Sustainability Policy

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1. Purpose

earth4Earth was created and exists to decarbonise construction materials and to mitigate climate change by reducing the levels of CO2 in the air. Sustainability is our core value and the central driver of our product design, manufacturing choices and business decisions. This policy sets out how we manage environmental impacts and how we deliver low-carbon and carbon-negative building products with integrity, transparency and a commitment to continual improvement.

2. Scope

This policy applies to:

- All employees, directors and contractors working for or on behalf of the company
- Our Research & Development activities, pilot-scale and commercial manufacturing operations
- Our supply chain, procurement, packaging, logistics and customer support

3. Our sustainability strategy

We review every area of our operations as part of our sustainability strategy. We focus on the biggest levers first - materials, process emissions, energy and circularity - and then reduce the remaining footprint across day-to-day operations.

3.1 Low- and zero-emission binder production

We have scaled a novel, patented room-temperature process to produce air lime (calcium hydroxide). The process avoids direct CO2 emissions from high-temperature calcination and thermal decomposition of limestone. Using this method to make lime avoids the CO2 emissions that are emitted when traditional methods are used.

In addition:

- We commit to sourcing the required chemical inputs from manufacturers that operate using 100% renewable electricity (or verifiable equivalent market instruments) wherever possible.
- We use 100% renewable electricity when we carry out the process.
- Our lab-scale process has been assessed via life cycle assessment (LCA). The results show that our novel process reduces global CO2 emission by 37 Mt compared to current production methods. Using electrified industrial heat sources and heat pumps to reuse heating energy would further reduce the CO2 emissions of the process.
- We are working towards third-party verified environmental product declarations (EPDs) for our binder and all of our products, and will publish results as they become available.

3.2 Non-fired, compressed products

Our bricks are not kiln-fired. They are formed by compression, avoiding the combustion-related emissions typically associated with fired masonry products.

3.3 Circular use of excavated soil

Our bricks use repurposed excavated soil from construction sites as the primary component. This diverts material from landfill and supports a circular approach to construction resources.

3.4 Carbon-negative performance through carbonation

Products that incorporate our lime-based binder are carbon negative (EPD-verified) because they continue to capture atmospheric CO2 during their entire lifecycle through carbonation.

3.5 End-of-life recyclability and safe return to soil

We design for recovery and reuse:

- Offcuts and demolition waste can be crushed and recompressed into new bricks where feasible.
- Alternatively, materials can be returned to soil in a way that is compatible with plant growth, without releasing any of the stored carbon.

3.6 Local production and local sourcing

We aim to prioritise local sourcing and local manufacturing to minimise transport impacts and support regional supply chains. Our first plant is in China to accelerate early scale-up; we are actively expanding production in the UK, where we trade. Raw

materials are sourced locally in China and will be sourced locally to each production plant.

4. Operational environmental commitments

4.1 Energy and emissions

- Prefer renewable electricity at all sites; where direct renewable supply is not available, we seek credible contractual instruments and a clear transition plan.
- Measure and reduce greenhouse gas emissions across Scope 1, 2 and relevant Scope 3 categories in line with recognised reporting frameworks.
- Avoid fossil-fuelled thermal processes where lower-temperature or electrified alternatives exist.

4.2 Water stewardship

- Minimise water use in all process steps through good design, recirculation and monitoring.
- Prevent contaminated discharge by using appropriate containment, neutralisation and waste handling.
- Assess local water stress considerations when selecting sites and suppliers.

4.3 Waste and circularity

- Apply the waste hierarchy: prevent, reduce, reuse, recycle, recover, and only then dispose.
- Segregate wastes and maximise recycling streams at offices, labs and production sites.
- Design products and packaging for reuse and recyclability.

4.4 Packaging

- Reduce packaging wherever feasible without compromising product integrity or safety.
- Prefer recycled and recyclable materials and avoid unnecessary single-use plastics.
- Work with customers and logistics partners to enable returnable or reusable options where possible.

4.5 Transport and logistics

- Prefer sea and ground freight over air freight; use air freight only when unavoidable for safety, critical spares or customer commitments.
- Optimise loads, palletisation and routing to reduce emissions per unit shipped.
- Consider local manufacturing and warehousing to shorten supply chains.

4.6 Business travel and commuting

- Travel only when it is necessary and value-adding; default to remote meetings where practical.
- Prefer rail over flying for UK and near-Europe routes when feasible.
- Support lower-carbon commuting options where possible (public transport, cycling and car sharing).

4.7 R&D sustainability practices

We embed sustainability into research planning and laboratory practice:

- Select reagent purities and quantities that are fit-for-purpose, avoiding over-specification.
- Use washable consumables and durable labware wherever safe and practical, reducing disposables.
- Apply robust experimental design to minimise material use, energy use and repeat runs.
- Maintain strong chemical safety and waste management procedures, including neutralisation and compliant disposal routes.

4.8 Office practices

- Minimise stationery and printing; use digital-first workflows.
- Reduce energy consumption through efficient equipment, good housekeeping and sensible heating/lighting practices.
- Procure office supplies with recycled content and credible environmental certifications.

5. Responsible sourcing and supplier expectations

We work with suppliers and partners who share our commitment to sustainability and ethical practice. We will:

- Prioritise suppliers that can demonstrate renewable energy use, strong environmental management and transparent reporting.
- Request relevant evidence where appropriate (e.g., EPDs, ISO 14001 certification, energy statements, material provenance).
- Prefer locally sourced raw materials at each manufacturing site, balancing performance, availability and impact.
- Engage suppliers on improvement actions where we identify high-impact hotspots.

6. Compliance and transparency

- Comply with applicable environmental, health and safety legislation in all jurisdictions where we operate.
- Maintain accurate records to support product claims and environmental statements.
- Use third-party verification (e.g., EPDs) where possible to ensure credibility and avoid greenwashing.

7. Targets, measurement and continual improvement

We will set and review objectives and key performance indicators (KPIs) appropriate to our stage of growth. Typical KPIs include:

- Energy consumption per tonne of product
- Share of renewable electricity used at each site
- Water use per tonne of product
- Waste generated and recycling rate
- Packaging intensity and recycled content
- Transport emissions per tonne-kilometre and share of sea/rail freight
- Product-level carbon footprint and verified carbon uptake where applicable
- We will update this policy as our processes evolve, new data becomes available and verification progresses.

8. Governance and responsibilities

- Directors and senior management are accountable for delivering this policy and providing resources for implementation.
- Team leads are responsible for integrating sustainability into planning, procurement, R&D and operations.

- All staff and contractors must follow this policy and propose improvements when opportunities are identified.

This policy is available to employees, partners and the public. We communicate progress through our website, product documentation and, where appropriate, verified declarations such as EPDs.

Lei Zhang
Director
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