

New beginnings - Erik Oldmark
Acting CEO, Nilar

We are Nilar

Circular economy philosophy
driving the innovation

Nilar Hydride® bi-polar design
modularity and scalability

Nilar Battery packs
from 0,96 to 1,44 kWh

Nilar Home Box 5,76 kWh Energy
A safe and future proof
investment for homeowners

Nilar **Cabinets & Racks**
Sizes adaptable for variable needs

Nilar Hydride® batteries - The
ideal solution for your application

Nilar **Sustainability**
End-of-life design and recyclability

Nilar Energy **product series**



Nilar Hydride®





New beginnings

The world has reached an inflection point. There is an abundance of proof that human actions are the significant contributor to climate change. There is no going back, but the world can come together to change. It's not the end; consider it a beginning. Many different companies around the world are each tackling their portion of the decarbonization movement. And it will take all of us, attacking the problems from different angles because a combination of changes will be the solution.

Today we see world leaders coming together to not only acknowledge the urgency for change but also laying the groundwork for a new era of clean energy. Major countries that were once considered “coal nations” are meeting the electricity needs of homes and businesses with coal-free power and more countries are soon to follow. Governments and corporations are investing billions of dollars in green energy projects. All these changes are revolutionizing the energy storage industry.

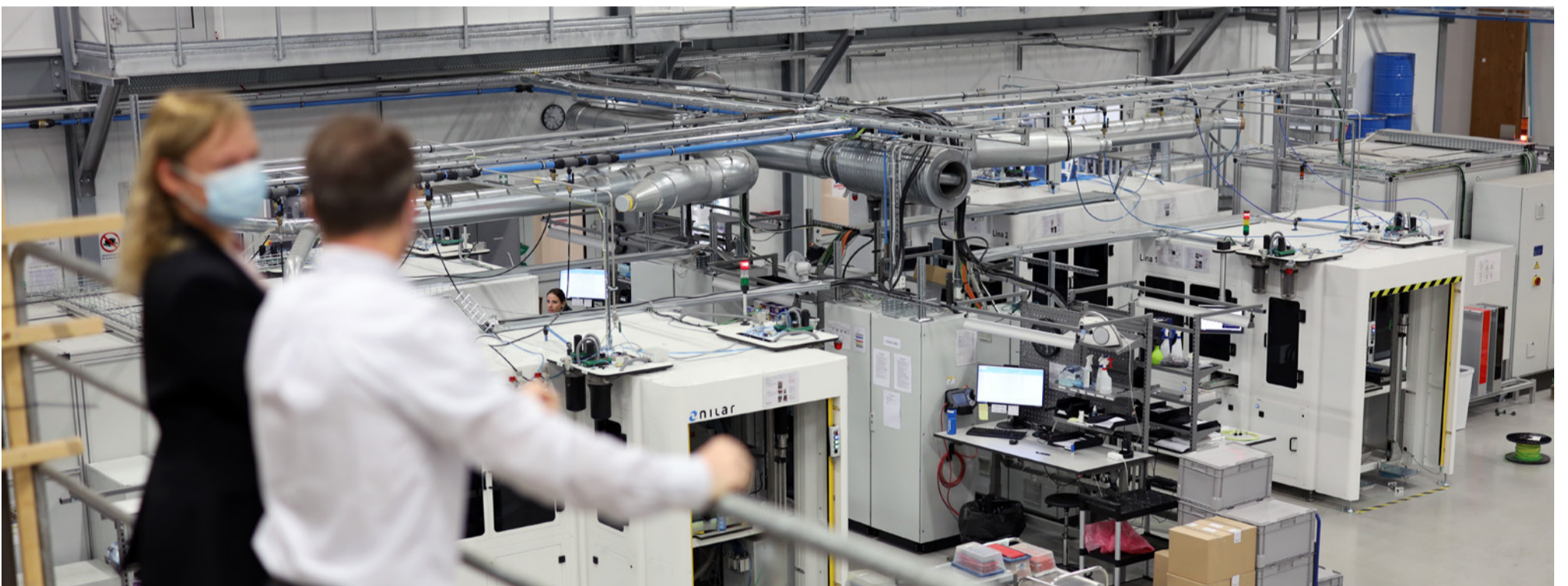
At Nilar, our goal is to have a pivotal role in renewable integration and energy storage for dispatchability as well as grid stability and flexibility. Our battery design is anchored in a circular economy, with continuous innovation to help drive the industry forward, improving performance and efficiency. Nilar is well positioned to support the strongly growing market for energy storage and is currently one of a few European fully integrated producers of advanced batteries. I look forward to leading Nilar's continued growth journey into the future.

