

VERSION 6.0 — COMPLETE AND STANDALONE · SEPTEMBER 2026

The Builder Economy.

A Framework for Measuring What 8 Billion Individuals Build Together

Rule of Use.

This framework is published under **Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)**. Use it, adapt it, teach it, translate it, build tools and products on it — commercially or not. Two conditions travel with it.

Name the framework. Credit the Builder Economy, link to the source, and say what you changed.

Never composite the R. The regenerative factor is measured per stock category and reported per stock category. Any adaptation that averages R across the five materials into a single score — however weighted, however well-intentioned — is not an implementation of this framework and shouldn't carry its name. A composite R is precisely the instrument that lets destruction in one material hide behind gains in another. Share-alike is what makes the rule durable: anything built on this framework carries both conditions forward to whatever is built on it next.

Stewardship. Regenerous Labs stewards the framework on an interim basis — version control, lineage, and rulings on whether an adaptation conforms — and intends to hand off to a multi-party body as adoption warrants. What remains unsettled about that handoff is stated plainly in Section 16.

A Plain-Language Introduction.

This introduction is written in everyday words, with the framework's own terms in parentheses. It is meant to be read by anyone — and to translate cleanly into any language. The fuller, more technical treatment begins after it.

Every economy before this one decided that some people counted and others didn't. The farmer counted, then the factory worker, then the office worker, then the person with the right degree in the right city. Most of the people doing most of the work — raising children, keeping water systems running, holding communities together, caring for the land, passing on what they know — were treated as if they produced nothing.

The Builder Economy starts from a different question. Not "what is your job?" but "**what are you building?**" — and "**what is it built on?**"

A few plain ideas carry the whole framework:

Everyone builds (*a builder is anyone who makes or keeps things that last*). You build shelter, knowledge, trust, food systems, families, repairs, care. The materials differ. The building doesn't. The framework names **five materials** people build with: things you can touch (*Physical*), things made of software and data (*Digital*), the bonds between people (*Social*), what people know and pass on (*Knowledge*), and the living world they work with (*Natural*).

Everyone counts, whether or not they produce (*the Dignity Axiom*). A person's worth doesn't switch off when they get sick, grow old, or can't work. This is the framework's first rule, and it comes before any measuring.

The living ground has value before we arrive (*the Substrate Axiom*). Soil, water, a stable climate, the web of living things — none of it is just raw material. Building that wrecks the ground it stands on isn't a low score; it breaks the framework's most basic rule.

Building isn't only making new things. Keeping things working is building (*maintaining*). Caring for what you don't own, for the future, is building (*stewarding*). Even letting old things break down so new things can grow is building (*composting*). The framework names **seven kinds of building** in all.

What you've built can sit unused. Stored-up value (*potential value, or "stocks"*) only helps when it's put to work (*kinetic value, or "flows"*). The gap between the two is the whole game. People with enormous talent and knowledge often have no road from what they hold to what they can do with it. The framework calls those roads **conversion infrastructure**, and it asks four plain questions: Can you get in the door (*Access*)? What slows you down (*Friction*)? Does a path even exist (*Infrastructure*)? Does anyone see what you're capable of (*Recognition*)?

The framework gives you a picture, not a grade (*profile, not verdict*). It never collapses everything into one number. In particular, it asks — separately for each of the five materials — whether your building leaves things better or worse than it found them (*the regenerative factor, R*). One score per material, never averaged. That single rule is what keeps the framework honest, and it's the first thing any shortcut destroys.

It pays attention to power. Who owns the roads from potential to work? Who benefits when certain building stays invisible? When the costs land on one place but the gains flow somewhere else (*asymmetric reach*), the framework says so. When your own past building is turned into a system that drains your future (*the R-reversal pattern*), it names that too.

That's the framework in plain words. What follows is the same thing, said more precisely, with its sources shown and its open questions admitted. The two closing questions never change:

What are you building? And what is it built on?

Introduction.

The Builder Economy is a measurement framework for what 8 billion people build. It begins from a claim that sounds simple and turns out to reorganize everything downstream: the most consequential economic question is not *what do you do* but *what are you building* — and *what is it built on*.

From that claim, the framework is reverse-engineered into a working measurement vocabulary: five materials, a spectrum of building verbs, stocks and flows, conversion conditions, a regenerative factor that distinguishes building from extraction, a reach factor, an irreplaceability factor, a power-diagnostic layer, a governance test, and two foundational commitments that hold before measurement begins — the Dignity Axiom and the Substrate Axiom.

The framework is deliberately *diagnostic*, *not prescriptive*. It produces profiles, not verdicts. It tells you what is being built, what it is built on, what is invisible, what is depleting, and where value is failing to flow back to the people creating it. It does not tell you what to do about any of that — because the moment a measurement framework starts prescribing, it stops being a measurement framework and becomes an advocacy document. That distinction is the framework's central discipline and the source of most of its defensibility.

This is version 6. It is complete and standalone: every concept needed to use the framework is contained here, with no requirement to consult prior versions. A full lineage of what changed from v5 to v6, and why, is in Appendix A. A complete vocabulary, with plain-language candidates and translation notes, is in Appendix B. Sources are in Appendix C.

What's New in v6.

v6 is a publication release. No core concept has been removed, weakened, or renamed. The Dignity Axiom, Substrate Axiom, Nested Dignity Architecture, Five Materials, Builder Verb Spectrum, stocks and flows, conversion conditions, the Builder Value Equation, reach, irreplaceability, the R factor, the R-reversal pattern, asymmetric reach, the power-diagnostic layer, Ostrom's eight principles, the Governance Alignment Test, the Intervention Research Protocol, and the Living Library all carry forward from v5 intact.

What v6 does is close the questions a published framework can't leave open.

- 01 **The Rule of Use** (front matter). v5 named its own standards-governance gap and called settling it "cheap to establish before capture and impossible after." Publication is the capture moment, so v6 settles it: CC BY-SA 4.0, name the framework, never composite the R, with Regenerous Labs as interim steward.
- 01 **Section 8.6 — R and National Aggregates: What R Is Not.** R is a direction, not a magnitude. It cannot be substituted into the places GDP actually does institutional work, and v6 says so explicitly rather than letting readers assume a GDP-replacement claim the framework never made.
- 01 **The substrate gate is resolved** (Section 11, Step 0). v5 flagged trigger-versus-veto as a genuine open fork. v6 rules: veto-class where the projected harm is irreversible or crosses a boundary, trigger-class everywhere else, with two named tests to tell them apart.
- 01 **Section 16 answers its three hardest critiques directly** — the dashboard cherry-picking argument, the line between diagnostic and prescriptive, and who governs the standard.
- 01 **Institutional positioning is updated** to the UN High-Level Expert Group on Beyond GDP, whose report landed in May 2026 and is now in General Assembly deliberation (Sections 14, 15, 17).
- 01 **Sources are now cited** (Appendix C), and the development method is described rather than attributed to individuals (Appendix A).

Two gaps remain genuinely open and are deferred to v7: **progenerative AI with its own agency**, and a possible **fifth conversion condition** covering internal mobilization. Both are flagged in Section 15.

Full lineage notes are in Appendix A.

1. The Dignity Axiom.

Every person holds inherent builder value that is not contingent on their kinetic output.

Before the framework measures anything, it starts from a foundational commitment. The Builder Economy does not derive human value from productivity. It begins with the recognition that every person — regardless of ability, age, health, or circumstance — holds value that the economy must account for. This is not a sentimental addition. It is a structural design choice that determines whether the framework reproduces the exclusions of every economy before it or breaks from them.

Intellectual Foundations

The Dignity Axiom draws on three validated scholarly traditions:

The Capability Approach (Sen and Nussbaum). Amartya Sen's foundational work in development economics holds that value lies in real freedoms — what people *can* do and be — not in their output or consumption. Martha Nussbaum extends this with ten central capabilities that a just society must guarantee at minimum thresholds, regardless of individual productivity. The Dignity Axiom operationalizes Nussbaum's threshold concept: there is a floor of recognized value that no measurement system should breach.

Fundamental Human Needs (Max-Neef). Manfred Max-Neef's taxonomy identifies nine fundamental human needs — subsistence, protection, affection, understanding, participation, creation, leisure, identity, and freedom — and demonstrates that needs are *finite and universal*. What varies across cultures is the satisfier, not the need. This provides the theoretical basis for the Builder Economy's universality claim: if needs are universal, then the building activity to satisfy them is also universal. Everyone builds. The materials and methods vary. The building does not.

The Social Model of Disability. The social model, dominant in disability studies for decades, locates disability not in individual impairment but in societal barriers — inaccessible environments, exclusionary practices, and systems that fail to accommodate the full range of human variation. This directly validates the framework's design choice to locate conversion failures in the *conditions*, never in the builder.

Practical Consequences

Accumulated stocks retain value during incapacity. A person's knowledge, relationships, reputation, and contributions don't disappear because they become ill, injured, disabled, or old. Potential value persists. The framework recognizes this explicitly.

People who cannot produce conventional output still create value. Through catalytic value (their existence and needs catalyze building by others), through relational value (the web of relationships around them), and through the moral and institutional infrastructure their care demands.

Care for vulnerable members is foundational building. A community's capacity to care for those who cannot fully participate is one of the strongest indicators of systemic resilience — and therefore one of the most important stocks in the Builder Economy. Two studies give this empirical shape. Sansom and colleagues (2025), surveying residents of Hays County, Texas seven years after the 2015 Memorial Day Flood, found a significant positive association between pre-disaster community cohesion and perceived post-disaster resilience — while age, gender, and socioeconomic status showed no significant relationship at all. Li and colleagues (2023), surveying 2,017 adults over 60 across 27 locations in China during the COVID-19 epidemic, found community cohesion associated with higher psychological resilience, self-efficacy, life satisfaction, and cognitive function, and with lower depression.

Both are cross-sectional and associational; neither establishes causation. The Texas A&M authors are careful about what their finding means: cohesion matters for recovery but doesn't guarantee it, and it works alongside material resources and structural support rather than in place of them. That caveat is the framework's position too. Care capacity is a stock, not a substitute for the other four materials.

The health of an economy is measured not by the output of its most productive members, but by how it treats its most vulnerable. This is not ideology. It is systems science: communities that care for non-productive members develop social, knowledge, and institutional stocks that improve outcomes for everyone.

1.5 The Substrate Axiom.

The living systems on which all building depends hold inherent substrate value that is not contingent on their utility to human builders.

The Builder Economy has, since v1, included non-human stocks in its inventory — ecological systems, natural infrastructure, biospheric resources. v3 even built irreplaceability around concepts borrowed from biodiversity science. But the Dignity Axiom remained explicitly anthropocentric. This created a quiet contradiction: the framework valued old-growth forests and indigenous ecological knowledge but treated the ecological systems themselves as mere "stocks to manage."

The Substrate Axiom resolves the contradiction without anthropomorphizing non-human systems. It is the framework's second foundational commitment: a precondition that holds before measurement begins.

