

# Green Solutions

Restore of sealed lead-acid batteries



# SWEL restores

- SWEL Energy restores sealed lead acid batteries at the end of the life. Batteries that customers send for recycling could have a second life.
- SWEL presents technology that gains back original characteristics of new battery by launching process of desulfatation
- We strongly believe that our revolutionary technology cut cost and tap into green concept for technology development



# Key reasons for death of sealed Lead-Acid batteries

- There three key reasons:
  1. Constant undercharging
  2. Working at high temperatures (usually in summer season)
  3. Constant deep discharges.
- Existing technologies of desulfatation cannot be applied for sealed lead-acid batteries. Before emergence of our technology to restore lead-acid battery meant to buy new one.

# What did customers do with used non-working batteries?

- They deliver them to recycling company
- We believe the majority of these batteries could be restored with SWEL technology



# How SWEL works?

- **We don't break structure of the battery**
- We have developed charge and discharge algorithm with micro watt portions to reanimate 'dead' battery. As a result of the algorithm we increase internal surface of electrodes which helps to decrease internal resistance of the battery.
- Such an effect leads to decrease of heat generation both while charge and discharge. Thus, it leads to increase in effectiveness of the battery and it's life.
- The process of battery reanimation takes about 18-24 hours. Time does not depend on battery capacity. Economically efficient to restore batteries with capacity more than 70 Ah.

# 2 in 1 solution

- With SWEL technology sealed lead acid battery gains it's second life. Customers are able to **cut their budgets** for purchasing new items and decrease their costs for support energy system security.
- And another benefit, we **keep our planet green**, as we prevent breakage of sealed lead acid battery and necessity of electrolyte recycling. Your battery will have a second life.



# Any questions?

## SWEL ENERGY



Maxim Drozd, Marketing Director

23 b.2, Matrosskaya Tishina,

Moscow, 107076, Russia

P: +7 495 979 07 09

M: +7 903 168 24 80

E-mail: [md@salt-research.com](mailto:md@salt-research.com)

[www.swel-energy.com](http://www.swel-energy.com)