Erik Oldmark
Acting CEO, Nilar

We are Nilar

Nilar manufactures advanced batteries for energy storage. Our unique combination of Nilar Hydride® technology and modular bi-polar construction provides an environmentally conscious and reliable power source with essential safety benefits. With significant investment in design and innovation rooted in a circular economy philosophy, Nilar is revolutionizing energy and power supply technology and is taking automated battery production to the next level.

Production is powered by 100% renewable energy at our state-of-the-art manufacturing plant in Gävle, Sweden. Nilar aspires to have a pivotal role in renewable integration and energy storage for dispatchability and grid stability. Nilar batteries have evolved into the ideal solution for storing power from renewable sources and charging electrical vehicles for long term use in private households, commercial properties, and industrial plants.



Unique benefits



Safe

The water-based electrolyte is non-flammable. Uniform current flow paths lead to no concentrated hot spots and more efficient heat dissipation. The structural components within the battery paired with the non-flammable electrolyte means there is no spontaneous ignition and no uncontrolled heat propagation.



Environmentally friendly

The Nilar R&D process focuses on the Circular Economy philosophy, with every innovation striving towards component renewal and waste reduction. All Nilar products are produced at our factory in Sweden with 100% renewable energy and are able to be recycled at end of life.



Long term power

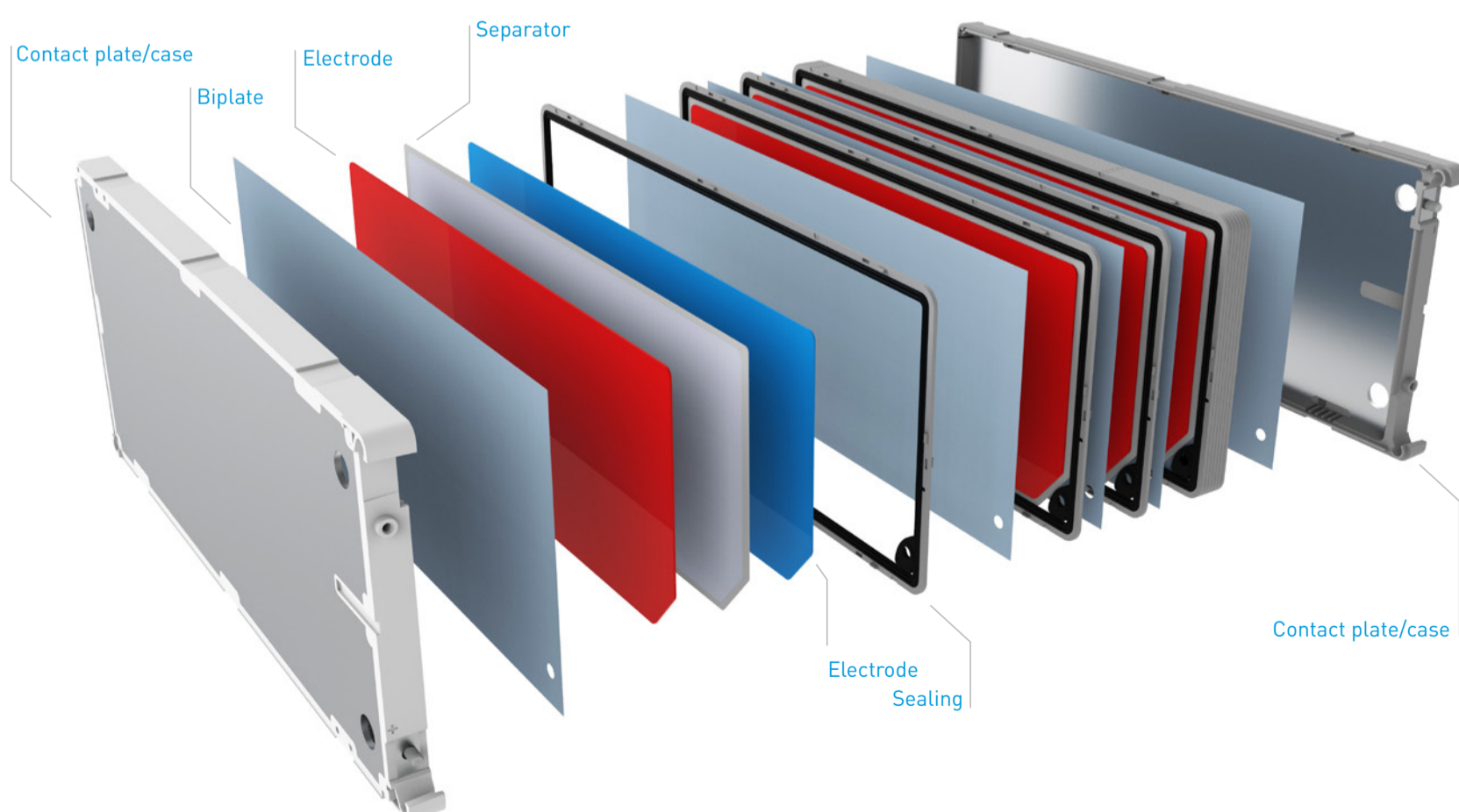
The unique combination of Nilar Hydride® technology and our patented bi-polar construction provides a reliable source of power designed to last for more than 20 years.