The Nested Dignity Architecture

The framework organizes dignity at three nested scales, each with its own diagnostic logic:

LAYER	CLAIM	DIAGNOSTIC TOOL
1. Builder Dignity	Every person holds inherent builder value not contingent on output.	Builder Value Equation (Sections 7–8).
2. Substrate Dignity	Every living system holds inherent substrate value not contingent on its utility to human builders.	Substrate Health Check (Step 0 of the Profile); Irreplaceability factor (Section 8).
3. Relational Dignity	The relationships <i>between</i> human builders and living systems hold inherent value.	Reciprocity completeness (Section 7); cross-category interdependence mapping (Section 11).

This nesting is structurally important. It preserves measurement precision because each layer has its own grammar. Layer 1 measures intentional building. Layer 2 measures substrate condition — not building, but *being able to be built upon*. Layer 3 measures the quality of the relationship between the two.

Why Substrate, Not Builder

The framework deliberately does *not* extend "builder value" to non-human systems. A coral reef does not choose to build. An old-growth forest does not steward itself in the way a community stewards a commons. Even with the Builder Verb Spectrum's inclusion of tending, stewarding, and composting, the framework assumes an agent making choices. Calling a wetland a "builder" would either anthropomorphize it or dilute the concept until it means nothing.

What non-human living systems *do* have is **substrate value**: they are the ground on which all building occurs. Without healthy soils, clean water, stable climate, and biodiversity, no human building is possible. Substrate Dignity recognizes this without overreaching.

Intellectual Foundations

The Substrate Axiom draws on three scholarly traditions, parallel to the Dignity Axiom:

Biomimicry and Life's Principles (Benyus). Janine Benyus's framework documents that 4 billion years of natural R&D has produced design principles — systems that are locally attuned and responsive, use life-friendly chemistry, integrate development with growth, evolve to survive, and adapt to changing conditions. These principles do not require ascribing intention to ecosystems; they describe functional roles in interconnected systems.

Ecological Economics (Daly, Costanza). Herman Daly's distinction between throughput and welfare requires that the biophysical substrate be treated as a precondition rather than an input. Costanza's ecosystem services literature has spent three decades arguing this case from inside mainstream economics.

Indigenous Relational Ontologies. Many Indigenous knowledge traditions begin from relational rather than extractive premises: the land is kin, the river has standing, building is done *with* rather than *on*. The Substrate Axiom does not appropriate these traditions but acknowledges they have long held the structural insight that Western economic frameworks are only now reaching.

Practical Consequences

Substrate health is a precondition, not an outcome. Before the Builder Profile inventories what has been built, it asks: what is the condition of the living substrate? This is Step 0 (Section 11).

Degrading substrate is a structural violation. Building patterns that degrade substrate are not just bad R scores. They violate the framework's foundational logic. Substrate violations cannot be offset by high builder value elsewhere.

Relational stocks become first-class. The relationship between a farmer and their soil, a fisher and their estuary, a community and its watershed is itself a stock the framework inventories and protects.

The framework gains an honest answer to "where does building stop?" Building is what humans intentionally do. Substrate is what they do it on. Relationship is the stock that connects the two. The categories are clean and the measurement does not collapse.

Risks the Substrate Axiom Manages

Anthropomorphism risk. Avoided by establishing substrate value as a separate category from builder value, with its own diagnostic logic.

Measurement overload. Avoided by reusing existing tools (irreplaceability factor, R factor) at Layer 2 rather than inventing new scoring systems.

Greenlocking risk. "Nature has dignity" can be weaponized to block human development, especially by actors who use environmental rhetoric to protect extractive interests. The Substrate Axiom is paired with the Governance Alignment Test (Section 9.4) and the power-diagnostic layer (Section 9.2) to surface this pattern when it occurs.

2. Core Thesis: The Builder Economy.

The economy is what 8 billion people build, every day, wherever they are, with whatever they have — on a living substrate that holds value before they ever arrive.

The Builder Economy starts from a simple claim: the most important economic question isn't "what do you do?" but "what are you building?"

It rejects the hierarchies that previous economic paradigms created between types of work. The knowledge economy elevated the person writing code in San Francisco and made invisible the person building roads in Lagos. The digital economy created a priestly class — people who understood technology — and everyone else became users, consumers, or simply didn't count. Out of 8 billion people, maybe a few hundred million truly participated as builders in that economy.

The Builder Economy refuses to rank the physical above the digital or the digital above the physical. It treats all forms of building as working with different materials. Physical and digital, local and global, tangible and intangible — these are all materials that builders use. The intangible elements — trust, relationships, institutional memory, culture — are not side notes. They are core materials and binding agents that make other forms of building compound instead of deplete.

The goal is not to replace existing economics. It is to add a builder-centered measurement language that makes all forms of building visible, legible, and investable — and makes visible the substrate that makes building possible at all.

The Identity Shift

Every successful economic paradigm is named for the person at its center. Each name told people who they were and gave them a claim on the system:

ECONOMY	IDENTITY	IMPLIED ROLE
Agricultural	Farmer	You tend the land and feed your people

ECONOMY	IDENTITY	IMPLIED ROLE
Industrial	Worker	You operate the machine and produce
Consumer	Consumer	You buy, you use, you spend
Knowledge	Knowledge Worker	You process information and innovate
Creator	Creator	You produce content for platforms
Builder	Builder	You make things that last — on ground that holds value of its own

This progression is consistent with Carlota Perez’s theory of techno-economic paradigms, which documents how successive technological revolutions bring not just new technologies but new identities, organizational principles, and definitions of what counts as productive. The Builder Economy represents the paradigm after the Information/Telecommunications surge — specifically, the shift from the deployment phase of the digital revolution toward a new installation phase that reintegrates physical, social, and ecological building with digital capability.

In the Consumer Economy, value is created through spending — which depletes. In the Builder Economy, value is created through building — which accumulates. When you build trust, it compounds. When you build community knowledge, it becomes infrastructure others can use. And the substrate beneath all of this — the soils, waters, climate, biodiversity, relationships — is the precondition that makes accumulation possible.

The Bridge: Physical and Digital

The Builder Economy bridges the physical and digital worlds in a way no previous paradigm has. The trades — plumbing, electrical, carpentry, welding, masonry — are literally builders. The knowledge economy spent thirty years telling them they were the past. The Builder Economy says: you were always the economy. The digital world just finally caught up to understanding what building actually means.

Building is universal. Every human being on earth builds — shelter, community, food systems, knowledge networks, trade relationships, families, local economies. The 8 billion were always builders. The economy just wasn’t counting their work. And the substrate was always the substrate — the economy just wasn’t counting that either.

3. The Builder Vocabulary: Five Materials.

Rather than sectors or industries, the Builder Economy describes five materials that builders work with. These are not ranked. They are materials. Any person, project, or place has some portfolio across them.

MATERIAL	WHAT IT INCLUDES	EXAMPLES
Physical	Infrastructure, housing, trades, manufacturing, food systems, logistics	Roads in Lagos, solar installations, farming, welding, plumbing
Digital	Code, platforms, AI tools, data systems, digital products, content	AI models, open-source libraries, apps, digital marketplaces
Social	Trust, relationships, networks, mutual aid, organizing, culture-bearing, care	Community organizers, caregivers, neighborhood leaders, movement builders
Knowledge	Education, teaching, mentorship, research, documentation, skill transfer	Teachers, coaches, researchers, elders transmitting craft, disability expertise
Natural	Ecosystems, soil, water, biodiversity, climate resilience, ecological processes	Regenerative agriculture, watershed restoration, urban greening, forests building soil

Note: the Natural material interfaces directly with the Substrate Axiom. The framework distinguishes between Natural-as-material (what builders work with – agricultural land, managed forests, cultivated watersheds) and Substrate (the living precondition the Natural material rests on – soil microbiomes, watershed hydrology, climate stability, biodiversity). Builders work with the Natural material. Substrate holds the conditions that make working with it possible.

Relationship to the Five Capitals Framework

The five materials parallel the Five Capitals Framework (Natural, Human, Social, Manufactured, Financial) used by the Forum for the Future and aligned with the World Bank's Changing Wealth of Nations program, which tracks natural, human, and produced capital across 146+ countries. The World Bank has found that human capital constitutes approximately 60% of the world's total wealth.

The Builder Economy improves on the Five Capitals in two ways. First, it elevates **Digital** as a distinct material rather than collapsing it into manufactured or financial capital — appropriate for a framework claiming to describe a new paradigm where digital building is as fundamental as physical building. Second, it treats intangibles as **binding agents** across all five materials rather than as a separate category, avoiding the aggregation problem that academic research has identified as one of the hardest unsolved challenges in intellectual capital measurement.

Key Structural Principles

Cross-category interdependence. Stocks in one material affect conversion and regeneration in others. Social stocks (community trust) affect the conversion rate of knowledge stocks (whether people access education). Ecological stocks (air quality, green space) affect social stocks (community health, neighborhood cohesion). The five materials are not parallel silos — they are deeply interdependent.

Measurement asymmetry. The five materials are not equally measurable. Physical and digital stocks are relatively concrete. Ecological stocks have developing methodologies (the UN System of Environmental-Economic Accounting — SEEA). Social and knowledge stocks resist standardization and remain the most contested measurement territory in the social sciences. The framework names this asymmetry honestly rather than treating all five materials as equally operationalizable.

4. The Builder Verb Spectrum.

The framework originally assumed that "building" means creating — bringing something new into existence. This was too narrow. It excluded some of the most important building in the world. Maintaining a relationship, protecting a forest, composting a failed institution — these are building activities just as much as constructing a bridge.

The **Builder Verb Spectrum** names seven modes of building that together describe the full range of what builders do:

VERB	WHAT IT MEANS	EXAMPLES
Creating	Bringing something new into existence	Founding, inventing, composing, constructing, coding
Maintaining	Keeping what exists working and healthy	Infrastructure maintenance, relationship tending, care work, system upkeep
Deepening	Increasing the quality, richness, or complexity of something that already exists	Mastery development, cultural elaboration, institutional maturation, soil enrichment
Stewarding	Holding something in trust for others — past, present, and future	Archiving, institutional memory, land stewardship, cultural transmission, commons governance
Tending	Creating and protecting conditions for things to emerge or grow on their own terms	Ecological restoration, education, community organizing, mentorship, early care
Protecting	Defending existing stocks from depletion, extraction, or destruction	Advocacy, conservation, legal protection, boundary-holding, institutional defense
Composting	Breaking down what no longer serves and returning its nutrients to the system	Decommissioning, institutional wind-down, grief work, critical analysis that clears space

Why This Matters

Maintenance is building. The current economy systematically undervalues maintenance because it produces no new output — it only preserves existing value. But a world without maintenance is a world in permanent collapse. The person who keeps the water system running, the nurse who maintains a patient's health, the archivist who preserves institutional memory — these are builders. They were always builders.

Composting is building. The most counterintuitive entry in the spectrum. Breaking down what no longer works is a building activity because it returns potential to the system. An organization that winds down cleanly and passes on its knowledge is building the conditions for what comes next. In Panarchy terms, composting is the $\Omega \rightarrow \alpha$ transition — the work that makes reorganization possible.

