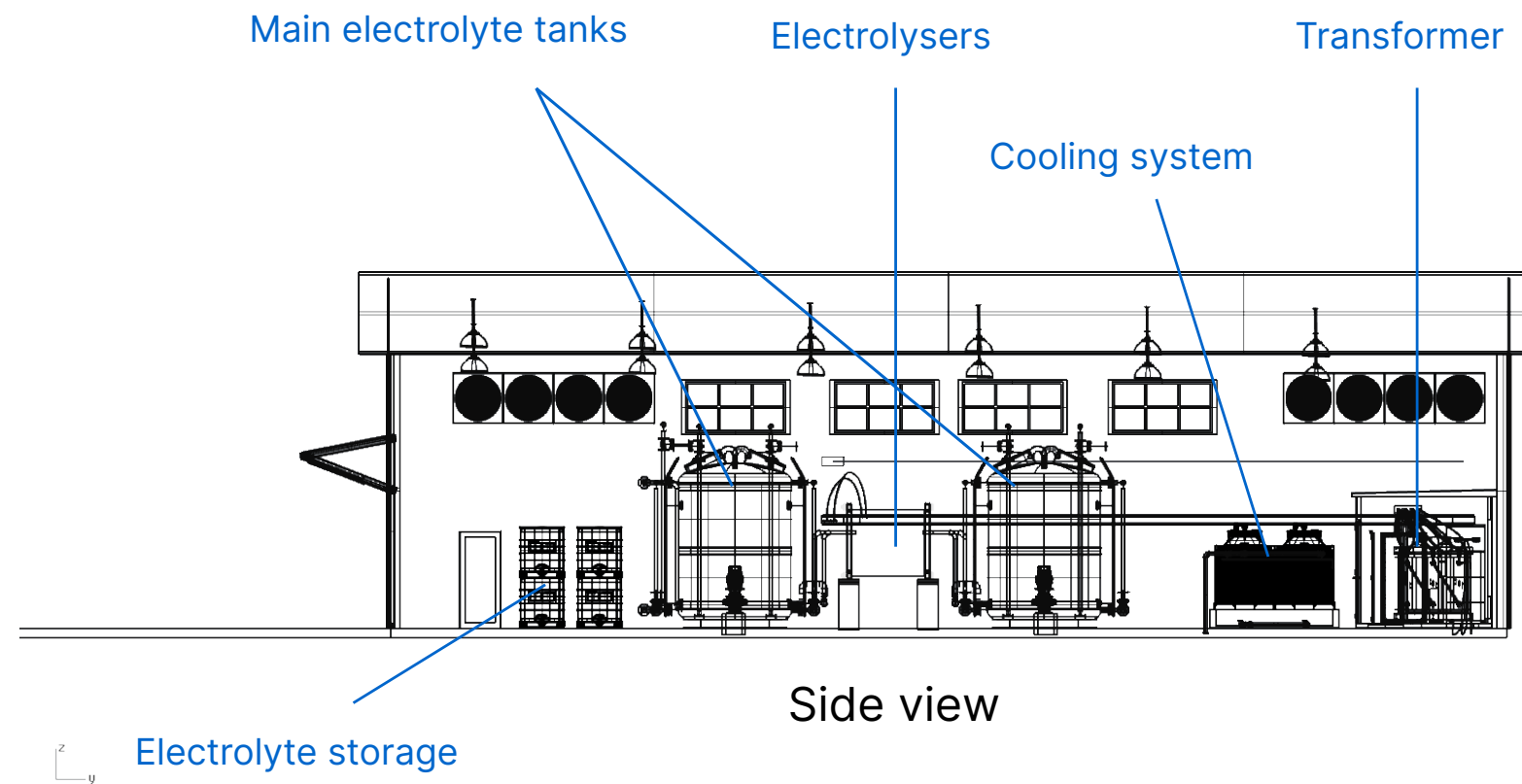


[Source : De Nora, denora.com | Scale : log.]

ESM Systems has its own position among other energy storage solutions.

# ONSITE INSTALLATION

## Drawings



Simply protected from the weather, ESM Systems remain a simple installation.

The size of the different components are based on local needs. Our experience in building such installations allow us to optimize workability and maintenance.