Nilar Hydride[®] bi-polar modular design

The unique and patented Nilar Hydride[®] battery is based on a bi-polar design, where cells are laid horizontally and stacked on top of one another to gain maximum space efficiency. This also contributes to easy assembly and disassembly.

The outer contact plates act as current collectors for all cells in the module, thus reducing the volumetric overhead and

inherently results in a uniform current flow across the cell. As a result of this, the bi-polar design has great advantages compared to the cylindrical and prismatic technologies in terms of volumetric overhead. The uniform current and resistance paths promote uniform heat generation, which enables even ageing of the cells and ensures longer cell life.



Nilar Battery packs from 0,96 to 1,44 kWh

BENEFITS IN BRIEF

- Long term power
- Superior safety benefits
- Environmentally friendly
- Optimal for peak power applications
- Expedient energy availability for medium power applications
- Suitable for shorter cycle duration applications



Through the deployment of our previous battery product, our dedicated research and design staff gained significant insights into improvements and innovations towards a better battery. The plastic material used in the laser-welded module was replaced with a more resilient material. Operational guidance was fine-tuned for outstanding efficiency and the battery was upgraded for better processing of the dynamic data and communication with external systems. The result is this newly unveiled Nilar Energy Battery. The 10 Ah Energy Battery has retained the volumetric size and quality performance of its predecessor, operating expertly at a continuous 1C charge and discharge rate. It is the exceptional choice for peak power reduction and provides expedient energy for any medium power application.

BATTERY FEATURES

- Rated capacity of 10 Ah
- Rated energy from 0,96 to 1,44 kWh
- Max charge/discharge rates of 2C/3C

