

Evidence, Claims, and Methodology Standard

Requirements for sources, assumptions, calculations, uncertainty, provenance, and review

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Under Review. This first-edition record is complete for institutional review but does not become current authority until approved and published.

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1. Purpose

This standard establishes minimum requirements for evidence and analytical integrity across Sustainable Catalyst. The level of documentation should increase with the consequence, uncertainty, complexity, or public authority of the output.

2. Evidence classes

- Primary evidence: original observations, official records, datasets, instruments, interviews, experiments, legal texts, or direct documentation.
- Secondary evidence: analysis or synthesis of primary material by an identifiable author or institution.
- Derived evidence: values or records produced through a documented transformation.
- Modeled evidence: outputs generated from explicit assumptions, parameters, and computational methods.
- User-provided evidence: material supplied by a user or client whose provenance and permissions must be evaluated.
- Machine-generated material: assistance or output requiring source and human-review controls before use as evidence.

3. Claim classification

Records should distinguish observable fact, reported fact, calculation, interpretation, hypothesis, forecast, scenario, recommendation, normative position, and unresolved question. A statement should not move from one class to another without explanation.

4. Source identity and authority

A source record should identify title, creator or publisher, date, location, version, access date where relevant, and rights or restrictions where known. Authority is contextual: an official source may establish what an institution reported without proving that the report is methodologically correct.

5. Citation and quotation

Quotations should preserve exact wording, speaker or author, source, date, and sufficient context to avoid distortion. Paraphrases should not be presented as quotations. Citations should resolve to a stable source record or accessible external reference.

6. Measurements and indicators

A measurement is incomplete without definition, unit, geography or population, time period, method, source, and treatment of missing or revised values. Composite indicators must disclose components, weights, normalization, aggregation, and known sensitivity.

7. Assumptions and parameters

Material assumptions should be explicit, reviewable, and separated from observed inputs. Parameter ranges and scenario choices should be justified. Defaults should not become invisible policy decisions.

8. Transformations and calculations

Important transformations should record formula, code or method, input versions, units, exclusions, and output version. Rounding, imputation, normalization, currency conversion, inflation adjustment, geospatial aggregation, and category mapping should be disclosed when they affect interpretation.

9. Uncertainty and confidence

Uncertainty may arise from measurement error, sampling, source conflict, missing data, model form, future conditions, classification, or interpretation. Confidence labels should describe the basis of confidence rather than imitate statistical precision when none exists.

10. Freshness and temporal validity

Records should identify observation date, publication date, update date, and access date where appropriate. A recently retrieved source may contain old data. Current status must not be inferred from upload or modification timestamps alone.

11. Comparability

Comparisons require compatible definitions, units, periods, populations, geographic boundaries, methods, and revision states. Where full comparability is impossible, the limitation should be stated before ranking or drawing causal conclusions.

12. Contradiction and dissent

Material contradictory evidence should not be omitted merely because it weakens a preferred narrative. Records should distinguish genuine disagreement, different definitions, different time periods, data revision, and differences in normative judgment.

13. Reproducibility and validation

Computational outputs should preserve code, environment, inputs, parameters, and validation notes proportionate to the use. Independent reproduction is preferred where feasible. A successful rerun does not by itself validate assumptions or causal interpretation.

14. Review levels

- Exploratory: suitable for learning and question development; not represented as validated.
- Reviewed: examined for internal coherence, sources, and obvious errors.
- Validated: tested against defined benchmarks, controls, or independent methods.
- Qualified review required: cannot be treated as sufficient without relevant professional expertise.
- Approved institutional record: authorized through the applicable governance workflow.

15. Corrections and provenance

A material correction should state what changed, why, when, and which outputs are affected. Source replacement, code changes, revised data, and altered assumptions should remain visible through version history.

16. Prohibited practices

- Inventing sources, quotations, measurements, or validation.
 - Presenting scenarios as forecasts or forecasts as guarantees.
 - Removing inconvenient limitations from an export.
 - Using a score without explaining what it measures and how it was derived.
 - Treating AI-generated prose as verified evidence without review.
 - Claiming comparability where definitions or periods materially differ.
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17. Application

Product-specific methods may impose stricter rules. Where this standard conflicts with a binding legal, contractual, scientific, or professional requirement, the stricter applicable requirement controls.

Related Foundation Documents

- SC-FND-002
 - SC-FND-003
 - SC-FND-006
 - SC-FND-010
 - SC-FND-011
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Revision History

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1.0.0	2026-07-16	Under Review	Institutional Foundations First Edition draft prepared for review and publication.

Authority statement. This living HTML document is the proposed first-edition record within its defined scope. Fixed PDF editions preserve review snapshots. Earlier records remain available for historical reference.