

Renewable Energy



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...determines

Exide Technologies, with branches in 80 countries, is one of the world's largest manufacturers and recyclers of lead-acid batteries. We offer an extensive range of customer-tailored solutions for storing electrical energy. Based on over 100 years of experience in the development of innovative technologies, Exide is an esteemed partner of OEMs and serves the spare parts market for industrial and transportation applications. We consistently use our knowledge to optimize our products' performance and to develop innovations.



Solar panel installation at a Bushlight community, Northern Territory, Australia.

our actions

The global Industrial Energy business division offers a comprehensive range of storage products and services. The range includes applications for renewable energy systems, telecommunications, railways, mining, uninterruptible power supply (UPS), energy supply and distribution as well as for forklift trucks and commercial vehicles.

Exide Technologies is dedicated to supplying a wide range of batteries for storage solutions in the field of renewable energies that are highly efficient and reliable making them suitable for

any requirement. With innovative and unique products, Exide Technologies has capable engineering and service staff enabling clients to obtain energy storage solutions at best price and performance ratio.

We are proud of our environmental protection efforts. Thanks to our comprehensive management systems – an integrated approach for the production, sales and recycling of lead-acid accumulators – we design the complete lifecycle of our products safely and with the environment firmly in mind.

Experience, knowledge of the market, innovative strength, competence, quality – these are all strong arguments in favour of Exide Technologies.

For renewable energy to be competitive with coal, natural gas, nuclear and oil, it needs to be cost effective and reliable. Energy storage is the crucial key to achieving this. With many years experience in the field of renewable energies, Exide Technologies provides storage solutions to customers throughout the world.

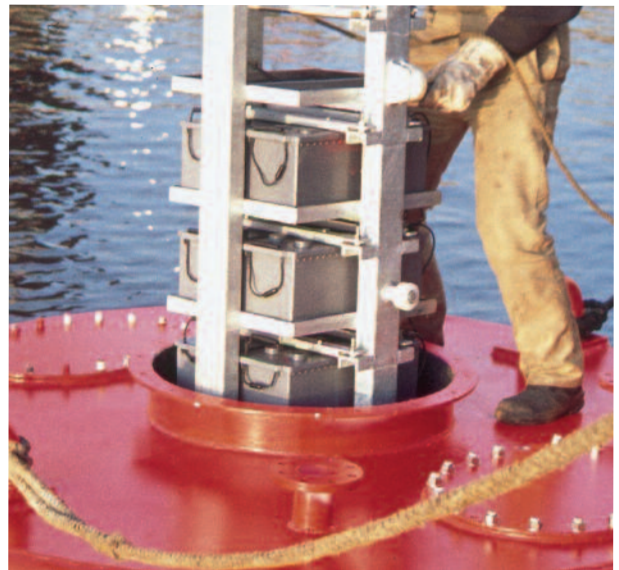


Solar powered igloo in the Netherlands with Sonnenschein SOLAR A600

Find out more at: www.eco-iglo.nl



Street-lamp near Klagenfurt, Austria



A Light buoy in the North Sea equipped with SOLAR Blocks

Typical battery bank with Sonnenschein SOLAR A600 batteries. This installation is backing up produced energy of a Bushlight community in the Northern Territory (see top right picture on previous page).



Bus stop with solar panel in the UK

Photos (p. 2 top and above) courtesy of the Centre for Appropriate Technology and Bushlight



Telecommunication tower in Carol Springs Mountain in Arizona with Absolyte GP.

Applications

Over the past years Exide Technologies has successfully proven its capability to deliver state of the art energy storage solutions. Here are some examples:

Igloo

In collaboration with a Dutch distributor, Exide Technologies participated in a fair in the Netherlands in 2009. The highlight of this fair was a Sonnenschein A600 solar powered igloo. The igloo can be placed on water or on the mainland and is completely independent from any other energy source except for the sun. Although this is experimental, the goal is to commercialize the igloo as a home or office (300 m² surface).