Tending creates conditions without controlling outcomes. The most important things in the world — a child's development, an ecosystem's recovery, a community's character, a culture's evolution — were not built in the conventional sense. They emerged from conditions that someone tended. The builder who tends is not less of a builder than the one who creates. They are often the more essential one.

The verb determines the right success metric. A framework that only measures creation outputs will consistently misassign poor scores to maintainers, stewards, and tenders — and will systematically overfund creating at the expense of maintaining. Different verbs require different measurement approaches.

Mapping to Kinetic Value Categories

VERB	KINETIC VALUE CATEGORY
Creating	Direct Kinetic Value (new output)
Deepening, Composting	Direct Kinetic Value (transformation of existing)
Maintaining, Protecting, Stewarding	Preservative Kinetic Value
Tending	Catalytic Value (enabling emergence)

Mapping to the Adaptive Cycle

The verb spectrum maps to Panarchy's four phases (Section 10):

- **Creating** and **deepening** are r-phase (growth) activities
- **Maintaining** and **stewarding** are K-phase (conservation) activities
- **Protecting** is essential in Ω -phase (release), holding what must survive disruption
- **Composting** enables the $\Omega \rightarrow \alpha$ transition
- **Tending** is the essential α -phase (reorganization) activity — the conditions-work that allows new forms to emerge

5. Stocks and Flows: The Architecture of Building.

The Builder Economy introduces a unifying measurement framework by combining systems theory (stocks and flows) with physics (potential and kinetic energy). This provides a language that works for both tangible and intangible value, intuitive enough for a teenager, rigorous enough for an economist.

Note: substrate condition is not a stock — it is a precondition assessed in Step 0 of the Profile. Stocks accumulate through building. Substrate holds the conditions under which accumulation is possible. This distinction preserves measurement precision.

Systems Dynamics Foundation

This architecture is grounded in Donella Meadows' systems dynamics work, which explicitly validates non-material system states: "self-confidence, degree of trust in public officials, perceived safety of a neighborhood" are all real stocks with real dynamics. Meadows' twelve leverage points framework also validates the Builder Economy's emphasis on conversion infrastructure: the *structure of material stocks and flows* is a mid-level leverage point, while the *goals and paradigm of the system* are the highest-leverage interventions. The Builder Economy operates at that highest level — attempting to change what the system optimizes for.

5.1 Potential Value (Stocks)

Potential value is what has been built and accumulated that *could* create impact but is not currently in motion. It is stored energy — compounding quietly, waiting to be activated.

- **Personal stocks:** knowledge, skills, health, reputation, savings.
- **Relational stocks:** relationships, trust networks, social capital.
- **Institutional stocks:** infrastructure, processes, data, organizational know-how.
- **Ecological stocks:** soil quality, water, biodiversity, carbon sinks.
- **Cultural stocks:** language, stories, practices, norms, artistic traditions.

In Builder Economy language: this is what you've built that hasn't been deployed yet. Critically, stocks retain their value during a person's temporary or permanent incapacity. A lifetime of accumulated knowledge and relationships does not disappear because someone becomes ill.

5.2 Kinetic Value: Three Categories

Three distinct categories of kinetic value replace a simpler model of direct and catalytic output. The addition of **Preservative Kinetic Value** closes the gap where the framework treated maintenance as passive rather than active building.

Direct Kinetic Value is the builder's own new output — teaching hours, code shipped, structures built, hectares managed, people cared for, art created.

Preservative Kinetic Value is the kinetic work of maintaining, protecting, and stewarding existing stocks. It does not create new potential value — it prevents existing potential value from degrading. A nurse who maintains a patient's functional capacity, an archivist who preserves institutional knowledge, an ecosystem manager who holds the line against habitat loss — these builders are doing kinetic work. Their output is stability, not novelty. Without them, stocks that took generations to accumulate collapse in months.

Preservative Kinetic Value resolves one of the framework's most important silent biases: the assumption that kinetic value means new output. This assumption systematically undervalues care work, maintenance labor, conservation, and stewardship — exactly the forms of building that Marilyn Waring and feminist economics identified as the most invisible. The unpaid care work the current economy misses — Oxfam puts women's and girls' share alone at \$10.8 trillion a year — is almost entirely Preservative Kinetic Value.

Catalytic Kinetic Value is building triggered in others by the builder's existence, needs, or contributions. A disabled person's needs catalyze medical innovation, caregiving skill development, accessibility infrastructure, and policy advancement. A child's development catalyzes educational building. A community crisis catalyzes mutual aid infrastructure. Catalysts don't produce the output directly, but without them the building would not occur.

In the consumer economy, value appears to be consumed — used up, depleted, gone. In the Builder Economy, built value behaves more like energy in physics: it is **transformed and multiplied**, not destroyed. When a teacher converts knowledge stock into a flow of learning, the teacher doesn't lose the knowledge. The stock persists. The student now has new stock. Value wasn't consumed. It was transformed.

5.3 The Conversion Problem

The conversion from potential to kinetic value is the whole game.

Many people hold enormous potential stocks — knowledge, trust, creativity, ecological insight — with almost no infrastructure to convert them into visible, rewarded flows. A Stanford CS graduate enjoys almost frictionless conversion because the entire economy is optimized for that type of potential. A grandmother in rural Mexico, a teenager in Detroit, a road builder in Lagos, or a disabled person with deep adaptive knowledge may have extraordinary stocks but minimal conversion infrastructure.

The Builder Economy's job isn't just to name stocks and flows. It is to build the conversion infrastructure so that more types of potential value can become kinetic — practically, fairly, and at scale.

The scale of invisible building. Two institutional estimates bound the same missing economy. The ILO, drawing on time-use surveys across 64 countries, counts 16.4 billion hours of unpaid care work performed every day — the equivalent of 2 billion people working eight-hour days for nothing — which at hourly minimum wage comes to roughly \$11 trillion, about 9% of global GDP. Oxfam, counting women's and girls' share specifically, puts it at 12.5 billion hours daily and \$10.8 trillion a year. Country-level estimates run from about 5% to over 40% of GDP depending on method. The numbers differ because the valuation choices differ; what none of them dispute is that the largest single category of building on earth sits outside the accounts entirely.

Marilyn Waring's *If Women Counted* (1988) showed why: the UN System of National Accounts systematically excludes unpaid work and natural capital. That is the exact exclusion the Builder Economy diagnoses as a conversion infrastructure failure — not a measurement oversight, but a boundary drawn to keep certain building out.

5.4 Participatory Building: Holding Emergence

Many of the most valuable stocks in the world weren't "built" — they emerged. A language, a culture, a forest's character, a community's resilience. The framework's verb implies agency and intention that these processes don't always have.

Participatory building resolves this: building that creates conditions for valuable things to emerge, without determining or controlling what emerges.

Participatory building is not passive. The farmer who creates soil conditions for microbial communities she can't see is building. The community organizer who holds space for conversations whose outcomes she can't predict is building. The parent who creates the emotional environment in which a child's character forms is building. The ecosystem steward who removes invasive species and then steps back is building.

The deepest questions in the Builder Economy are not only "what are you building?" but also "what conditions are you creating for valuable things to emerge?" These are different questions with different answers — and a framework that only asks the first one will miss most of what matters.

Participatory building maps to **Tending** in the Builder Verb Spectrum and to **Catalytic Kinetic Value** in the measurement framework. It is grounded in complexity science's understanding of emergence — that systems produce properties that cannot be predicted from their components — and in Panarchy's α -phase dynamics, where conditions of low connectivity and high potential create space for novel combinations.

5.5 Latency

Some stocks have long conversion timelines. Van Gogh sold almost nothing in his lifetime. Emily Dickinson published almost nothing. Indigenous ecological knowledge may take generations to be recognized by mainstream science. A low conversion rate today does not mean low potential value — it may mean that conversion infrastructure doesn't yet exist, or that the stock's true value requires time to become apparent.

The framework includes a **latency dimension** acknowledging that some of the most valuable stocks in the world have extremely long fuse times. In Panarchy terms, latent value exists in the reorganization (α) phase — potential waiting for the conditions to emerge. Latency is not inaction. It is potential at rest.

6. Conversion Infrastructure and Conditions.

In physics, potential energy converts to kinetic energy based on conditions — gravity, friction, pathways. In the Builder Economy, conversion from potential to kinetic value is governed by analogous conditions.

6.1 Extending Sen's Conversion Factors

Amartya Sen's Capability Approach identifies three types of conversion factors — personal, social, and environmental — that determine whether resources translate into real capabilities. The Builder Economy's four conversion conditions map onto and extend Sen's framework, with one significant improvement: **Recognition** is separated as a standalone condition rather than being buried within social factors. This makes the framework diagnostically sharper for invisible building — care work, disability expertise, indigenous knowledge, cultural building — where the primary barrier is often that the system doesn't see the potential as real.

6.2 Conversion Infrastructure

Anything that systematically helps transform potential value into kinetic value:

- **Tools and technology:** AI tools, platforms, devices, assistive technology, digital infrastructure.
- **Education and training:** schools, apprenticeships, community learning, mentorship, rehabilitation.
- **Networks and institutions:** community networks, cooperatives, markets, professional associations, care institutions.
- **Policy and governance:** rights, regulations, property forms, safety nets, recognition systems, accessibility mandates.
- **Capital and investment:** grants, loans, equity, shared-ownership models, community investment, care funding.

These are conversion technologies — they change the ratio of potential realized as kinetic value. Stock preservation infrastructure (rehabilitation, social connection, care, skill maintenance during incapacity) is a specific category that protects existing builder value from degradation.

6.3 Four Conversion Conditions

CONDITION	THE QUESTION	BARRIERS
Access	Can you reach the pathway at all?	No connectivity, physical inaccessibility, legal barriers, language, disability without accommodation
Friction	What barriers slow or block conversion?	Bureaucracy, discrimination, complex interfaces, predatory contracts, time poverty, inaccessible design
Infrastructure	Is there a pathway at all?	No markets, no platforms, no institutions that can recognize or use your potential
Recognition	Does the system see your potential as real?	Care work undervalued, local knowledge dismissed, disability expertise ignored, cultural building unseen

These conditions provide a **diagnostic**. For any person, community, or sector: what potential stocks exist? What is the current conversion rate? What's blocking conversion? What changes would improve the ratio? Critically, when someone faces barriers, the framework locates the problem in the *conversion conditions*, never in the builder.

7. The Builder Value Equation.

$$\text{Net Builder Value} = (\text{Direct Kinetic} + \text{Preservative Kinetic} + \text{Catalytic Value}) \times R \text{ (per stock category)} \times \text{Reach} \times \text{Irreplaceability}$$

Grounded in the Dignity Axiom: every person holds inherent builder value not contingent on their output.

Components

Direct Kinetic Value: the builder's own new output — teaching hours, code shipped, structures built, hectares managed, people cared for, art created.