Nilar Home Box

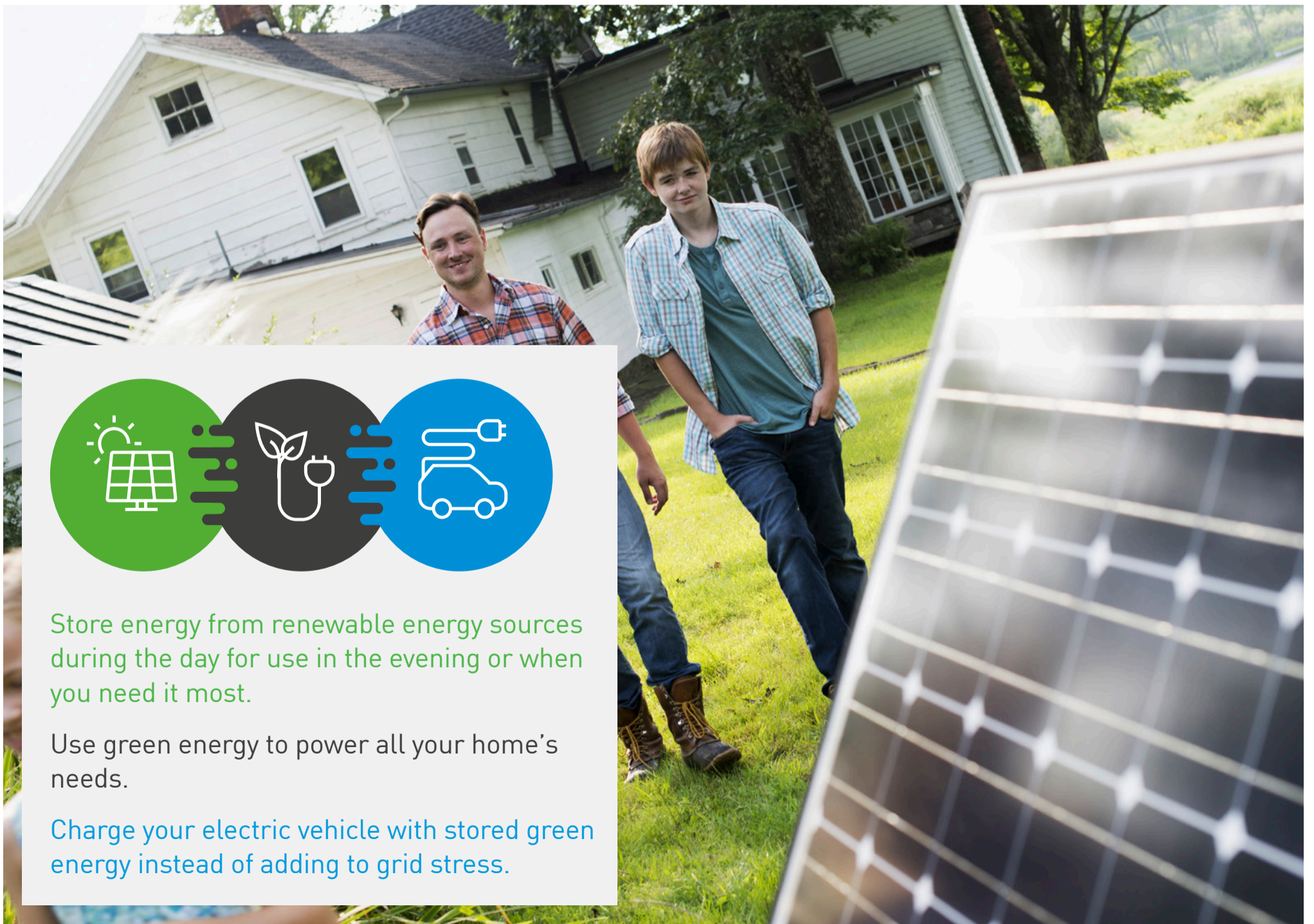
5,76 kWh ENERGY

BENEFITS IN BRIEF

- Long term power
- Superior safety benefits
- Environmentally friendly
- Optimal for peak power applications
- Expedient energy availability for medium power applications
- Suitable for shorter cycle duration applications



The Nilar Energy Home Box embraces the swift dispatchability of power from the Nilar Energy Battery for peak shaving and time shifting applications. The 10 Ah system is rated to provide 5,76 kWh of energy with a maximum continuous 1C rate for charge and discharge. It is the exceptional choice when expedient energy is required for your home.



Store energy from renewable energy sources during the day for use in the evening or when you need it most.

Use green energy to power all your home's needs.

Charge your electric vehicle with stored green energy instead of adding to grid stress.



