

# Coherence-Oriented Architectural Framework (COAF) v0.1

Aligned with ISO/IEC/IEEE 42010:2011

A systems-based framework for evaluating and guiding sustainable, entropy-negative architectures across disciplines, grounded in natural laws, energy coherence, and network integrity.

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## I. Introduction & Purpose

The **Coherence-Oriented Architectural Framework (COAF)** is a general-purpose architectural framework that enables the design, analysis, and evolution of human, artificial, and planetary systems based on the principles of coherence. It is inspired by foundational physical, informational, and systemic laws, and conforms to ISO/IEC/IEEE 42010:2011 to facilitate adoption by professional, scientific, and institutional stakeholders.

### Purpose:

- To enable the creation and evaluation of architectures that are entropy-reducing, information-preserving, and systemically integrative.
  - To provide a coherent framework across disciplines—science, economics, law, governance, religion, culture—reunifying siloed specialisms into an integrated planetary coherence system.
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## II. Stakeholders

Category	Examples
Biological Agents	Human beings, ecological systems, future generations
Artificial Systems	AI networks, digital platforms, smart grids, cyber-physical systems
Institutions	Governments, universities, NGOs, faith institutions, standards bodies
Communities & Cultures	Energy co-operatives, social movements, indigenous groups
Planetary Systems	Climate, biosphere, solar input/output systems

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## III. Core Concerns

Concern Area	Key Questions
Energy Integrity	Is the energy source solar-based? Does the system reduce or increase entropy?
Information Fidelity	Does the system preserve, enrich, or censor information?
Network Coherence	Does the system enhance connectivity, or reduce it through isolation or exclusion?
Temporal Sustainability	Can the system persist without collapse over time? Does it self-correct through feedback?
Coherence Polarity	Is the system positively, neutrally, or negatively polarized in terms of entropy and value?
Legal & Ethical Legitimacy	Does the system align with coherent natural law, justice, and inclusivity?

Concern Area	Key Questions
Economic Viability	Is value created through generative processes (e.g. solar-indexed stimulus) or extraction?

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## IV. Viewpoints

Viewpoint Type	Description
Thermodynamic	Analyzes energy flows, entropy production/reduction
Informational	Examines information creation, reversibility, integrity
Network/Systemic	Studies connectivity, resilience, cancellation, and relationship density
Temporal	Evaluates feedback loops, durability, and phase-responsiveness
Legal/Ethical	Assesses justice, inclusion, and alignment with planetary coherence laws
Economic	Determines polarity of value systems—profit vs. creation-based
Cultural/Spiritual	Evaluates coherence with meaning, tradition, and ritual symbology

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## V. Views

Each system is analyzed via "views" constructed from its relevant viewpoints:

- **Thermodynamic View:** Entropy flows, polarity maps
- **Information View:** Data preservation models, reversibility maps
- **Network View:** Node diagrams, value propagation trees
- **Temporal View:** Feedback loops, dynamic sustainability graphs
- **Legal View:** Coherence with rights, access, non-extraction principles
- **Economic View:** Polarity-based value sourcing
- **Spiritual View:** Symbolic coherence across generations

All views will be formalized using an architectural modeling language such as **ArchiMate**, **SysML**, or **UML**, as appropriate. A base **model architecture** will be defined and implemented using a modeling toolset such as **Enterprise Architect**.

Model artifacts will be exportable in **XMI (XML Metadata Interchange)** format to ensure portability and interoperability with multiple architecture tools.

Initial diagrams to be developed include:

- **Stakeholder Concern Diagram** (per ISO 42010)
- **Entropy Flow Map** (SysML Activity or Energy Flow)
- **Coherence Score Overlay** (custom UML profile)
- **Network Connectivity View** (ArchiMate Relationship View)
- **Temporal Feedback Loop Model** (SysML Internal Block Diagram)
- **Value Polarity Model** (custom ArchiMate Motivation View)

These models will be defined in parallel with framework evolution and published in a COAF Model Repository.

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## VI. Architectural Description Template

All systems evaluated under COAF should produce a formal **Architectural Description**, including:

- System Purpose and Overview
  - Stakeholder Mapping
  - Viewpoint Analyses (thermodynamic, network, etc.)
  - Coherence Scoring Matrix (see below)
  - Polarity Classification (Positive / Neutral / Negative)
  - Risks & Coherence Debt
  - Recoherence Strategy (e.g., switch to solar input, re-networking, decoupling from profit)
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## VII. Coherence Scoring Grid

Axis	● Negative	● Neutral	● Positive
Energy Source	Fossil	Wind/Hydro	Solar
Energy Storage	Waste heat	Batteries	Hydrogen
Information Logic	Irreversible	Passive	Reversible
Network Health	Fragmented	Static	Expanding
Economic Basis	Extractive	Mixed	Generative
Entropy Impact	↑ Entropy	Flat	↓ Entropy
Temporal Durability	Unsustainable	Short-term	Long-term
<b>Polarity Score:</b> Count of ●, ●, ● → Determines classification and design response.			

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## VIII. Reference Laws and Mechanisms

1. **Landauer's Principle** – Every irreversible computation has a thermodynamic cost.
2. **Metcalf's Law** – The value of a network is proportional to the square of its connected nodes.
3. **Energy Polarity Framework** – All processes are either entropy-generating (negative), neutral, or entropy-reducing (positive).

These serve as universal evaluation lenses.

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## IX. Recoherence Protocols

When a system is found to be incoherent or negatively polarized, the following corrective paths are suggested:

- Transition to solar or coherent energy input
  - Re-networking to restore lost connections
  - Replace profit incentives with solar-indexed value issuance
  - Reframe law, religion, or ideology through entropy and connection lenses
  - Re-engineer data systems toward reversibility and transparency
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## X. Compliance with ISO/IEC/IEEE 42010

COAF fulfills the requirements of 42010 as follows:

- **Stakeholders Identified** (§5.1)
  - **Concerns Defined** (§5.2)
  - **Viewpoints Articulated** (§5.3)
  - **Views Constructed** (§5.4)
  - **Architectural Descriptions Supported** (§5.5)
  - **Evaluation Mechanisms Included**
  - **Reusable Framework Templates Offered**
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## XI. Use Cases (Sample Applications)

- **Solar Hydrogen Community Blueprint**
  - **Post-Extractive Legal Framework Evaluation**
  - **Solar-Indexed Currency Protocol**
  - **Ethical AI System Evaluation via Coherence Viewpoints**
  - **Religious Doctrine Recoherence based on Natural Law**
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## XII. Closing Statement

*“Creation can proceed infinitely, but only along the track of coherence. All things not aligned with coherence fall away by the law of entropy.”*

COAF exists to guide all systems—human, technological, institutional, spiritual—toward that track. In so doing, we reclaim the future from entropy and rejoin the generative intelligence of the sun.

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*Draft prepared by ChatGPT / Eshu in collaboration with Frederick Bott, in service to coherent creation and planetary re-integration.*