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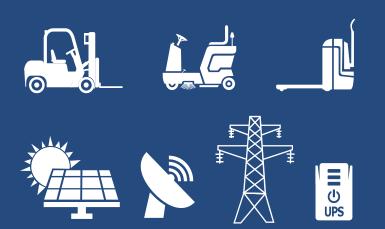






# A Global Manufacturer of Industrial and Advanced Energy Storage Solutions





The Sunlight Group, guided by a clear vision and forward-looking strategy, is driven by technological innovation and a passion for excellence.

The Group ranks among the world's top manufacturers of industrial motive and advanced technology batteries and is one of the fastest growing enterprises in its sector.

Sunlight constantly invests in the development of high-end products based on new technologies and evolves its operational efficiency with Industry 4.0 principles.

# Manufacturing and Assembling Capacity in Greece, USA and Italy









4GWh in cell production

1GWh in assembly capacity

**Industrial complex** in Xanthi, **61,000 sqm** Lead-acid battery **recycling unit**, Komotini



**USA** 

2GWh

Assembly plant in Greensboro, North Carolina, **9,700 sqm** 



**ITALY** 

2GWh

Assembly plant in Verona, **10,000 sqm** 

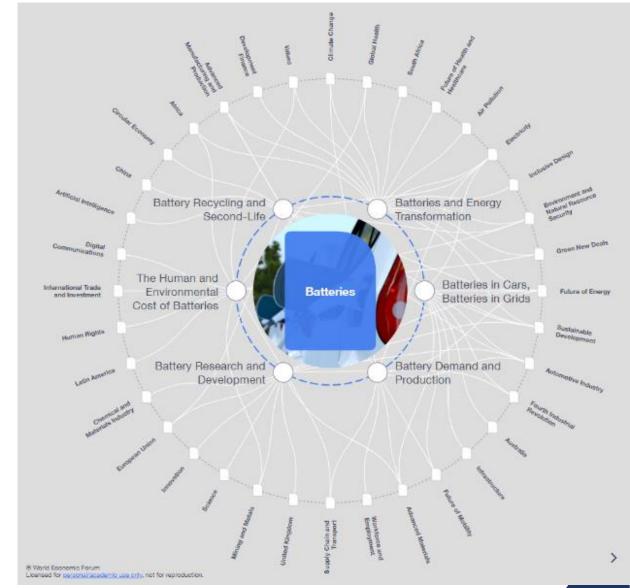




# Global Battery Demand Growing to Support Electrification

- In 2020, investments and value creation in green transportation and energy exceeded \$US1tr.
- Battery technology can help reduce global carbon emissions and promote sustainable economic growth.
- **ESS** sector for both RES generation and emergency power supply.
- The next generation of batteries will support companies procuring **renewables** and providing **green jobs**.
- Global battery market value expected to reach \$150bn in 2030, from \$90bn in 2020.

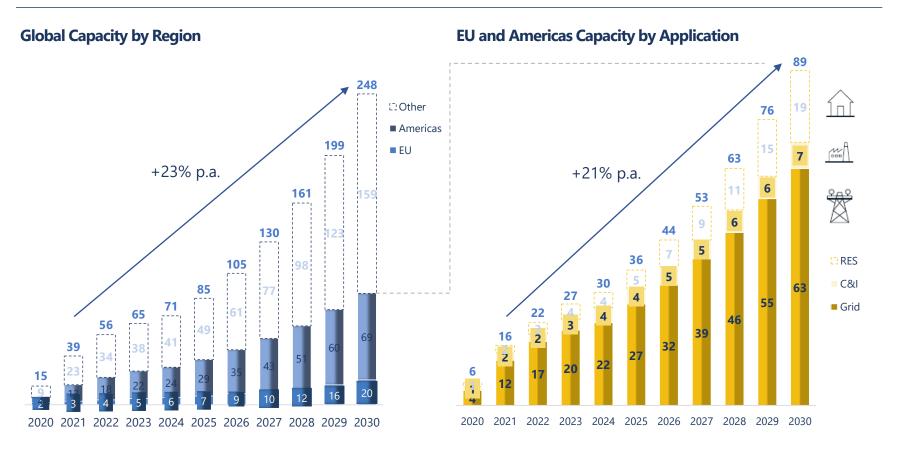






## Market Overview I Significant Growth Expected Across Global ESS Applications

#### ESS Annual Installed Capacity, GWh



ESS markets expected to continue their steep ~20% p.a. growth trajectory in the next decade, with similar growth levels across markets and applications.

**Grid** applications expected to comprise the majority (~70%) of volumes in the target EU and US markets, with **Commercial & Industrial** applications contributing another ~10%.

**Scale is critical** to ensure low-cost position and competitiveness.

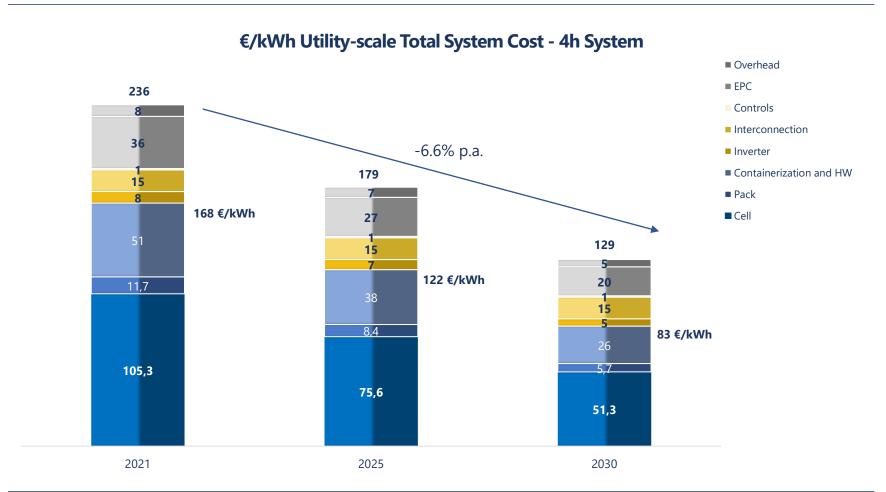
**Sunlight positioned to enter the ESS market**, as it continues its rapid growth.