With the Nilar reoxygenating technology 

LONG LIFE DESIGN

Unlike conventional battery energy storage solutions that need replacement every 5 -10 years, the ruggedness of the Nilar Hydride® chemistry leads to a different ageing process. They only wear when storing and providing energy, resulting in longer life.

SUPERIOR SAFETY BENEFITS

Nilar Hydride® batteries contain water based, non-flammable electrolyte. They cannot generate short circuit failures even when operating during low temperature charging and will not cause heat propagation between modules.

ENVIRONMENTALLY FRIENDLY

Unlike most industrial batteries, Nilar Hydride® batteries do not contain, nor need cadmium, mercury or lead to deliver powerful results. When compared to many other chemistries, which are often more costly to recycle than mine, nickel is an actively recycled and reused material.

SIMPLIFIED TRANSPORTATION

Nilar batteries are certified for transport via road, rail, sea or air, without the need for heavy and expensive explosion-proof containers. No dangerous goods documentation is required when transporting by road or rail. Air and sea transport require some documentation but are easily managed.



PRODUCED IN SWEDEN WITH 100% RENEWABLE ENERGY

Nilar batteries are manufactured from cell to system at our fully automated production plant in Gävle, Sweden; our facilities are powered by 100% renewable energy.

SOPHISTICATED MONITORING

The Nilar Battery Management System (BMS) protects and controls the batteries to maintain a long service life. The fine-tuned management optimizes battery operation for best reliability, safety and efficiency.

Nilar Cabinets & Racks

BENEFITS IN BRIEF

- Long term power
- Superior safety benefits
- Environmentally friendly
- Optimal for peak power applications
- Expedient energy availability for medium power applications
- Suitable for shorter cycle duration applications



Cabinet 11,5 kWh

Cabinet 17,2 kWh

Cabinet 23 kWh

Cabinet 28,8 kWh

NILAR ENERGY CABINETS

The Nilar energy storage cabinet solutions can be configured according to different setups, creating flexibility and a user-friendly experience for the customers. When the Nilar Energy Battery is utilized, the expeditious dispatchability of power of the cabinet is ideal for peak shaving and time shifting of renewable resources. There are four different cabinet sizes, with the same footprint and varying vertical height, ranging from 11,52 kWh to 28,80 kWh in size. Contact Nilar or one of our many dedicated partners and distributors to collaborate towards the best solution for your specific situation.

NILAR ENERGY RACKS

The Nilar Rack solutions can be configured according to different setups, creating flexibility and a user-friendly experience for the customers. When the Nilar Energy Battery is utilized, the expeditious dispatchability of power of the rack is ideal for peak shaving and time shifting of renewable resources. There are two rack products provided by Nilar within the Nilar Energy product series. These two racks are the same size in energy, both utilizing the Energy battery with one able to serve as a master and the secondary listed as a servant. With these rack options, solution size can range from 57,6 kWh to 230,4 kWh with a single master system. Contact Nilar or one of our many dedicated partners and distributors to collaborate towards the best solution for your specific situation.



