GreeNano Analytics - User Guide

GreeNano Analytics is an advanced tool for benchmarking nanomaterials, focusing on two main axes: **Scalability** (resource availability) and **Sustainability/Performance** (environmental and technical metrics).

1. Settings (Sidebar)

The left panel controls all calculation parameters. Changes update charts in real-time.

Performance Tiers & Thresholds

Defines thresholds to convert raw physical values into scores (Score 1-5).

- **P1, P2, P3 Inputs:** Input threshold values for each subcategory.
- **Crucial Rule:** Values must be entered in strictly ascending order. If wrong, the system stops.

Performance Weights (OPS)

Adjusts relative importance for OPS. P3 weight is calculated automatically.

Pareto Settings (Epsilon)

Allows relaxing the "Optimal Choice" definition (Soft Pareto). Epsilon is the tolerance %.

Scalability & Sustainability

Select coloring metrics for the map and define S1-S10 weights (Sum must be 1.0).

2. Dashboard & Charts

Tab 1: Pareto Ranking

- **Scatter Plot:** X=OPS, Y=SS. Blue dots are Optimal choices; Grey dots are Standard.
- **Top Table:** Filtered list of optimal materials.

Tab 2: Scalability Map

Visualizes industrial feasibility (Weakest-Link theory).

- **Log-Log Chart:** Top-right materials are the most scalable.
- **Colors:** Represent the selected metric. Grey indicates missing data.

Tab 3: Top-right Trend

Statistical analysis of correlations vs Scalability Index (H).

- **Slope (m):** Positive means metric grows with scalability.

- **Spearman Rho:** Negative indicates an inverse relationship (e.g., higher scalability = lower CO2).

3. Quick Glossary

Term	Definition
OPS	Overall Performance Score (Technical).
SS	Sustainability Score (Environmental).
Weakest Link	Production limit based on the scarcest element.
Pareto Front	Set of optimal trade-off solutions.