Alpha ESS Welcomes TESLA to the industry.

Thanks to Tesla’s unveiling of the Tesla Powerwall this week the spotlight has been firmly place onto the domestic energy storage industry. Back from exhibiting our own Energy Storage Systems at InterSolar 2014 it is refreshing to see that AlphaESS’s vision for the future of domestic power is mimicked in a wider audience.

AlphaESS welcomes newcomers to the industry. Growing awareness of Solar Energy Storage and its place in the household will only greater achieve our goals to create a future where millions can become energy independent. AlphaESS envisages the next generation of Smart Homes to be approaching.

Tesla’s decision to diversify its range away from the motor industry is strategically crucial. The revenue generated by Tesla has been consistently high since flotation in 2010 however profit hasn’t reflected that. Large competition with well-established companies in the automotive arena and new self-generation incentives from the State of Californian likely contributed to Tesla’s impression that the energy storage industry is a short-term solution.

AlphaESS has, since its inception in 2012, produced and distributed Energy Storage Solutions for Photovoltaic systems. Currently operating in Europe and Australia AlphaESS has built up a quality reputation with customers and within the industry being nominated for ees AWARD finalist before Intersolar Exhibition in Munich this June. As such at AlphaESS we feel qualified and obligated to comment on changes in the industry landscape.

At first look, the design of Tesla’s Powerwall is very appealing. With the use of high energy density batteries the Powerwall has been made very compact. The wall mount design offers obvious advantages in situations of limited floor space.

Electricity storage in automobiles and domestic storage prioritises different aspects. Much more importance is given to both safety and lifetime in the domestic setting.

**Safety:**

Having a storage system inside a home as opposed to in an automobile brings about a change in user perspective. In a home environment the user is not in a sense of alertness as with driving and is more reliant on a system functioning in a safe manner. Tesla’s use of Lithium NMC batteries in its Powerwall seems to stem from a design point of view. Lithium NMC batteries have a high energy density and therefore the Powerwall can be made more compact. The use of Lithium NMC has been directly taken from the batteries used in Tesla cars simply for the reason of capacitance. However in terms of safety the use of Lithium NMC is considered to be less safe than other cell types namely, Lithium Iron Phosphate (LFP). Used in AlphaESS products LFP is considered the safest form of Lithium battery available a point for which AlphaESS sacrificed on energy density, least important for domestic energy storage.

**Lifetime:**

The two aspects of lifetime are considered separately, calendar life and cycle life. The upper end unit 10 kWh allows a continuous power discharge of 2 kW. Curiously low power considering the expected power usage of a home in evenings is more close to 3 kW. This application can be considered as a compromise of power to gain a longer cycle life, but the battery can’t discharge enough energy that could have supported the load. This would greatly reduce the system revenue because the loss overweighs the gain.

With respect to calendar life of the batteries used, the choice of 18650 batteries seems again from a design perspective, logical, however when considering 18650 Lithium NMC give a maximum of 10 Wh energy units then this requires more than 1000 batteries per unit, decreasing reliability. Individually these cells will have a long lifetime but even then a claimed 10 years from Tesla seems very ambitious.

**End user considerations:**

Taking customer needs into account Tesla have chosen a design in terms of modulation but have decided to use modules of 7 or 10 kWh. Randomly taking UK for example, when the average household consumes near 14.5 kWh per day, increase storage in such large steps becomes impractical and inflexible. In contrast, AlphaESS use a modular design by collaborating modules of 2.5 or 3.5 kWh modules housed in one unit. This gives great flexibility to the end user and allows bespoke fitting to the needs in different households.

Instead of a pure battery manufacture such as Tesla Energy, AlphaESS has developed a web enabled energy management system with LCD touch screen. The system allows remote monitoring of operation optimizing effectiveness of the photovoltaics. The energy management system acts as the nerve centre of the system whereby it automatically assigns master module, can identify and predict peak usage and identify problems that arise. Master modules assignment and problem identification can be done remotely, reducing the need for engineer callout. Peak usage can be predicted by big data collection from many units and this can be then used to feed power back to the grid a high demand times and therefore increase profitability for the user.

Tesla’s arrival in the industry is seen as a positive move for the whole industry. Bringing awareness and ability to impact public opinion is something to be admired. We at AlphaESS are proud that our vision for the future can be shared by so many and that this new spotlight will attract new talents, drive growth and allow our vision to become reality.

Alpha-ESS will show up in Intersolar Europe 2015 in Munich with ESS Award nominations

The **Intersolar Europe** takes place annually at Munich in Germany and is the world’s leading exhibition for the solar industry and its partners. In 2014, 1,082 international exhibitors and 42,380 trade visitors attended the event. The exhibition focuses on the areas of photovoltaics, PV production technologies, energy storage systems and renewable heating. Since its founding, it has become the most important industry platform for solar industry. In 2014, more than 1,100 attendants and around 200 speakers gathered together to talk about present situation of the industry and shed light on the background of technological, market and political developments.