Rack 48 kWh and Rack 57,6 kWh

Nilar Hydride[®] batteries - The ideal solution for your application

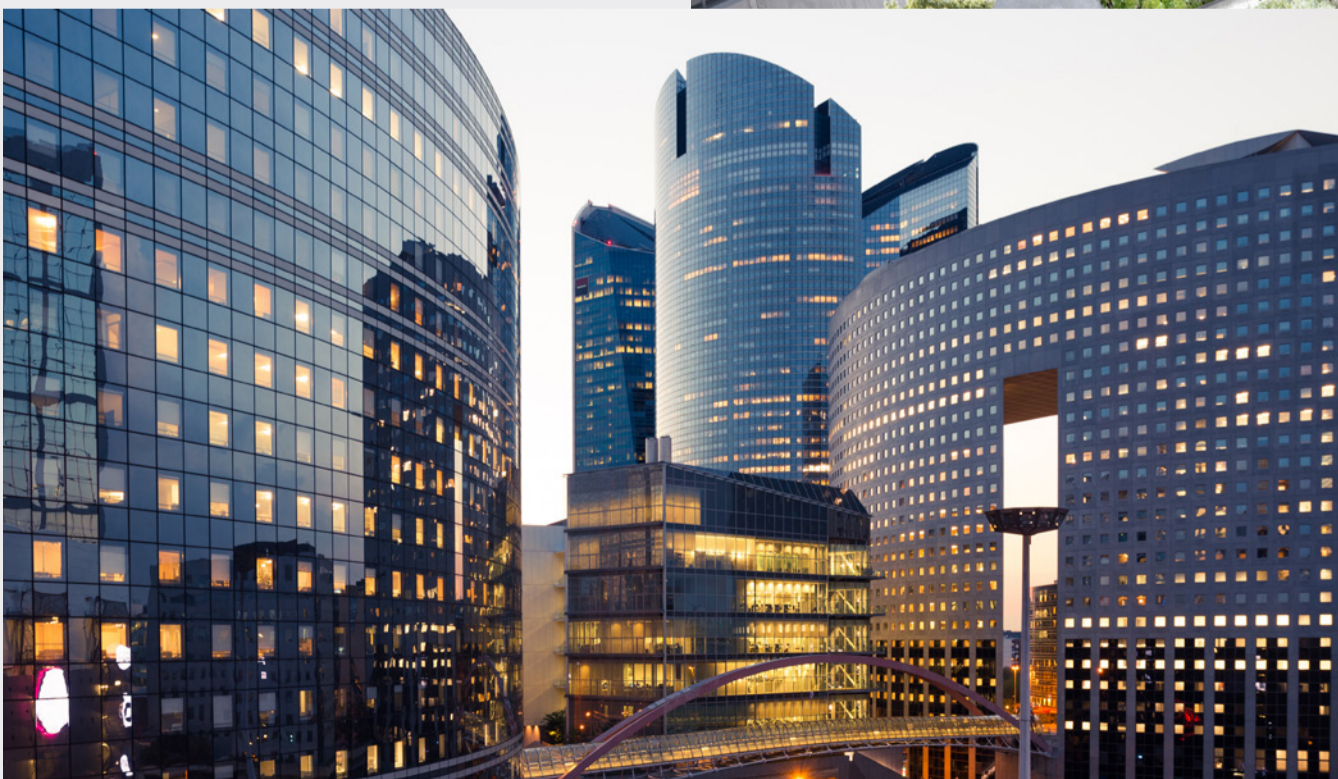


Home Box – Meeting the growing demands from the residential market

To store excess self-generated solar energy and utilize when needed, the Nilar Home Box, with a capacity of 5,76 kWh was the solution for one resident. This allows more energy independence by increasing self-consumption, reducing peaks in power consumption, and minimizing grid fee costs. For any safety-conscious consumer, the peace-of-mind offered by the Home Box was appreciated since it can be safely placed in a home like any other appliance.

Cabinet - Safe energy storage for multitenant apartments

To optimize the use of an existing solar energy solution, a housing association invested in the installation of a Nilar energy storage solution for one of their apartment buildings in Stockholm. The project consisted of a 32,4 kWh system that enables solar energy to be stored during the day and transferred to apartments in the evening.



Rack - Secure back-up power and peak reduction

In order to optimize the electricity of their existing PV system, an office complex invested in Nilar rack systems to provide 460 kWh of storage. With the flexibility of dispatchable energy, they can increase their self-consumption, reduce peaks in power consumption and minimize grid fee costs.



Nilar Sustainability

Nilar's goal is to support society's electrification with sustainable solutions. Through efficient energy storage, renewable energy can be used when it is needed and not just when it is produced. Sustainability lies in Nilar's DNA.

Nilar batteries are made with minimal hard-to-recover raw materials. Unlike most industrial batteries, Nilar Hydride® batteries do not contain, nor need cadmium, mercury or lead to deliver powerful results. And unlike many other chemistries, which are often more costly to recycle than mine, nickel is an actively recycled and reused material.

In Gävle, production is powered by 100% renewable energy. Within the manufacturing line, Nilar has also developed a method for recycling waste from the factory. The circular economy philosophy has consistently been an integral part of the vision and research & development processes for Nilar.