# ONSITE INSTALLATION

## Overview





# ONSITE INSTALLATION

Indoor installation



# ONSITE INSTALLATION

Access





## About us





Established in France in 1997, TECHLINK is a leading solutions provider in Flow Control, Filtration, Heat Exchange and Energy Recovery, Instrumentation and On-line Analysis for processes handling corrosive, abrasive and toxic chemicals. We are committed to serve industries for which quality and reliability are critical for the safety of people and preservation of the environment. With a presence in France, India, Thailand and China, and representations in major Asian countries, TECHLINK designs solutions for process industries to :

- Improve availability and performance
- Reduce operational costs
- Enhance safety
- Save power and recover energy
- Achieve and/or maintain environmental regulatory compliance
- Simplify management





Customer satisfaction is the core focus of our everyday's life.

TECHLINK has earned a robust reputation among its clients based on trust, commitment, transparency and dedicated follow-up. Trust us, as do major chemical companies in Asia, pulp-mills, copper smelters etc..

Among which :

The logo for AGC, consisting of the letters "AGC" in a bold, blue, sans-serif font.

The logo for LG Chem, featuring the LG logo (a red circle with a white 'L' and 'G') followed by the text "LG Chem" in a bold, black, sans-serif font.

The logo for Syngenta, featuring the word "syngenta" in a bold, blue, sans-serif font, with a small green leaf icon above the 'a'.

The logo for SCG, featuring a red diamond shape with a white elephant inside, followed by the letters "SCG" in a bold, red, sans-serif font.

The logo for AKZO, featuring a stylized black figure of a person with arms outstretched, above the word "AKZO" in a bold, black, sans-serif font.

The logo for SOLVAY, featuring a blue stylized 'S' shape, followed by the word "SOLVAY" in a bold, blue, sans-serif font.

The logo for WANHUA, featuring a blue stylized 'W' shape, followed by the word "WANHUA" in a bold, blue, sans-serif font.

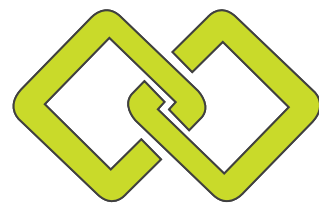
The logo for LS-Nikko copper, featuring the letters "LS" in a bold, blue, sans-serif font, followed by the text "Nikko copper" in a smaller, black, sans-serif font.

The logo for indah kiat pulp and paper products, featuring a red square with a white swirl inside, followed by the text "indah kiat" in a bold, black, sans-serif font, and "pulp and paper products" in a smaller, black, sans-serif font below it.

The logo for Reliance Industries Limited, featuring a gold circular icon with a stylized 'R' inside, followed by the word "Reliance" in a bold, black, sans-serif font, and "Industries Limited" in a smaller, black, sans-serif font below it.

The logo for umicore, featuring the word "umicore" in a bold, blue, sans-serif font, with a small green circular icon to the right.

The logo for EVONIK, featuring a purple circular icon with a stylized 'E' inside, followed by the word "EVONIK" in a bold, purple, sans-serif font, and "Leading Beyond Chemistry" in a smaller, black, sans-serif font below it.



**New Link Lao Sole Co., Ltd**  
**TECHNOLOGY SOLUTIONS**

Created in 2002 in Vientiane, NEW LINK LAO became a leader in promotion, distribution and services of technologies in Lao PDR.

Our mission is to open an access for advanced Technology and offer a platform of knowledge and exchange in support to developments projects in emerging countries.

Our services cover :

- |                 |                |
|-----------------|----------------|
| ■ Diagnostic    | ■ Stock        |
| ■ Design        | ■ Delivery     |
| ■ Engineering   | ■ Installation |
| ■ Manufacturing | ■ training     |
| ■ Promotion     | ■ Maintenance  |







With the support from international engineers and worldwide manufacturers, New Link Lao has developed successful reputation through majors industries, organizations and institutions in Lao PDR.

They trust New Link Lao :



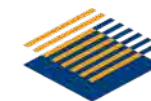
World Health  
Organization



Institut Pasteur



NAM NGIEP1  
POWER COMPANY



PHU BIA MINING



Carlsberg  
Group



ລ້ານຊ້າງ ມິເນໂຣນສ໌ ລິມິເຕັດ  
万象矿业有限公司  
CHIFENG LXML SEPON



5N PLUS



NAM THEUN 2



Get in touch with us for an analysis of your needs and a custom solution.

[info@esm-systems.com](mailto:info@esm-systems.com)