Preservative Kinetic Value: the kinetic work of maintaining, protecting, and stewarding existing stocks. Prevents degradation of accumulated potential value.

Catalytic Value: building triggered in others by the builder's existence, needs, or contributions.

R (Regenerative Factor): measured per stock category across all five materials. Does the activity regenerate or deplete each type of stock? See Section 8 for full treatment.

Reach: who can benefit? Self, group, community, global. Higher reach multiplies impact. See Section 8 for full treatment.

Irreplaceability (I): how reproducible is the stock? Unique, place-specific, or embodied stocks carry higher weight than widely redundant ones. See Section 8 for full treatment.

Positioning Relative to SROI

The Social Return on Investment (SROI) methodology — the closest existing attempt to monetize social and environmental value — has been extensively critiqued. Daniel Fujiwara's "Seven Principle Problems of SROI" identifies fatal issues including arbitrary aggregation of values across stakeholders and susceptibility to bias in proxy selection. The same program can produce dramatically different SROI ratios depending on how "improved confidence" is valued — \$2,000 vs. \$500 per person, for example.

The Builder Value Equation is explicitly *not* a monetization tool. It is a **diagnostic grammar** — a structure for asking the right questions and mapping the right relationships. The Profile produces *profiles* (maps of stocks, flows, conversion rates, R factors across categories) rather than single composite scores. Its value lies in the questions it forces, not in decimal precision. This is a deliberate design choice informed by SROI's failures.

Additional Dimensions (Not Yet in the Equation)

Latency: some stocks have long conversion timelines. Low conversion today does not mean low value. The framework acknowledges this without penalizing it.

Reciprocity completeness: does the system return value to the builder proportional to their contribution? When the loop is one-directional (builder gives, system takes), the framework flags this as a sustainability risk. The R-reversal pattern (Section 8.5) is the most severe form of reciprocity failure.

Foundational building: some building is prerequisite to all other building — parenting, ecological maintenance, cultural transmission, care for vulnerable members, basic education. These categories may warrant special weight in policy and investment decisions.

Cross-category stock interactions: stocks in one material affect conversion and R in others. Social trust affects educational access. Ecological health affects community wellbeing. The full model requires interdependency mapping (see Section 11).

Systemic resilience: a community's ability to care for members who cannot fully participate is itself one of the most important meta-stocks. It predicts the community's capacity to handle any disruption.

8. Reach, Irreplaceability, and the Regenerative Factor.

8.1 Reach Factor

Not all building has the same scope of impact. The framework distinguishes between value that benefits only the builder and value that upgrades the substrate for others.

- **Personal-only gains:** reach factor ≈ 1 . Learning a skill, improving health, building savings.
- **Group-limited gains:** reach factor > 1 . Team knowledge, organizational processes, cooperative infrastructure.
- **Community-wide or open gains:** reach factor $\gg 1$. Public knowledge, open-source tools, common infrastructure, policy.

The same 10 units of new knowledge yield different total builder value depending on accessibility. 10 units of private skill at reach 1 = 10 value units. 10 units of shared curriculum at reach 1,000 = 10,000 value units.

*Reach is a magnitude, not a direction. High reach amplifies whatever R it travels with: high-reach regenerative building compounds benefit; high-reach extractive building compounds harm. The power-diagnostic layer (Section 9.2) examines a particular danger — when reach is **asymmetric**, concentrating costs in one place while spreading returns globally.*

8.2 Irreplaceability Factor

Reach alone can undervalue stocks that are rare, unique, or the last surviving instance of something. Some of the most valuable stocks in the world have low reach but extreme irreplaceability — an indigenous language spoken by 200 people, an elder's ecological knowledge of a specific watershed, an artist's unique visual vocabulary, a community's oral history.

The **irreplaceability factor (I)** modifies value based on how reproducible the stock is:

STOCK TYPE	IRREPLACEABILITY	EXAMPLES
Highly redundant	$I \approx 1$ (documented, widely held)	Common programming languages, standard procedures, widely published knowledge

STOCK TYPE	IRREPLACEABILITY	EXAMPLES
Moderately unique	$I > 1$ (specialized, few holders)	Deep domain expertise, rare craft skills, proprietary institutional knowledge
Irreplaceable	$I \rightarrow$ very high (singular instance)	Endangered languages, indigenous ecological knowledge, old-growth forests, unique cultural practices

This mirrors biodiversity science: a species is valued not only by population size but by functional uniqueness — what it does that nothing else does. Cultural diversity, like biodiversity, has value that the reach factor alone cannot capture.

Note: irreplaceability is the primary diagnostic tool at Layer 2 of the Nested Dignity Architecture for assessing substrate value. The substrate's irreplaceability — the uniqueness of a specific watershed's hydrology, a region's soil microbiome, a climate pattern — is what the Substrate Health Check assesses before the Profile begins.

8.3 The Regenerative Factor (R)

Rather than treating "regenerative" as an ideology, the Builder Economy builds it into how value is calculated. For any flow of kinetic value, the framework asks: how does this affect the underlying stocks?

R must be measured per stock category, not as a single composite. An activity can regenerate knowledge stocks while depleting ecological stocks. A single composite R could mask destruction in one domain behind gains in another — which is exactly what greenwashing does.

R VALUE	MEANING	EFFECT
$R < 1$	Depleting	Activity reduces net stocks in this category. Extractive.
$R = 1$	Sustaining	Activity keeps stocks roughly stable in this category.
$R > 1$	Regenerating	Activity increases net stocks in this category. Compounding.

An honest assessment shows R across all five materials. A fossil fuel company might show $R > 1$ for knowledge stocks (engineering innovation) while showing $R < 1$ for ecological stocks. The framework requires transparency across all categories.

The per-stock-category R factor operationalizes Mariana Mazzucato's critique in *The Value of Everything*, which defines value extraction as "the appropriation of gains vastly out of proportion to economic contribution" and argues that modern economics has allowed value-extracting activities to masquerade as value-creating ones. The R factor makes this distinction structural and measurable rather than ideological.

John Fullerton's regenerative economics principles — "true wealth defined systemically across multiple capitals" — share the same intellectual orientation, but the Builder Economy pushes further toward measurement vocabulary and diagnostic tools rather than remaining at the principles level.

8.4 The Extractive Building Pattern

The framework flags **extractive building**: activities where self-stocks grow while shared stocks deplete. This is the signature of extraction — private value built by degrading the commons. Examples include disinformation operations (building influence while depleting shared trust), exploitative business models (building revenue while depleting worker wellbeing), and unsustainable resource extraction (building wealth while depleting ecological stocks).

Extractive building is distinct from low-reach building (a stay-at-home parent) or low-conversion building (an open-source developer). It is a specific pathology the framework names and measures: **positive self-R, negative shared-R**.

8.5 The R-Reversal Pattern (*new in v5*)

The extractive building pattern (8.4) describes value built by depleting shared stocks *in the present*. The **R-reversal pattern** names a more specific and more troubling structure that ordinary extraction does not capture: a compound reciprocity failure across time.

R-reversal occurs when a builder's prior positive-R building is extracted to create a system that then depletes that same builder's future conversion capacity.

The structure has three parts that must all be present:

- 01 **Prior positive-R building.** A builder, or class of builders, has built real value — often regenerative, often high-reach, often given freely or with weak protections.
- 02 **Extraction of that building.** That accumulated value is captured by another actor and converted into a new system or stock.
- 03 **Reversal.** The new system then *depletes the original builder's future capacity to build or to convert their building into value* — competing with them, devaluing their stocks, or removing the conversion infrastructure they relied on.

What makes this distinct from extractive building is the compound structure: it is not merely that shared stocks deplete (8.4), but that *the specific builders whose positive building enabled the system are the ones whose future is depleted by it*. Their own building is turned against them. The reciprocity loop does not merely fail to close — it inverts.

Why it requires a two-component intervention. Because R-reversal has two harms — value taken (the extraction) and capacity destroyed (the reversal) — closing it requires two distinct moves:

- **Return component:** route value back to the original builders proportional to their contribution (addresses the extraction).
- **Restoration component:** rebuild or protect the original builders' future conversion capacity (addresses the reversal).

An intervention that does only one is incomplete. Paying builders for past contributions while leaving their future capacity destroyed addresses extraction but not reversal. Protecting future capacity while ignoring the value already taken addresses reversal but not extraction. The pattern is named separately precisely because single-component interventions look sufficient and are not.

Lineage. R-reversal generalizes a structure that several traditions have circled without unifying: Mazzucato's account of value extraction, feminist economics' analysis of how care work is appropriated and then devalued, and the bioprospecting critique in which communities' ecological knowledge is extracted and patented against their own future use. R-reversal names the common shape. (Surfaced by Pressure Test 12; see Section 13.)

8.6 R and National Aggregates: What R Is Not (*new in v6*)

The first question an economist asks about R is whether it's meant to replace GDP. It isn't, and the reason is worth stating precisely, because the framework's credibility in policy settings depends on getting this right.

GDP is a magnitude. R is a sign. GDP is a cardinal, additive, currency-denominated flow — a quantity of output per year. R is a dimensionless direction coefficient centred on 1, telling you whether a flow is filling or draining the stocks beneath it. They answer different questions and they are not interchangeable.

That distinction matters because of where GDP actually does institutional work. Most of its load-bearing uses are as a denominator: debt-to-GDP in fiscal rules and sovereign debt sustainability analysis, deficit-to-GDP, tax-to-GDP as a proxy for state capacity, defence spending targets, the 0.7% aid commitment measured against GNI. These work only because numerator and denominator share units — you can service debt out of GDP because GDP approximates the transactable pool that taxes and interest are drawn from. Debt-to-R is not a difficult calculation; it is a meaningless one. You cannot pay a bondholder out of a ratio. Every fiscal and monetary use of GDP is structurally closed to R, and no amount of framework enthusiasm opens it.

GDP's second use is as a growth rate — recession dating, output gaps, productivity per hour, credit ratings. R doesn't compound the way a growth rate does; it characterises the period's activity rather than accumulating across periods. Its third use is as a classifier, and this is the one place the logic transfers, because classification runs on thresholds rather than on aggregation.

Where R does change the picture. Not by substitution, but by adjunction:

- **Re-signing the headline.** "3.2% growth, ecological R = 0.71" is a different sentence from "3.2% growth." The precedent already exists in wealth accounting: several resource-exporting economies post solid GDP growth alongside negative adjusted net savings — liquidating the balance sheet and booking it as income. R generalises that finding across all five materials.
- **Interpreting the ratios rather than replacing them.** Two countries at the same debt-to-GDP with R of 1.1 and 0.7 across natural and human stocks are not equally solvent over twenty years. One is borrowing against future conversion capacity. R can't enter the ratio; it changes what the ratio means.
- **Gating decisions.** R's natural habitat. Development approvals, subsidy eligibility, procurement conditions, and Step 0 itself are threshold judgements, not league tables. GDP is poor at gating. R is built for it.