Nilar ENERGY product series



BATTERY PACK	Art. no.	Product description	No. of battery modules	Pack voltage (V)	System voltage (V)	Rated Energy (kWh)	Max charge rate (C-rate)	Max discharge rate (C-rate)	Max continuous charge/discharge rate (C-rate)	Measurements DxHxW (mm)
E-96-10Ah	200030E	1 Battery pack 96V, 10Ah +IMU	8	96	96	0,96	2	3	1	248x306x127
E-108-10Ah	200031E	1 Battery pack 108V, 10Ah +IMU	9	108	108	1,08	2	3	1	273x306x127
E-120-10Ah	200032E	1 Battery pack 120V, 10Ah +IMU	10	120	120	1,2	2	3	1	293x306x127
E-144-10Ah	200033E	1 Battery pack 144V, 10Ah +IMU	12	144	144	1,44	2	3	1	337x306x127

HOME BOX	Art. no.	Product description	No. of battery packs	Pack voltage (V)	System voltage (V)	Rated Energy (kWh)	Max charge rate (kW)	Max discharge rate (kW)	Max continuous charge/discharge rate (kW)	Measurements DxHxW (mm)
E-576V-5,76kWh-F incl. ESO	210017E	Home Box 5,76 kWh, F-ESO	4	144	576	5,76	5,76	11,52	3,46	305x945x900
E-288V-5,76kWh-K	210016E	Home Box 5,76 kWh, K	4	144	288	5,76	5,76	11,52	3,46	305x945x900

CABINET	Art. no.	Product description	No. of battery packs	Pack voltage (V)	System voltage (V)	Rated Energy (kWh)	Max charge rate (kW)	Max discharge rate (kW)	Max continuous charge/discharge rate (kW)	Measurements DxHxW (mm)
E-576V-11,52kWh	200035E	Cabinet incl. BMS and switch gear	8	144	576	11,52	11,52	23,04	6,91	655x1033x701
E-576V-17,28kWh	200036E	Cabinet incl. BMS and switch gear	12	144	576	17,28	17,28	34,56	10,37	655x1388x701
E-576V-23,04kWh	200037E	Cabinet incl. BMS and switch gear	16	144	576	23,04	23,04	46,08	13,82	655x1743x701
E-576V-28,80kWh	200038E	Cabinet incl. BMS and switch gear	20	144	576	28,80	28,80	57,60	17,28	655x2098x701

RACK	Art. no.	Product description	No. of battery packs	Pack voltage (V)	System voltage (V)	Rated Energy (kWh)	Max charge rate (kW)	Max discharge rate (kW)	Max continuous charge/discharge rate (kW)	Measurements DxHxW (mm)
E-576V-57,60kWh-M	200039E	Rack incl. BMS and switch gear	40	144	576	57,60	57,60	115,20	34,56	615x1996x1509
E-576V-57,60kWh-S	200040E	Rack incl. BMS and switch gear	40	144	576	57,60	57,60	115,20	34,56	615x1996x1509