BESS

In 1996, Exide Technologies in collaboration with the General Electric Company (GE), the Department of Energy (DOE) and Sandia National Laboratories (SNL) designed and installed a 1MW/1.4MWh Battery Energy Storage System (BESS) at the facilities of Metlakatla Power and Light (MP&L) at the island village of Metlakatla, Alaska. The battery powering this BESS was Exide's ABSOLYTE® Valve-Regulated Lead-Acid (VRLA) design. The purpose of this installation was to stabilize the island community's utility power grid providing instantaneous power into the grid when demand was high from local industry, and to absorb excess power from the grid to allow its hydroelectric generating units to operate under steady state conditions.

Telecommunication

A remote solar installation powering a data communications tower/radio/cell tower was installed on Carol Springs Mountain. Powered with Absolyte GP (100G17) as battery back up it is a reliable storage system which has been working for many years.

Light buoys

Light buoys are commonly used to secure shipping lanes around coast lines. Since the late 80's more and more buoys are equipped with a photovoltaic system backed up by a battery bank. Depending on the required intensity of light, up to 12 Sonnenschein Solar blocks of 100 Ah are installed. For special requirements even Sonnenschein A600 cells with up to 3000 Ah can be used.



Sonnenschein SOLAR – are specially designed for small to medium performance requirements. Maintenance-free (no topping-up).



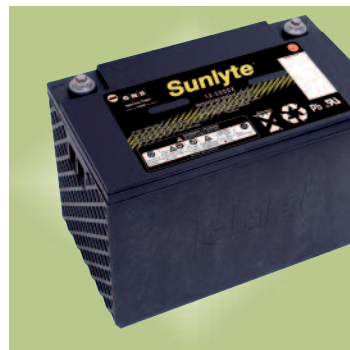
Sonnenschein SOLAR BLOCK – for use in private areas and for medium industrial solar systems. Maintenance-free (no topping-up).



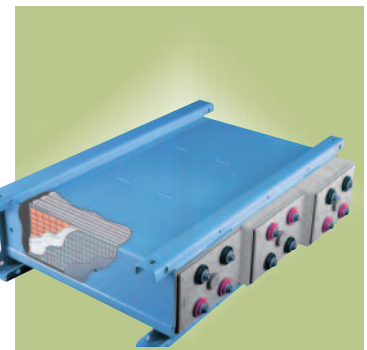
Classic EnerSol – are robust flooded batteries for energy storage and are proven for use in leisure and consumer applications (low maintenance).



Classic EnerSolIT – batteries are universal energy supplies for medium industrial solar systems (low maintenance).



Sunlyte – valve regulated lead-acid block batteries with a nominal capacity of 100 Ah at 25 °C for special high current performance. Maintenance-free (no topping-up).



Absolyte GP – valve regulated lead-acid single cell batteries with a nominal capacity of 104–4800 Ah at 25 °C and design life of 20 years at 25 °C. Maintenance-free (no topping-up).

Advanced products for energy storage solutions



Sonnenschein A600 SOLAR – are developed for medium to large solar powered applications. Maintenance-free (no topping-up).



Classic OPzS SOLAR – is well proven for decades in medium and large power requirements (low maintenance).



Absolyte GX – valve regulated lead-acid single cell batteries with a nominal capacity of 2000–6000 Ah at 25 °C. Maintenance-free (no topping-up).

Battery operation in renewable energy applications is determined by a lot of different factors – some important ones are:

- Operating conditions
- Type and battery characteristics
- Charge regulation during the battery lifetime
- Unpredictable operating conditions, depending on climate and duration of sunshine
- Individual power consumption

Thanks to many years of experience gained in numerous renewable energy projects, Exide Technologies is capable of meeting and surmounting many different challenges. The close working relationship with system manufacturers puts Exide Technologies in a good position to take advantage of know-how and experience accumulated over many decades in the field of sustainable energy. This enables the planning and implementation of extremely innovative solar energy projects. The result: sustainable, long-term solutions in which technical, environmental and economic factors are perfectly balanced.

In answer to the large variety of requirements for renewable energy systems, Exide Technologies has designed highly specialised ranges of batteries for use in various conditions. Based on many years experience and highly reliable technologies these ranges provide the ideal battery solution for almost every renewable energy application.

Key factors for batteries used in renewable energy systems

- Low maintenance or maintenance free
- Functions in many positions
- Wide temperature range response
- Low self discharge
- Use in airtight or air moisture environments
- Use in harsh environments

For more detailed information on our products, technical data and PDFs of the brochures please visit our international website:

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