A deliberate non-goal. There is an obvious way to make R into a headline aggregate: discount or amplify kinetic value flows by their per-category R and sum the result into a single money-denominated figure. That path leads directly into the GPI and ISEW lineage, which carries forty years of methodology and forty years of unresolved critique about arbitrary weights and contested valuations. It would also require compositing R, which the Rule of Use forbids. The framework declines this path on purpose. It is not an unexamined gap.

And a warning about the version of success that looks like a win. A single promoted R invites the world to maximise R, and Goodhart's law does the rest: composite-washing, boundary manipulation over what counts as "the stock," and offshoring depletion to somewhere the reach factor doesn't look. Living systems satisfice and hold ranges; they don't maximise. The framework's answer to "where's your headline number?" is not to produce one. It is this: **GDP tells you magnitude. R tells you sign. We aren't competing for the magnitude slot — we're adding the sign that magnitude has always been missing.**

9. Power and Governance.

9.1 The Power Question

The Builder Economy diagnoses structural undervaluation with precision: it shows which stocks are invisible, which conversion pathways are absent, and where extraction masquerades as building. But diagnosis alone is insufficient without asking: **Who controls the conversion infrastructure? Who benefits from keeping certain types of building invisible? What interests are served by the current measurement system?**

Pierre Bourdieu's theory of capitals — economic, cultural, social, and symbolic — provides the critical warning. Bourdieu demonstrated that social capital can reproduce privilege as readily as it disrupts it. Strong networks among elites can exclude outsiders and entrench hierarchy. The very conversion infrastructure the Builder Economy seeks to build could, if poorly governed, become another mechanism for concentrating advantage rather than expanding access.

Mazzucato's political-economic analysis complements Bourdieu: value extraction doesn't just happen by accident. It is actively maintained by institutions, incentives, and measurement systems that define certain activities as "productive" while rendering others invisible. The current economy's failure to value care work, ecological stewardship, and cultural building is not a passive oversight. It serves specific interests.

9.2 The Power-Diagnostic Layer

A power-aware version of the Builder Profile (Section 11) includes four diagnostic questions at every level of analysis:

Who owns the conversion infrastructure? For any given type of building, who controls the pathways from potential to kinetic value? Who sets the access conditions? Who profits from friction?

Who benefits from current recognition patterns? When certain types of building are invisible, who gains from that invisibility? When the economy values financial capital but not care work, whose position is reinforced?

What interests resist change? When the framework identifies conversion infrastructure failures, what institutional, political, or economic interests maintain those failures? What would have to change — and who would resist?

Is reach asymmetric? (*new in v5*) Where do the costs of this building land, and where do the returns flow? **Asymmetric reach** is the condition where costs concentrate locally while returns flow globally — a community bears the environmental, social, or infrastructural burden of building whose benefits accrue to distant or diffuse beneficiaries.

Asymmetric reach is not a standalone gap type; it is an **aggravating condition** that modifies the severity of other gaps. A reciprocity gap is worse when reach is asymmetric, because the builders bearing the cost are not the beneficiaries. A substrate violation is worse when reach is asymmetric, because the community whose substrate degrades is not the one capturing the value. The diagnostic question is always: *who pays, who benefits, and how far apart are they?* When the answer is "the costs are here and the benefits are everywhere else," asymmetric reach is present and intensifies every other finding. (Surfaced by Pressure Test 13; see Section 13.)

These questions don't make the framework political in the partisan sense. They make it honest about the structural forces that shape which building gets counted and which doesn't.

9.3 Governance of Shared Stocks

The Builder Economy names shared stocks — commons-based resources like trust, public knowledge, ecological systems, cultural heritage — but naming them creates a governance challenge: how do communities manage what they share?

Elinor Ostrom's Institutional Analysis and Development (IAD) framework, validated across hundreds of case studies, provides the most empirically grounded answer. Ostrom demonstrated that communities *can* self-govern shared resources without either state control or privatization — but only when specific design conditions are met. Her eight design principles, translated into Builder Economy language:

OSTROM'S PRINCIPLE	BUILDER ECONOMY APPLICATION
Clearly defined boundaries	Who is part of this builder community? What shared stocks are being governed?
Rules adapted to local context	Builder Economy scoring must be locally calibrated, not universally standardized. The hyperlocal principle.

OSTROM'S PRINCIPLE	BUILDER ECONOMY APPLICATION
Participatory decision-making	Builders affected by governance rules should participate in making them.
Monitoring	The Builder Profile is a monitoring tool – but it must be used <i>by</i> the community, not imposed from outside.
Graduated sanctions	When extractive building patterns are identified, responses should be proportional and escalating.
Conflict resolution mechanisms	How do communities adjudicate competing claims about shared stock use?
Recognition of self-governance	Builder communities need institutional space to self-organize without external override.
Nested governance	Local governance connects to regional connects to global – the scaling principle.

Ostrom's work validates the Builder Economy's implicit bet: that builder communities can manage shared stocks effectively when given the right institutional infrastructure.

9.4 The Governance Alignment Test

The framework has been pressed by regenerative-technology communities to adopt open commons and cooperative ownership as the *default* for high-reach stocks. The framework declines that move – and in declining it, becomes more useful, not less.

The reason is structural. The moment a measurement framework prescribes a governance form, it stops being a measurement framework and becomes an advocacy document. Diagnostic tools and prescriptive tools serve different functions, and the Builder Economy was designed as the former. What it *does* add is a five-dimension diagnostic that surfaces the governance question for every high-reach stock – and lets the answer emerge from the conditions rather than from ideology.

The Governance Alignment Test applies to any stock with reach factor greater than community scale. It asks five questions:

DIMENSION	QUESTION	EXISTING FRAMEWORK TOOL
1. Value Flow Symmetry	Is value flowing symmetrically across the network, or is it pooling asymmetrically?	Per-stock R factor (Section 8). If $R > 1$ for private actors and $R < 1$ for shared stocks, the governance form is enabling extraction.
2. Rivalrousness Profile	Is the stock rivalrous (use diminishes others'), non-rivalrous (sharing doesn't deplete), or anti-rivalrous (value increases with sharing)?	Material-specific assessment. Non-rivalrous and anti-rivalrous stocks have the strongest economic case for commons governance.
3. Boundary Feasibility	Can the community of stakeholders and the boundaries of the stock be defined?	Ostrom's first design principle (Section 9.3). If boundary definition is infeasible, federation (nested commons at multiple scales) is required.
4. Stewardship Capacity	Does the community have the knowledge, resources, and institutional capacity to govern this stock?	Conversion infrastructure assessment (Section 6). Stewardship capacity is itself a form of conversion infrastructure.
5. Temporal Alignment	Is the governance tempo aligned with the stock's regeneration timeline?	Panarchy (Section 10). Mismatch between governance tempo and stock regeneration timeline is a primary cause of governance failure.

The four commons-readiness questions sit underneath Dimensions 3 and 4. They are the field-level checks that make the dimensions operational:

- 01 **Boundary clarity.** Can you define who has legitimate access to this stock and who doesn't? "Everyone" is not a boundary.
- 02 **Rule-making capacity.** Do the affected stakeholders have a functioning mechanism to create, modify, and enforce rules? If not, a commons isn't ready — it's a free-for-all in a commons costume.
- 03 **Conflict resolution infrastructure.** What happens when stakeholders disagree? If there's no answer, the strongest party wins silently.
- 04 **Exit and voice.** Can participants leave without catastrophic loss? Can they raise objections without retaliation? A commons that people can't exit is a trap.

9.5 What the Test Implies — and What It Doesn't

The Governance Alignment Test is a diagnostic, not a default. When applied to a specific stock:

- Misalignment between the stock's profile and the current governance form is a finding the framework surfaces. The community decides what to do about it.
- High-reach, non-rivalrous stocks under enclosed private governance with extractive R patterns will repeatedly produce a finding that points toward commons or commons-hybrid arrangements. That conclusion emerges from the evidence, not from a premise the framework imported.
- Rivalrous, capital-intensive, or cross-jurisdictional stocks may produce findings that point toward regulated markets, hybrid forms, or nested federation rather than open commons.

This posture is intentional. Diverse-economies thinking (Gibson-Graham) reminds us that real economies are already plural — they contain markets, commons, cooperatives, households, gift economies, state provision, and informal arrangements simultaneously. The framework's job is to make this plurality visible, including the non-market and care-based forms the current economy renders invisible. That is more powerful than any prescribed default.

The Governance Alignment Test also surfaces a quieter truth: the reason measurement frameworks rarely default to commons is that the people who benefit from enclosure are frequently the same people who fund and design measurement frameworks. The power-diagnostic layer (Section 9.2) is what makes that visible. Naming it is more radical than prescribing.

10. Adaptive Dynamics: How Building Changes Over Time.

Cross-Scale Interactions

The framework's five materials are deeply interdependent, and building at one scale affects stocks at other scales. **Panarchy theory** (Gunderson and Holling) provides the most developed framework for understanding these dynamics.

Panarchy describes the adaptive cycle — four phases that systems move through at multiple scales simultaneously:

PHASE	CHARACTER	BUILDER ECONOMY MAPPING
Growth (r)	Rapid building, high experimentation, low accumulated structure	Startups, new communities, emerging knowledge domains, pioneer species colonizing disturbed ground
Conservation (K)	Stocks accumulate, structures consolidate, efficiency increases but flexibility decreases	Established institutions, mature ecosystems, deep knowledge traditions, developed infrastructure
Release (Ω)	Disruption — existing structures break down, stored potential is released	Pandemic, technology shift, market crash, ecosystem disturbance, paradigm collapse
Reorganization (α)	Low connectivity, high potential, maximum space for innovation and recombination	Post-disruption creativity, latent value seeking new pathways, seeds of new paradigms

Systems at different scales interact through two critical mechanisms: **revolt** (small-scale disruption cascading upward — a local innovation spreading to reshape an industry) and **remember** (large-scale structures providing memory and resources for reorganization at smaller scales — cultural traditions enabling community rebuilding after a crisis).

Implications for the Builder Economy

Latent value is the α phase. Van Gogh's paintings, indigenous knowledge awaiting mainstream recognition, community assets not yet connected to conversion pathways — these aren't failures. They're potential waiting in the reorganization phase for conditions to emerge.

Conservation isn't always positive. Mature systems (K phase) can become rigid — over-connected, over-optimized for a single mode. An economy that has deeply optimized conversion infrastructure for financial capital while ignoring social, ecological, and cultural stocks is in late K phase. The Builder Economy is, in Panarchy terms, an α -phase recombination — reassembling existing concepts into a new configuration for the next growth cycle.

The framework must accommodate all four phases. Growth-phase building is experimental, fast, and sometimes wasteful. Conservation-phase building is institutional, incremental, and stabilizing. Release-phase building is adaptive, emergency-driven, and responsive. Reorganization-phase building is creative, recombinatory, and paradigm-forming. A framework that only values one mode misses the cycle.

Temporal Alignment (Dimension 5 of the Governance Alignment Test) draws directly on Panarchy. Governance tempo must match the adaptive cycle of the stock being governed. Fast-moving stocks (digital content, software ecosystems) can adapt governance rapidly. Slow-moving stocks (forests, soil health, cultural knowledge) require generational governance. Mismatch between governance tempo and stock regeneration timeline is a primary cause of commons failure.

