



SHIFT

+ 2 CLEAN ENERGY

BACKGROUND: PwrSwäp

Shift's practical pay-as-you-go PwrSwäp service gives customers clean energy with more reliability and less risk. Customers save money from day one, while meeting climate action and ESG goals through electrification.

PWRSWÄP – A PRACTICAL SOLUTION TO SHIFT 2 CLEAN ENERGY

Shift brings together proven technologies and provides something no one else has: the pay-as-you-go PwrSwäp ecosystem. PwrSwäp uses swappable batteries to deliver energy when and where you need it. Batteries and charging stations are at the core of PwrSwäp, but new renewable energy sources can be added on as needed.





SHIFT

+ 2 CLEAN ENERGY

PWRSWÄP IS THE CLIMATE ACTION SOLUTION WE NEED NOW

New laws and regulations to reduce global greenhouse gases (GHGs) and improve local air quality are forcing mariners, ports, terminals and other micro economies such as isolated communities and industrial sites to abandon the use of traditional fossil fuel and adopt low-emission power systems. Several technologies are vying to become the global standard including battery electric, hydrogen fuel cell, liquified natural gas, diesel hybrid and biodiesel fuels. The successful technology must meet tough new environmental requirements, have the best business case, meet and exceed performance and safety specifications and demonstrate a number of additional critical factors. PwrSwäp achieves this.

HOW IT WORKS

The foundation of PwrSwäp is the installation of strong and safe battery e-Pods and containers that can be swapped with fresh pods and containers in under 3 minutes using a crane. Swapping can be completed multiple times over a vessel's operating cycle. The e-Pods can also be used to power on land applications.

A good example of PwrSwäp is its application to the electrification of ports, terminals and inland water way short sea shipping. These are all microecosystems: systems that are highly integrated and require energy to support the goods movement activities they perform. Currently much of these sites are powered by fossil fuels: bunkering fuel for ships, diesel for port and harbour support vessels and trucks, and often carbon-based grid electricity (powered by burning natural gas or coal) powering offices.

PwrSwäp provides a holistic solution to shift to clean energy: Shift can customize solutions for customers, including converting marine vessels to hybrid or fully electric. We can also integrate renewable energy solutions. For example, we build new wind energy production and harness the power of wind by also turning turbines into battery chargers, extending the range of capability of fleets servicing the farms.