Home Box



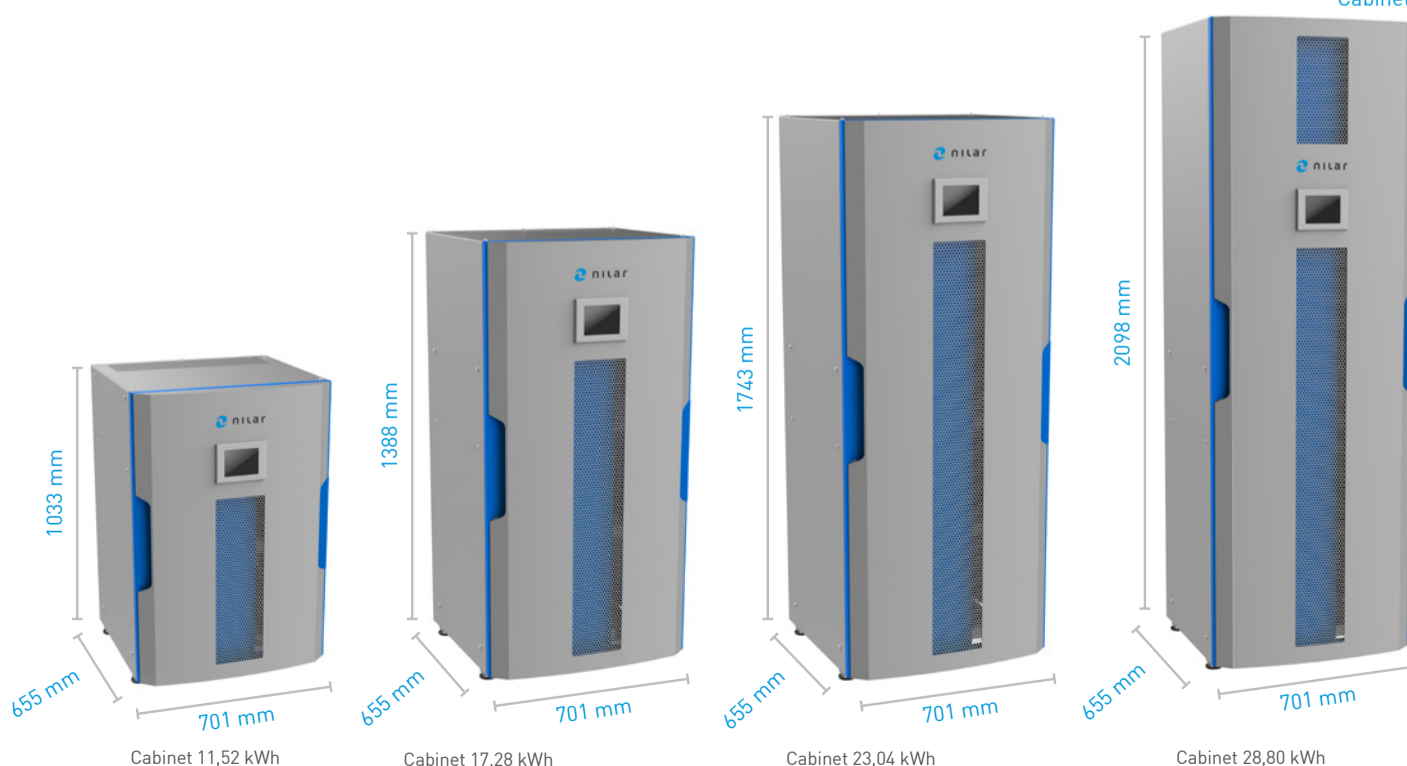
Home Box 5,76 kWh

Racks

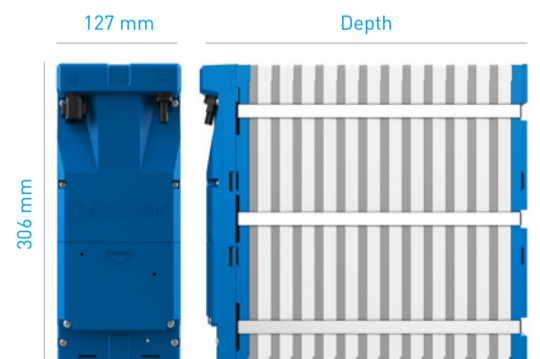


Rack 57,60 kWh

Cabinets



Battery Packs



Configuration	Depth, mm
EC-96V-10Ah	248
EC-108V-10Ah	273
EC-120V-10Ah	293
EC-144V-10Ah	337

Visit our website at www.nilar.com
to find your local distributor.



Nilar AB
Headquarters and Sales

Stockholmsvägen 116A
SE-187 30 Täby
Sweden
Phone: +46 (0)8 768 00 00
Email: info@nilar.com

Nilar AB
R&D and Production

Bönnavägen 55
Box 8020
SE-800 08 Gävle
Sweden
Phone: +46 (0)26 960 90
Email: info@nilar.com

Nilar Inc.
R&D and Sales Support

40 W. Littleton Blvd, Suite 210-63
Littleton, CO 80120
USA
Phone: +1 720 446 0169
Email: sales.america@nilar.com