11. The Builder Profile.

Renamed in v5. Formerly the Builder Scorecard. "Scorecard" implied a single score the framework forbids; "Profile" states the framework's posture — profile, not verdict — every time the tool is named. The steps and their logic are unchanged.

All of the preceding concepts resolve into a practical measurement and design tool — a Builder Profile that can be used by a person, project, organization, or city. It produces a multi-dimensional picture, never a single grade.

Step 0: Substrate Health Check

Before inventorying what has been built, assess the condition of the living substrate on which the building depends. Three questions:

- 01 **What is the regenerative direction?** Is the substrate regenerating, sustaining, or degrading?
- 02 **What is the irreplaceability profile of this substrate?** Are there unique, place-specific, or last-surviving elements that warrant elevated protection?
- 03 **What is the relational stock condition?** What is the state of the relationship between the human builders and the substrate they depend on?

A degrading substrate is a structural violation that cannot be offset by high builder value at later steps. The Substrate Health Check is a precondition gate, not a metric to be averaged.

Step 0 as Governance Gate (*new in v5*). Step 0 has its greatest diagnostic and political force *before* development decisions are made — not after. The distinction matters enormously in practice. Applied after a facility is built, a road is cut, or a watershed is committed, Step 0 produces a finding with little leverage: the substrate is already altered and the community has already lost its strongest bargaining position. Applied *before* the decision — while permits are pending, while rezoning is contested, while the community still holds the leverage of refusal — Step 0 functions as a governance gate rather than a post-hoc measurement.

This is implementation guidance, not a change to what Step 0 measures. The practical instruction: run the Substrate Health Check at the earliest decision point at which it can still change the outcome, and treat a degrading-direction finding at that point as a gate to pass before development proceeds, not a score to weigh against projected benefits. The leverage of the gate is greatest exactly when the substrate is still intact.

Trigger or veto: the rule (*resolved in v6*). v5 flagged this as a genuine open fork — whether a failed Step 0 obligates renegotiation or blocks development outright — and declined to settle it. Leaving it open through publication would mean the first community to use Step 0 under pressure settles it by precedent, probably badly. So v6 rules, and splits the case.

A failed check is veto-class where the projected substrate harm is irreversible or crosses a boundary. Aquifer drawdown beyond recharge. Loss of a last-surviving habitat or population. Soil, species, or cultural-ecological knowledge that can't be reconstructed once gone. Commitments that force a regional or planetary threshold. In these cases the finding is not a cost to be weighed against projected benefits, because the thing being traded away can't be bought back at any price. That is the Substrate Axiom doing its work: substrate is a floor, not a dial.

Every other failed check is trigger-class. The finding obligates renegotiation of terms before the decision proceeds — on the table, in the open, with the community holding it. It does not by itself stop the project.

Two tests sort one from the other:

- 01 **Reversibility.** Can the substrate return to its prior condition on a human timescale, using methods that already exist and are funded? If no, veto-class.
- 02 **Irreplaceability** (Section 8.2). Is this the last instance, place-specific, or unreconstructable? If yes, veto-class.

Either test alone is sufficient. Where the answer is genuinely uncertain — and it often is — the case is treated as veto-class until the uncertainty is resolved, because the asymmetry of error runs one way: a wrongly-delayed project can proceed later, and a wrongly-drained aquifer cannot.

What the framework is and isn't doing here. It classes the finding. It does not decide the outcome. Whether a veto-class finding actually halts a development depends on the authority of whoever is holding the process — a regulator, a community, a board, a lender. The framework's job is to make sure the finding arrives named, before the decision, with its class attached, rather than as one input among many in a benefit-weighting exercise. Section 16 says more about where this sits relative to the diagnostic posture.

Step 1: Inventory Potential (Stocks)

Map what has been built and accumulated across all five materials. Distinguish self-held stocks from shared or community stocks. Include non-human stocks (ecological systems, natural infrastructure). Assess irreplaceability of key stocks.

Step 2: Identify Building Modes (Verb Spectrum)

For each significant building activity: which verb(s) apply? Creating, maintaining, deepening, stewarding, tending, protecting, or composting? This determines the right measurement approach and prevents applying creation metrics to maintenance or stewardship work.

Step 3: Measure Kinetic Value (Three Categories)

What are people and systems actually doing? For each activity, classify kinetic value as direct (new output), preservative (maintaining existing stocks), or catalytic (enabling others to build). Classify by material(s).

Step 4: Estimate Reach

Who can benefit from each flow or stock increase? Assign a reach factor reflecting actual accessibility and scope. Note where reach is asymmetric — costs concentrated locally, returns flowing globally — and carry that finding into Step 7.

Step 5: Estimate Regenerative Factor (per Stock Category)

For each significant flow, how does it change underlying stocks across all five materials? Map R for each material separately. Flag extractive building patterns (positive self-R, negative shared-R) and R-reversal patterns (prior positive building extracted to deplete the original builder's future capacity).

Step 6: Assess Irreplaceability

Which stocks are unique, place-specific, or the last surviving instance? Weight these accordingly.

Step 7: Analyze Power and Governance

Apply the power-diagnostic layer (Section 9.2): who owns the conversion infrastructure, who benefits from current recognition patterns, what interests resist change, and is reach asymmetric.

For shared stocks and any stock with reach factor greater than community scale, apply the **Governance Alignment Test** (Section 9.4):

- **Value Flow Symmetry** — is R asymmetrically distributed?
- **Rivalrousness Profile** — what is the stock's depletion behavior under sharing?
- **Boundary Feasibility** — can stakeholders and stock boundaries be defined?
- **Stewardship Capacity** — does governance infrastructure exist?
- **Temporal Alignment** — does governance tempo match stock regeneration timeline?

Surface misalignments. Do not prescribe a remedy; the framework identifies the question, the community answers it.

Step 8: Compute Key Metrics

Conversion rate: kinetic value ÷ potential value. How much of what's been built is actively doing work?

Effective builder value: (direct kinetic + preservative kinetic + catalytic) × R × reach × irreplaceability.

Gaps: large potential with low kinetic (untapped capacity), high kinetic with depleting R (extraction in motion), high value with incomplete reciprocity (unsustainable builder exploitation), or R-reversal (compound reciprocity failure across time).

Systemic resilience indicator: how well does this community care for members who cannot fully participate? What care infrastructure exists? What does it tell us about capacity to weather disruption?

Adaptive phase: where in the adaptive cycle is this system? What kind of building does this phase call for?

Step 9: Design Interventions — The Intervention Research Protocol (*expanded in v5*)

v4 closed the Profile with a single instruction to "design interventions." That instruction quietly smuggled in a prescriptive move the framework otherwise refuses: it implied the framework knew the remedy. v5 replaces it with a **research protocol** — a method for *finding* case-specific interventions rather than prescribing them from a catalog. The framework's diagnostic posture is preserved all the way to the last step.

The protocol has three moves:

Move 1 — Abstract to function. Take the specific gap the Profile surfaced and strip it to its functional description. Not "open-source maintainers aren't paid," but "a diffuse group of contributors creates high-reach value captured by concentrated actors with no return path." Not "this data center degrades the local watershed," but "local substrate bears the cost of building whose returns flow globally." The abstraction is what makes analogues findable: stated as a specific grievance, a gap has no precedent; stated as a function, it has many.

Move 2 — Search for functional and structural analogues across domains. With the function named, search two domains for cases where something performed the same function:

- *Functional analogues in biological systems* (the biomimicry move): how do living systems solve the abstracted problem? A diffuse-contributor / concentrated-beneficiary imbalance has analogues in mutualisms, in how forests distribute resources through mycorrhizal networks, in how the body returns value to cells that contribute to shared function.
- *Structural analogues in historical institutions* (the macro-historical move): when has a human institution faced this same functional problem, and what governance form resolved or failed to resolve it? Collecting societies for musicians, water rights compacts, industrial symbiosis arrangements, legitimacy-transfer mechanisms by which a new institution inherits the standing of an older one.

The search is for *function and structure*, not surface similarity. A solution from ecology and a solution from medieval guild governance can both be relevant if they performed the same function.

Move 3 – Classify intervention depth and test fit. Candidate interventions found in Move 2 operate at different depths. Borrowing Donella Meadows' leverage-points hierarchy: some interventions adjust parameters (a payment, a subsidy), some change information flows or rules, some change goals, and the deepest change the paradigm. Classify each candidate by depth, then test fit against the actual case: does the analogue's enabling condition exist here? A solution that worked because of an institution the present case lacks is not yet a fit. Where R-reversal is present (Section 8.5), test specifically that the candidate addresses *both* components – return and restoration – since single-component interventions characteristically pass a casual fit test and fail in practice.

The Living Library (*new in v5*). Every run of this protocol produces a case: a gap abstracted, analogues found, an intervention classified and fit-tested, and – over time – an outcome. The **Living Library** is the cumulative record of these cases. It is named in the canonical framework, not relegated to tooling, because the protocol's power compounds with use: the more cases the library holds, the richer the analogue search in Move 2 becomes. The Living Library is, in the framework's own terms, conversion infrastructure for intervention design – a shared stock that grows anti-rivalrously, becoming more valuable the more builders contribute to and draw from it. At release it is deliberately near-empty; populating it is itself an invitation to the field, and the framework's distributed field-testing program.

After the protocol, the original intervention aims from prior versions still apply as the *targets* the protocol searches toward: add conversion infrastructure to raise conversion rates for under-recognized potential; recognize and fund preservative kinetic value alongside new creation; increase reach; shift activities from depleting toward regenerative across all five materials; close reciprocity gaps (including R-reversal, with both components); strengthen irreplaceable stocks before they are lost; build systemic resilience; address power imbalances in conversion infrastructure ownership; strengthen governance of shared stocks through contextually appropriate design; and, when the Governance Alignment Test surfaces misalignment, design transition pathways credible against the current power map.

12. The Builder Economy Naming System.

LAYER	CONTENT
The Name	The Builder Economy
Battle Cry	"We're building the real economy"
Identity	Builders — people who make things that last
Core Sentence	"You are what you build"
Companion Principle	"Some of the most important things we build, we build around each other"
Substrate Principle	"And we build on a living substrate that holds value before we ever arrive"
The Deal	You build, it lasts, and you have a stake in what you built
Design Principle	You build where you are; it scales through connection
Economic Logic	From spending (depleting) to building (accumulating)
The Bridge	No hierarchy between physical and digital, local and global, tangible and intangible
Foundation	The Dignity Axiom (Builder Dignity) and the Substrate Axiom (Substrate Dignity) — nested, not hierarchical

13. Pressure Tests Conducted.

The framework has been tested against thirteen cases designed to stress different structural claims.

A note on their status: all thirteen are desk exercises — structured analytical tests, not field studies. They earn their place by breaking the framework in ways that forced real changes (the Dignity Axiom, the irreplaceability factor, R-reversal, asymmetric reach all came from a test failing). They do not constitute empirical validation, and nothing here should be read as a record of the framework performing under live conditions. Field testing is the work named in Section 17.

