

Lincoln Storm Limited Water Efficiency Statement and Three-year Water Efficiency Plan

Our Worle lithium-ion battery recycling plant is committed to increasing its water usage efficiency and reducing its environmental impact over the next three years. By optimizing our water use, investing in advanced technologies, and implementing best practices, we aim to improve our 98% recovery rate (production of Storm Black, copper, aluminum, and polymer from recycled lithium-ion batteries), while significantly reducing our water footprint. This plan outlines the key steps and milestones we will take to reach our water efficiency goals and contribute to a more sustainable future.

Three-Year Water Efficiency Plan:

Year 1: Assessment and Optimization

1. **Water audit:** Conduct a comprehensive water audit of the entire facility to identify areas of water inefficiency, losses, and opportunities for improvement. The audit will cover all aspects of the plant, including the closed circulatory water system for battery shredding, the water transport and disposal process, and the closed water system for rotary dryer cooling.
2. **Process optimization:** Analyse our current recycling processes and identify opportunities to improve water efficiency and reduce consumption. This could include optimizing the water flow rate in the shredding process, minimizing water losses in the cooling system, or reducing the frequency of water replacement in the shredding system.
3. **Inert gas ignition suppressant evaluation:** Explore the feasibility of using inert gas as an ignition suppressant in the battery shredding process as an alternative to water. Conduct a thorough assessment of the safety, efficiency, and environmental benefits of this approach.

Year 2: Implementation and Investment

4. **Water-saving measures:** Implement water-saving measures identified during the water audit, such as repairing leaks, upgrading water-efficient equipment, and optimizing water use in the closed circulatory water systems.
5. **Invest in advanced recycling technologies:** Invest in innovative recycling technologies that can help improve water efficiency, such as advanced water filtration and treatment systems, or alternative cooling methods for the rotary dryer.
6. **Inert gas ignition suppressant implementation:** If the evaluation in Year 1 demonstrates the feasibility and benefits of using inert gas as an ignition suppressant, begin implementing the necessary equipment and modifications to the shredding process.
7. **Employee training:** Provide training and resources to employees on water-saving practices and the importance of water efficiency.
8. **Monitor and evaluate progress:** Continuously monitor water consumption and efficiency improvements to track progress towards our goals.

Year 3: Expansion and Continuous Improvement

9. **Expand recycling capacity:** With more efficient water use in place, consider expanding the plant's recycling capacity to process a higher volume of lithium-ion batteries, further increasing the recovery of valuable materials while maintaining water efficiency.
10. **Review and update the plan:** Regularly review the water efficiency plan to ensure that it remains up-to-date with the latest technologies and best practices. Incorporate new findings and insights to continuously improve the plant's water performance.
11. **Share best practices:** Collaborate with other recycling facilities and industry partners to share best practices, exchange ideas, and encourage the adoption of water-efficient technologies across the lithium-ion battery recycling sector.

By following this three-year water efficiency plan, our diesel-powered lithium-ion battery recycling plant will significantly improve its water performance, reduce its environmental impact, and contribute to a more sustainable and circular economy.