In 2015, the **EES Europe**, an international exhibition for batteries, energy storage systems and innovative production, takes place for the second time in conjunction with the Intersolar Europe. The ESS Europe covers the entire value chain of innovative battery and energy storage technologies. To be successful, a company has to differentiate itself from the crowd with groundbreaking ideas and technological innovations. The Intersolar strives to promote the industry’s power to innovate. To this end, the EES AWARD was introduced at Intersolar Europe 2014. It honors innovative products and solutions for electrical energy storage, e.g. product components or technical innovations in the fields of materials, production, systems, applications, second use, and recycling.

Each year a committee of experts chooses 10 most innovative products from all applicants as finalists for the award. In this final round the companies will present their products in each single detail and also hold an oral presentation at the forum. From these 10 finalists, the committee will choose 3 winners for 2015 on an official ceremony on June 10th.

In June 2015, AlphaESS will participate at the Intersolar Europe/ees Europe for the second time with 13 representatives and almost double-size booth compared to last year to present our advanced energy storage products. This year AlphaESS also applied for the ees Award and won the nominations together with 9 other applicants against more than 100 competitors. The **AlphaESS Storion Series** was accepted as one of the 10 most innovative products 2015 and therefore shows AlphaESS’ power to innovate.

We look forward to presenting our innovative products to all visitors through forum talk and warmly welcome all gusts to come to our booth B1.220 in hall B1 during June 10th to 12th. .

AlphaESS shows up on Solar Progress, Australia’s leading solar journal.

AlphaESS focuses **Energy Storage Solution (ESS)** for a future powered by clean and reliable energy. With the first company set up in 2010, the Alpha team has developed its own energy management system (EMS), battery management system (BMS), and all-in-one energy storage system for solar households. The brand AlphaESS was established in 2012, which has been steadily set foot in Germany, China, America and now Australia, and well-recognized by the market with stylish design, high quality components and affordable price. In this year, the product series Storion is nominated as finalist in the ESS Award in the largest solar event in Europe - Intersolar Europe. The series includes 3kW and 5kW solution with flexibility to put in maximum 5 battery units with each of the unit nominated at 2.5kWh.

“The product is a perfect suit for customers in Australia who want their home to be powered purely by renewable energy”, said Dong Lin, Managing Director of AlphaESS Australia, who is the China Regional Manager for the Australian Solar Council and graduated from UNSW as a PhD in Photovoltaics, “With 5kW PV generating around 20kWh a day, and the batteries help keep half of them to be used during the night time, an average household can be independent from the grid.”

With large charging and discharging capacity, and smart control by the EMS, the system can maximize the self-consumption of a PV system up to 100%. It also has three levels of safety measures and separate BMS for each battery unit to ensure a safe and most efficient system operation. Beyond these, the system will allow customized settings for charging and discharging in its next release in Intersolar, which fulfills the needs from different customers and gains the most benefit from electricity tariffs.

“We are trying to integrate as much functionality as we can into the system because the EMS is the core of our business', said Dong, 'In the future, it will also integrate with smart home devices and act as the basis of energy internet with decentralized power generation.”

AlphaESS has a healthy market penetration strategy with the first year focusing on building up the service network. Installers with good understanding of battery storage are being trained and signed up as service partners in each state to provide customer services. The first system was installed at Glen Morris' place and he comments that 'xxxxxx'. Now numerous systems have been installed across the country, mainly in QLD, VIC and NSW.

“We are here to set ourselves up and be ready for the market take off in the coming years”, said Dong, “The current payback time for our system is around 8 years, and we believe the market will take off if the payback time can be reduced to 6-7 years as PV did a few years ago. It will not be too far away.”

See more on Solar Progress website: http://solar.org.au/

New generation of Lead-Crystal system-"Alpha-Centauri" has been launched.

Just three weeks after the decision of designing a new look for Lead-Crystal system was made, the new generation has already been released to the market this May. Two versions—9.6kwh and 19.2 kwh are now available at the moment, both equipped with EMS; The 7inch Touch LCD display makes it easier for customers to monitor the power status. The new system will be named as Alpha-Centauri for its resemblance to the shape of Star Alpha- Centaurus, the closest star to the sun in Zodiac. The name Alpha-Centauri happens to coincide with the name of company name Alpha-ESS, and also represents the close connection between our system and solar energy. Compared with the old version, Alpha-Centauri has similar spec and feature but shows a tremendous progress in overall look.

New office of Alpha Suzhou has been put into use on May 20th, 2015.

On May 20th, 2015, Alpha Suzhou moved into a new office, which is situated in NW-02, No. 99, Jinji Lake Avenue, Suzhou Industrial park and occupies an area of over 650m2, twice bigger than the original office. Altogether there are five main parts in new office--- marketing and sales section, R&D section, test room, meeting room and show room. Green has been used as main colour in the new office to represent green energy and a great show room has been decorated to present our company history and product series. Right after the relocation of Suzhou office, Nantong office will also move to new buildings at end of July.