EcoFlow
CLIMATE SYSTEMS

Memorandum

To: Richard Wong, Project Manager

From: Rhys Underwood

Date: July 28th, 2025

Subject: Recommendations to Improve Environmental Sustainability of the New Portable Air Conditioner

This memo highlights key aspects of the air conditioner unit where we can reduce energy use and better reflect our environmental sustainability practices, followed by specific examples for each. These proposed changes improve efficiency while maximizing the reuse and recycling potential of key parts.

Table 1. Environmental Sustainability Issues and Recommendations

Aspect Considered	Environmental Sustainability Issue	Recommendation(s)
The Outer Structure (aluminum + mixed plastics)	• Mixed plastics are much more difficult to recycle compared to single polymers is much easier •	• Standardize the outer shell to a single polymer • Switch panels to recycled aluminum with mechanical fasteners for easy removal
HEPA Filter Cartridges	• Disposable filter generates ongoing waste • Unclear recyclability	• Use pleated cotton or fabric filters to increase reusability • Add a UI indicator when a filter should be replaced or cleaned so the user does not dispose of a filter prematurely. • Use a filer frame made from recycled plastic that the customer reuses

Control/display (always on LCD)	• Constant load during idle • Unnecessary Brightness	• Auto dim or sleep the LCD after 1 minute of no input • Wake up on touch or motion
Enclosure size and shipping	• Large size increases transportation emissions and packaging waste	• Re-dimension or modularize the enclosure so more units fit per pallet • Ship the unit partially disassembled to cut shipping volume and packaging • Print user manuals as QR codes to reduce paper usage
Compressor and fan power draw	• High operational energy use across product life	• Implement low-power standby circuitry that drops draw below 1 W when idle • Include some scheduling functionality or remote on/off ability (simple control phone application) so user unit can shut it off at set times so there is no wasted energy.
End of life and Circularity	• No clear route for reclaiming metals / plastics • Parts likely landfilled	• Implement a producer take-back program • Label plastic types and metal alloys

By following through with these changes, I believe the unit's environmental impact will drop significantly while daily operating costs decline. The upgrades also strengthen our market position by clearly differentiating EcoFlow as a premium, eco-conscious brand. I welcome your feedback and am ready to coordinate next steps with Engineering and Procurement to refine timelines and cost estimates.