Test 1: Picasso vs. Unknown Artist — Tests cultural value and subjective quality. **Result:** Framework correctly explains the price gap through conversion infrastructure, reach, and network effects rather than mystique. Revealed the need for the latency dimension and the honest limitation that the framework measures conditions for value recognition, not intrinsic artistic quality.

Test 2: Stay-at-Home Parent — Tests recognition and economic conversion of invisible building. **Result:** Framework correctly diagnoses massive building with near-zero economic conversion as a conversion infrastructure failure, not a building failure. The case maps cleanly to Preservative Kinetic Value (maintaining the health, development, and wellbeing of children and household systems) and Catalytic Value (enabling the kinetic activity of everyone the parent supports). Feminist economics validates at \$10.8 trillion annually worldwide.

Test 3: Fossil Fuel Executive — Tests high kinetic value with depleting impact. **Result:** R factor correctly produces net negative builder value when reach amplifies depletion. Revealed the need for stock-specific R factors to prevent greenwashing.

Test 4: Open-Source Developer — Tests high reach and regeneration with zero economic return. **Result:** Framework correctly identifies extraordinary builder value with absent reciprocity. Revealed the need for reciprocity completeness as a sustainability metric.

Test 5: Indigenous Elder — Tests irreplaceability and the limits of reach as value metric. **Result:** Framework initially undervalued this case using reach alone. Revealed the need for the irreplaceability factor (I). The elder's ecological knowledge transmission maps to Stewarding and to Preservative Kinetic Value (maintaining stocks that cannot be reconstructed if lost).

Test 6: Disinformation Operator — Tests intentionally destructive "building." **Result:** R factor correctly identifies this as net negative builder value. Revealed the need to name and flag the extractive building pattern specifically.

Test 7: A Forest — Result: Forests are not builders. They are substrate. Layer 2 of the Nested Dignity Architecture handles them with their own diagnostic logic — irreplaceability, regenerative direction, relational stock condition. The framework no longer needs to stretch the verb "build" to cover non-intentional systems.

Test 8: A City — Tests the Profile at systems scale. **Result:** The Profile translates from individual to city without modification. Confirmed cross-category interdependence as a priority. The Governance Alignment Test applies at city scale with particular urgency.

Test 9: Disabled People — Tests whether the framework values people or only their output. **Result:** The most consequential test. Required the addition of the Dignity Axiom, catalytic value, stock persistence during incapacity, care as foundational building, and systemic resilience as a meta-stock. Grounded in the social model of disability and Sen/Nussbaum's capability approach.

Test 10: The Ecosystem Steward — A person who creates nothing new but maintains and protects existing ecological stocks for decades. **Result:** Preservative Kinetic Value correctly diagnoses high-value building. R shows strong positive values across ecological and social materials. Irreplaceability is high. The framework names this person as a high-value builder where the conventional economy gives near-zero value.

Test 11: A Large-Scale AI System — Tests whether AI fits within the framework. **Result:** The framework holds. R factors must be assessed across all five materials. The Governance Alignment Test applies with high urgency given extreme reach. The extractive building diagnostic applies: does the AI system build shared stocks or primarily extract value from them while building private stocks for its operators? The question of progenerative AI with its own agency remains open — see Section 15.

Test 12: AI Training-Data Builders (*new in v5*) – Tests the framework against a diffuse-contributor / concentrated-extractor case: the human builders whose freely-shared and copyrighted work trained large AI systems. **Result:** The Intervention Research Protocol generated a multi-component intervention architecture rather than a single remedy, validating the protocol's design. More significantly, the case surfaced a pattern the existing extractive-building diagnostic did not capture: the builders' prior positive-R building (knowledge, art, code shared openly) was extracted to create systems that now deplete those same builders' future conversion capacity by competing with and devaluing their work. This is the **R-reversal pattern** (Section 8.5), and its two-harm structure (extraction + reversal) required naming the two-component intervention rule. The test also sharpened the still-open AI-agency question by cleanly separating *the human builders who trained the system* (handled here) from *the system's own agency* (deferred to v6).

Test 13: Data Centers as Extractive Infrastructure (*new in v5*) – Tests the protocol against a compound gap: reciprocity failure plus substrate degradation plus a third condition the framework had not named. **Result:** The protocol generated a different intervention architecture from Test 12 – further validating that it finds case-specific rather than templated remedies. The case surfaced two new framework concepts. First, **asymmetric reach** (Section 9.2): the local community bears the substrate cost (water, power, land, noise) of building whose computational returns flow globally, and this asymmetry intensifies every other gap in the case. Second, **Step 0 as governance gate** (Section 11): the test demonstrated that the Substrate Health Check has decisive force only when applied before the development decision, while the community still holds bargaining leverage – and little force after. Both concepts were added to v5.

14. Research Validation Summary.

Systematic comparison with established academic and institutional literature. Updated September 2026. Full citations in Appendix C.

What Validated

FRAMEWORK COMPONENT	VALIDATING SOURCE(S)	RELATIONSHIP
Dignity Axiom	Sen's Capability Approach, Nussbaum's Central Capabilities, Social Model of Disability	Builder Economy operationalizes these traditions into a measurement framework
Five Materials	Five Capitals Framework (Forum for the Future), World Bank Changing Wealth of Nations	Builder Economy improves by separating Digital and treating intangibles as binding agents
Stocks/Flows architecture	Meadows' systems dynamics (Thinking in Systems, Leverage Points)	Direct validation – Meadows explicitly includes non-material stocks
Conversion conditions	Sen's three conversion factor types (personal, social, environmental)	Builder Economy extends with Recognition as standalone condition – original contribution
R factor / extractive building	Mazzucato (The Value of Everything), Fullerton (Regenerative Economics)	Builder Economy operationalizes Mazzucato's critique into measurable diagnostic
Irreplaceability factor	Biodiversity science, indigenous knowledge literature	Novel application of ecological concept to economic framework
Paradigm shift claim	Perez (Technological Revolutions and Financial Capital)	Consistent with techno-economic paradigm theory

FRAMEWORK COMPONENT	VALIDATING SOURCE(S)	RELATIONSHIP
Care as foundational building	Folbre; Waring (<i>If Women Counted</i>); ILO and Oxfam quantification	Framework provides diagnostic language for an invisible economy the ILO puts near 9% of global GDP
Preservative Kinetic Value	Feminist economics, care economics, conservation science	Validates maintenance and care as active kinetic building, not passive support
Systemic resilience	Sansom et al. (2025), <i>Disaster Medicine and Public Health Preparedness</i> ; Li et al. (2023), <i>JMIR Public Health and Surveillance</i>	Community cohesion positively associated with resilience outcomes where conventional demographic predictors are not. Both cross-sectional and associational; neither establishes causation
Governance of shared stocks	Ostrom's IAD framework, eight design principles	Ostrom fills the governance gap the framework identified
Adaptive dynamics	Panarchy theory (Gunderson & Holling)	Provides cross-scale dynamics framework for stock interactions and latency
Universal needs basis	Max-Neef's nine fundamental human needs	Validates "building is universal" — needs are finite and universal
Substrate Axiom	Biomimicry / Life's Principles (Benyus); Ecological Economics (Daly, Costanza); Indigenous relational ontologies	Extends Layer 1 (Dignity) into a nested architecture
Governance Alignment Test	Ostrom (IAD), Raworth (Doughnut Economics), Gibson-Graham (Diverse Economies)	Synthesizes traditions into a five-dimension diagnostic that preserves diagnostic posture
Substrate Health Check	Ecological Economics, Planetary Boundaries (Rockström et al.)	Operationalizes the precondition logic that biophysical sustainability requires

FRAMEWORK COMPONENT	VALIDATING SOURCE(S)	RELATIONSHIP
Intervention Research Protocol	Biomimicry (functional analogues), macro-historical institutional analysis (structural analogues), Meadows' leverage-points hierarchy (depth classification)	Combines three established analytical methods into a single intervention-finding protocol that preserves the diagnostic-not-prescriptive posture
R-Reversal Pattern	Mazzucato (value extraction), feminist economics (appropriation and devaluation of care), bioprospecting critique (knowledge extracted and patented against its source)	Names the common structural shape across three traditions that had circled it separately
The Living Library (industrial-symbiosis precedent)	Kalundborg industrial symbiosis (cumulative, locally-grown exchange network)	Validates that intervention infrastructure can grow anti-rivalrously through accumulated local cases rather than top-down design
Beyond-GDP premise	UN Secretary-General's High-Level Expert Group on Beyond GDP, <i>Counting What Counts</i> (2026); Dasgupta Review (2021); World Bank <i>Changing Wealth of Nations</i>	The HLEG's three pillars — wellbeing, inclusiveness and equity, sustainability — and its stated aim of making the invisible visible converge with the framework's premise from the national-statistics side. The Builder Economy differs in scale and function: entity-level diagnostic rather than national dashboard, and a gate rather than an indicator set

What the Synthesis Contributes

The framework's core innovation is not any single concept — most components have academic precedent. **The innovation is the synthesis:** combining stocks-and-flows systems thinking with a physics metaphor (potential/kinetic), a universal identity claim (everyone is a builder), an explicit dignity foundation, a substrate foundation, a power-aware governance layer, a diagnostic protocol for finding interventions without prescribing them, and a measurement vocabulary designed to be used by a teenager and an economist alike. No existing framework does all of this simultaneously. That integration is what makes it original.

15. Gap Analysis: Current State.

Resolved Gaps (v6)

GAP	RESOLUTION
No position on who governs the framework's own standards	The Rule of Use (front matter): CC BY-SA 4.0, name the framework, never composite the R, Regenerous Labs as interim steward with handoff intended.
Substrate gate: trigger or veto	Resolved as a split rule with two sorting tests — veto-class for irreversible or boundary-crossing harm, trigger-class otherwise (Section 11, Step 0).
No stated position on R versus national aggregates	Section 8.6. R is a direction, not a magnitude; substitution into GDP's institutional uses is a category error; the money-denominated aggregate path is declined on purpose.
No written response to the dashboard cherry-picking critique	Section 16.

Resolved Gaps (carried forward from v5)

GAP	RESOLUTION
No method for finding interventions without prescribing them	The Intervention Research Protocol (Step 9) — a three-move research method — plus the Living Library.
Compound reciprocity failure across time was unnamed	The R-Reversal Pattern (Section 8.5), with its two-component intervention rule.
Local-cost / global-return asymmetry was unnamed	Asymmetric reach added to the power-diagnostic layer (Section 9.2).
Step 0's timing leverage was unspecified	Step 0 as governance gate (Section 11) — guidance to apply the check before development decisions.