Source: Wood Mackenzie Global energy storage outlook H1 2021



# Market Trend I Storage Costs Expected to Decline in the Next Decades

ESS Utility-scale Total System Cost, 4h System, €/kWh



**Battery pack**: manufacturing scale, increased global competition, value chain integration

**Containerization and Hardware**: design and technology improvements via systematic system-engineering approach and additional price pressure by new entrant low-cost manufacturers

**EPC**: emergence of more storage-specialized EPCs, design standardization to simplify laborintensive on-site operations

**Soft Costs**: streamlined interactions between market players (i.e., EMS and BMS communication); end-customers to optimize the best use of storage technologies

Source: McKinsey Battery Cost Model (Feb 2021)



# **Key Success Factors for the ESS Market**



#### **Safety**

Nowadays, safety is much more than a factor, as it has become an absolute must for customers. Producers need to develop and offer battery storage systems that meet the highest safety standards.





#### **Performance**

High cyclability is the most important performance factor. ESS applications today are moving towards 8,000-10,000 cycles, in order to reduce the levelized cots of storage (LCOS): accurate simulation tool providing competitive performance guarantee scheme.



Offering modular and scalable products is important, as it enables battery storage providers to offer tailored solutions for specific projects/customer needs.



KEY SUCCESS FACTORS



### Price

Offering competitive products price-wise is by far the most important factor for customers. Although LCOS depends on different factors, CAPEX is often the most important focus.

# Strong installation and integration capabilities

Easy and fast installation, site deployment, operation and maintenance are critical in reducing expensive on-site labor costs for both EPC works and operation.





#### Smart Energy Management System

Critical to offer a "smart" BMS providing not only safety features and indicative values of battery parameters, but also useful KPIs to optimize battery system usage for different applications.





# Sunlight Group's Steps to Win the ESS Market





Component selection and system design with safety-focused approach.





Strong procurement to achieve competitive prices – from cell to system.





System design with cost-focused approach and clear cost target; enhancement of Sunlight's internal technical capabilities.





Development of access integration capabilities to provide a complete integrated turn-key product.





Competitive EMS offering and/or joining forces with PCS/Inverter suppliers to provide necessary level of EMS and SW and develop competitive simulation tool. Trainings and education initiatives to onboard Sunlight's key stakeholders.





**BMS** 

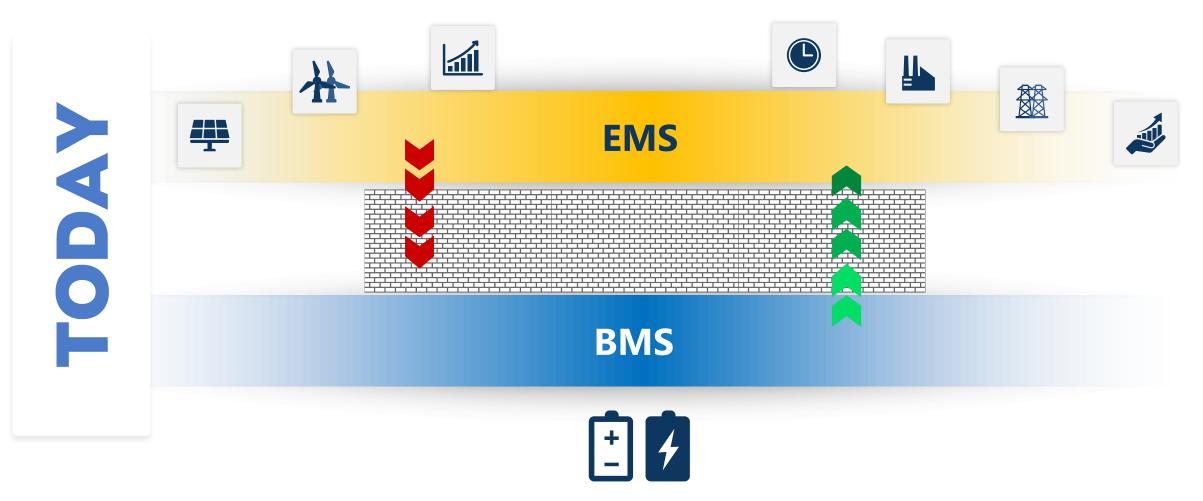




# Sunlight SMART BMS as Unique Selling Point

#### Smart Battery as the Core Component for Future Energy Systems

Monitoring & Management of the battery's critical parameters (e.g., Voltage, Temperature, Current, SoC, SoH, Operating Cycles, Ah, Wh) to **protect the battery** and provide a Safe & Reliable operation





# Sunlight SMART BMS as Unique Selling Point

Smart Battery as the Core Component for Future Energy Systems

"Smart" BMS that can provide not only safety features, but also useful **suggestions to the whole system to optimize battery system usage for different applications and revenue streams** 

