Experts are pointing to a **pending global shortage** in grow media⁶.

**Carbon emission intensity** from existing growing media is contributing significantly to global warming⁷.

Existing grow media and unsustainable practices are causing **environmental degradation** of land and ecosystems⁷.

- **44%**
  - Peatlands are the largest natural terrestrial carbon store, representing up to **44%** of all soil carbon⁷.

- **5%**
  - Degradation of peatland accounts for **5%** of global greenhouse gasses⁷.

- **X**
  - Peat moss is being **banned** in many countries including parts of the EU by 2030⁸,⁹.

**Peatland preservation is a significant nature-based solution to combat climate change.**
null
Sustainable Forestry

- Well established and carbon frameworks and protocols for reforestation, afforestation, and selective forestry management
- Applicable to Upstream division
- In process
- Carbon Removal

End-of-Line Advanced Carbon Uses

- Existing carbon frameworks and protocols for organic feedstock-to-carbon and soil amendments (biochar)
- Applicable to Upstream & Downstream divisions
- In process
- Carbon Removal

Peat Displacement

- New carbon frameworks and protocols to be developed with industry partners, led by Viresco Solutions
  - Phase 1 – establish a baseline for peat displacement
  - Phase 2 – develop re-use framework for PLC’s products
  - In process
  - Carbon Offset

Coco Coir & Stone Wool Displacement

- New carbon frameworks and protocols to be developed with industry partners and led by Viresco Solutions
  - In discovery
  - Carbon Offset
**The Performance Challenge of Existing Grow Media**

Existing mediums range in performance, availability, cost, quality, consistency, and environmental impact.

*Most mediums produce inconsistent crop yields*\(^\text{10}\) and yields are subject to disease, pests & crop loss\(^\text{10}\):

- Moderate to poor quality nutrient retention
- Cannot be re-used and/or difficult to recycle

<table>
<thead>
<tr>
<th>Main Feature</th>
<th>Advanced Carbon</th>
<th>Peat Moss(^\text{11})</th>
<th>Coco Coir(^\text{12})</th>
<th>Stone Wool(^\text{13})</th>
<th>Traditional Biochar</th>
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<tbody>
<tr>
<td>Contaminant Free</td>
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<td>Recyclable &amp; Reusable</td>
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<td>Disease, Pest &amp; Algae Resistant</td>
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END MARKET APPLICATIONS

**Indoor Cultivation**
- Growing Operations

**Large Scale Open Field**
- Agriculture

**Turf Management**
- Golf courses
- Parks & recreation fields
- Garden & lawn landscapes
- Green roofs and living walls

**Animal Feed**
- Can be used as feed supplements for cattle, chickens, pigs, etc.