

THE ENERGY SYSTEM BOUNDARY AXIOM

Energy systems do not fail because of technology. They fail because the boundary between the **system** and the **surroundings** is defined incorrectly.

Common Claim	What is pushed into the surroundings
Hydrogen & Ammonia fuels	Production losses, transport losses, NOx, cracking energy
Carbon Capture & Storage	Permanent monitoring, leakage risk, intergenerational liability
Nuclear power	Long-lived radioactive waste buried for millennia

Thermodynamics does not allow waste to disappear.
If waste leaves the system—into the ground, the ocean, or the future—it has merely been displaced, not eliminated.

Carbon Recycling Technology (CRT) closes the boundary.
Carbon never leaves the system. Energy enters from renewable sources, and carbon continuously cycles as an energy carrier. No burial. No deferral. No export of liability.

Prepared by Clean Energy and Water Technologies (CEWT)