



BACKGROUNDER

Solving the Problem of GHG Emissions and Meeting ESG Goals Shift: Climate Action Solution Leader

THE PROBLEM

Drought, storms, heat waves, forest fires, flooding and warming oceans are wreaking havoc. As earth gets hotter, warming temperatures threaten clean air, safe drinking water, nutritious food supply and safe shelter.

People around the world are facing the consequences of the climate crisis. We see the stories daily: greenhouse gases (GHGs) produced by our use of petroleum and carbon-based energy are contributing to an increase in average temperatures that is decaying our polar ice caps and significantly changing the temperatures of the oceans – upsetting the natural patterns and bringing about catastrophic impact to our lives.

Marine transportation is a significant contributor to the problem:

- Shipping accounts for 3 per cent of the world's CO₂ emissions;
- If shipping were a country, it would be the 6th largest carbon polluter on the planet;
- Marine transportation accounts for the same amount of annual GHG emissions as the entire nation of Germany.

Yet the global economy relies on goods movement: shipping accounts for about 90 per cent of world trade.

Marine transportation companies need to transition to clean energy. But they are:

- Worried about the cost of green energy transition;
- Concerned about costly lag times for recharging batteries;
- Reluctant to cede valuable shipping space for large batteries.

They are also under pressure to decarbonize.



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- The International Maritime Organization (IMO) has set the goal of reducing overall GHG emissions from ships by 50 per cent of 2008 levels by 2050.

Global trade, and its resulting GHG emissions, is continuing to grow which is why we need to act now to stop fossil fuel reliance.

PWRSWÄP – A PRACTICAL SOLUTION TO SHIFT 2 CLEAN ENERGY

Shift provides climate action solutions that give customers a reliable, affordable way to electrify and reduce GHG emissions. Shift empowers customers to meet their climate action and environmental, social and governance (ESG) goals.

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, and new renewable energy sources – such as wind power or hydrogen – can be integrated as needed.

What's more, PwrSwäp can help decarbonize much more than just vessels.

Ports. Terminals. Inland waterways. Isolated communities. Industrial sites – all can move to electrification and reduce GHGs with PwrSwäp.

THE BENEFITS ARE CLEAR

PwrSwäp gives customers clean energy with more reliability AND less risk

PwrSwäp saves money from day one. Shift's pay-as-you-go service enables huge savings for our customers. Customers pay a baseline subscription service fee, and then pay for electricity on a pay-as-you-go, per kilowatt hour basis.

PwrSwäp customers also enjoy low upfront and low overall costs: the savings alone of switching from diesel to electricity starts paying for moving to zero emission on day one and the entire system pays for itself within 5 or 6 years. Our customers buy the



energy, not the wind farm or the battery, which means customers don't have to invest in expensive up-front capital costs.

Shift removes the risk. Shift finances the transition of marine vessels to be electrified using clean energy. We believe so completely in our products, the PwrSwäp solution, and the climate action imperative, that we make the upfront investment, so you don't have to. And not only does Shift take care of the capital costs, we also remove the technology risk: if new solutions evolve, we apply them without impacting our customer's costs.

Shift eliminates uncertainty. We help customers manage the unpredictability of costs that come from carbon taxes and other regulatory rules.

Shift extends fleet longevity. We futureproof customers' businesses by helping maximize value. PwrSwäp works with both new vessels and existing ones. We can extend life of an existing vessel by making it zero carbon, using our CellSwap technology to switch out batteries at the end of their life and recycling them.

Shift provides the highest safety standards in the sector. Safety is Shift's number one priority. We have the highest safety standards and safety testing results in the marine battery sector. Our batteries don't catch on fire. Ever.

Shift offers the highest-performing, most reliable, durable, rugged batteries available. Safe batteries are what make PwrSwäp possible. No other battery on the market can safely "swap and drop" the way a Shift ESS cell can. There is no lag time for busy vessels or other PwrSwäp customers.



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Shift delivers practical solutions that are faster, better and cheaper. We eliminate range anxiety because customers can recharge e-Pods in minutes at charging stations located where they are needed. We use proven technologies to design customized, integrated energy solutions that combine clean, renewable energy from any source with marine and on-land battery use to move customers to full electrification.