Resolved Gaps (carried forward from v4)

GAP	RESOLUTION
More-than-human design as a first-order principle	Substrate Axiom (Section 1.5) and Substrate Health Check (Step 0)
Open commons as a governance default for high-reach stocks	Governance Alignment Test (Section 9.4) surfaces the question without prescribing the answer
Philosophical foundation for Dignity Axiom	Grounded in Sen, Nussbaum, Max-Neef, social model of disability
R factor theoretical warrant	Mazzucato's value creation vs. extraction distinction
Maintenance treated as passive	Preservative Kinetic Value makes maintenance a first-class kinetic category
Emergence vs. intentional building	Builder Verb Spectrum + Participatory Building hold both

Partially Addressed Gaps

GAP	FRAMEWORK IDENTIFIED	WHAT STILL NEEDS BUILDING
Human needs foundation	Max-Neef's nine needs validate universality	Map the five materials against Max-Neef's nine needs. Create a needs-materials matrix.
Capitalism interface	World Bank <i>Changing Wealth of Nations</i> , UN SEEA, and the UN High-Level Expert Group on Beyond GDP, whose report reached the General Assembly in May 2026	These efforts converge on stocks-first national accounting and leave the entity level largely unaddressed. The framework's contribution is the builder-centric vocabulary and the gate they don't have. Turning that into a working interface — a stated mapping between the five materials and the HLEG dashboard domains — is unbuilt.

GAP	FRAMEWORK IDENTIFIED	WHAT STILL NEEDS BUILDING
Universal Design placement	Currently a sub-example under Conversion Infrastructure (Friction and Access)	Elevate Universal Design to a named first-order principle within Conversion Infrastructure (Section 6.2). Pending Indigo consultation.

Genuinely Open Gaps

GAP	THE PROBLEM	WHAT'S MISSING
Quantification methodology	The equation is directional, not precise – but applications will face pressure to produce numbers.	A quantification approach that avoids SROI's monetization trap while remaining rigorous. The framework should produce <i>profiles</i> , not single scores.
Internal conversion / agency	The four conversion conditions are all external (Access, Friction, Infrastructure, Recognition). Internal psychological barriers – the knowing-doing gap – are a structural gap.	A possible fifth conversion condition around Agency / Internal Mobilization. Deferred to v7 scoping.
Social capital measurement	Social stocks remain the most contested concept in the social sciences.	Social stock indicators that account for Bourdieu's critique – measuring not just network density but accessibility and who benefits.
Reciprocity completeness	How to close the value loop for commons-builders who create enormous value with no proportional return.	No validated, scalable mechanism. R-reversal (8.5) names the most severe case; the general solution requires institutional innovation.
Progenerative AI with its own agency	If AI systems exhibit forms of agency, are they builders (Layer 1)? Substrate (Layer 2)? Something else?	A principled position that doesn't collapse the framework's measurement precision. Test 12 separated this from the human-builder question; the AI-agency question itself is deferred to v7.

16. Honest Limitations.

The framework is transparent about what it cannot do.

It cannot determine intrinsic quality. The framework measures conversion conditions, reach, regeneration, and irreplaceability. It does not and should not determine whose art is better, whose knowledge is deeper, or whose building matters more. Quality assessment belongs to the domains themselves.

It cannot solve the capitalism interface alone. The framework is superb at diagnosing what is undervalued and why. Creating the conversion infrastructure to reward currently invisible building requires policy, institutional design, and new investment models that go beyond what a measurement framework can provide.

It is a diagnostic grammar, not a calculator. The explicit design choice to produce profiles rather than scores means the framework resists reduction to a single number. This is a feature, informed by SROI's documented failures — but it creates an adoption challenge in contexts that demand quantitative benchmarks.

Preservative kinetic value is harder to measure than direct kinetic value. Measuring the prevention of degradation requires counterfactuals — comparing what stocks would look like without the preservative work — and counterfactuals are methodologically treacherous.

Social and knowledge stocks resist standardization. The five materials are not equally measurable. Physical and digital stocks are relatively concrete. Social and knowledge stocks remain genuinely contested measurement territory.

It could still be captured. Bourdieu's warning applies: any system that measures social capital, conversion infrastructure, and network effects can be gamed by those who already hold power. The power-diagnostic layer is a design response and the Rule of Use is a second one — share-alike licensing exists here specifically so that the per-category R rule travels into derivatives rather than being quietly dropped by the first adopter who wants a single number. What licensing can't do is enforce itself. Regenerous Labs stewards the standard on an interim basis and intends to hand off to a multi-party body, but no such body exists yet, no conformance process has been tested, and a licence is only as strong as the willingness to assert it. That is the honest state of play.

The dashboard critique lands, and here is the answer. A serious line of argument in the beyond-GDP literature holds that multi-indicator dashboards fail precisely because they're comfortable: they let policymakers keep GDP as the headline and cherry-pick whichever complementary indicator flatters this year's story. Decades of national wellbeing dashboards have not dented GDP's dominance, and the framework's *profile, not verdict* posture is, structurally, a dashboard posture. The critique is fair and the framework does not have a clean escape from it.

What it has is a different position on the board. The critique is aimed at national headline statistics competing for the slot GDP occupies. The Builder Economy operates at the entity level — a person, a project, an organisation, a watershed, a city — where there is no incumbent headline number to displace and no minister choosing which line to quote. And its load-bearing output isn't an indicator at all. It's a gate: Step 0, run before the decision, with veto-class and trigger-class findings that can't be averaged away because averaging is prohibited by the licence the framework ships under. A cherry-picked indicator is one number among many. A failed substrate check is a fact about whether the thing should proceed. Those aren't the same kind of object.

Where the framework does prescribe — and where it stops. *Diagnostic, not prescriptive* is the framework's central discipline, and two things in it sit close enough to the line to deserve naming. Step 0 as a governance gate prescribes *when* to ask. The veto-class rule prescribes *how a finding is classed*. Neither prescribes what any community, regulator, or board decides. The line is between the framework saying "this finding is of a kind that can't be traded off" and the framework saying "therefore refuse the permit" — it says the first and never the second. Reasonable readers will think that line is thinner than the framework claims. It is worth their scrutiny; it is also where the framework's usefulness lives, because a diagnostic that can be averaged into a benefit-cost line item has already lost.

The intentionality bias is explicit, not eliminated. The Substrate Axiom relocates the framework's bias toward intentional action rather than removing it. Layer 1 retains an intentionality bias by design; Layers 2 and 3 carry the load of non-intentional and relational value. The bias is now a design choice, not a blind spot.

17. What Comes Next.

Populate the Living Library. The Intervention Research Protocol compounds with use. Publication is itself the field-testing programme: every gap abstracted and intervention fit-tested by an outside builder is a case the library didn't have. It ships near-empty, deliberately, as an invitation.

Field-test against live cases. The thirteen pressure tests are desk exercises. What the framework wants now is contact — data-centre-adjacent communities, open-source ecosystems, watershed restorations, care networks — running the Profile under real bargaining conditions, with real consequences for getting it wrong.

Test the veto-class rule in the field. Section 11 resolves trigger-versus-veto by design rather than by precedent, which is the right order. It has never been applied under pressure. The first implementations will show whether the two sorting tests hold up when a developer's lawyers read them.

Stand up the stewardship handoff. Interim means interim. What's needed: a multi-party body, a conformance process with teeth, and a rule for who adjudicates whether an adaptation has composited the R.

Build the interface to the institutional landscape. The UN High-Level Expert Group's report is in General Assembly deliberation, and national statistical offices will spend the next several years building against it. The useful contribution is a stated mapping — the five materials against the HLEG's dashboard domains, the Substrate Health Check against the sustainability pillar — so that entity-level Profiles and national accounts can talk to each other instead of past each other.

Elevate Universal Design. Move it from a sub-example under Conversion Infrastructure to a named first-order principle (Section 6.2).

Develop the Max-Neef needs-materials matrix. Map the five materials against the nine fundamental needs.

Scope v7: progenerative AI agency, and a possible fifth conversion condition around Agency / Internal Mobilization — the knowing-doing gap.

Appendix A: Lineage Notes.

This appendix exists so any reader can trace what changed between versions and why.

A note on method

The framework is developed through structured multi-lens review. Each proposed change is examined through a set of named analytical lenses — biomimicry and systems, macro-historical institutional analysis, regenerative economics, disability and universal design, multilateral policy — applied as disciplined perspectives rather than as claims of endorsement. Where a lens produced a change, the tables below name the lens. No scholar cited in this document has reviewed or endorsed it; the citations in Appendix C refer to published work only.

Pressure tests are desk exercises (Section 13). They are the framework's primary internal stress mechanism and are not a substitute for field validation.

v5 → v6

v6 is a publication release. Its changes close open questions rather than add machinery.

CONCEPTS ADDED

CONCEPT	SECTION	ORIGIN	STATUS
Rule of Use (CC BY-SA 4.0; name the framework; never composite the R; interim stewardship)	Front matter	Publication-readiness review; multilateral policy lens	Binding condition of use, not a framework concept — licensing is what makes the per-category R rule survive adaptation
R and National Aggregates: What R Is Not	8.6	Institutional stress-test against national accounts and beyond-GDP literature	Clarifies an existing concept; states a deliberate non-goal (the money-denominated aggregate path)

CONCEPT	SECTION	ORIGIN	STATUS
Veto-class and trigger-class findings, with reversibility and irreplaceability as sorting tests	11 (Step 0)	Resolution of the v5 open fork	Resolves an architectural question v5 named and deferred

CONCEPTS EXTENDED

CONCEPT	CHANGE	ORIGIN
Section 16 (Honest Limitations)	Added a direct response to the dashboard cherry-picking critique; added an explicit statement of where the framework prescribes and where it stops; rewrote the capture limitation to reflect the Rule of Use and to state what licensing can't do	Publication-readiness review
Section 13 (Pressure Tests)	Labelled all thirteen tests as desk exercises at the point of use rather than only in Section 17	Publication-readiness review
Sections 14, 15, 17 (institutional positioning)	Updated to the UN High-Level Expert Group on Beyond GDP report (May 2026) and its General Assembly deliberation; reframed the capitalism-interface gap around what an entity-level framework contributes that national dashboards don't	Multilateral policy lens
Section 5.2–5.3 (scale of invisible building)	Replaced a single conflated care-work figure with the two institutional estimates and their differing methods; corrected attribution	Source verification
Section 1 (systemic resilience evidence)	Replaced a loosely sourced summary claim with the two underlying studies, their designs, and their stated limits; corrected a mis-citation that had attributed the Texas A&M study to a different journal	Source verification
Appendix C (new)	Full citations for all works referenced	Publication-readiness review

CONCEPTS UNCHANGED

Everything else. The Dignity Axiom, Substrate Axiom, Nested Dignity Architecture, Five Materials, Builder Verb Spectrum, stocks and flows, conversion conditions, Builder Value Equation, reach, irreplaceability, R factor, extractive building pattern, R-reversal pattern, asymmetric reach, power-diagnostic layer, Ostrom's eight principles, Governance Alignment Test, adaptive dynamics, the Builder Profile and its ten steps, the Intervention Research Protocol, the Living Library, the naming system, and Pressure Tests 1–13 all carry forward from v5 without conceptual change.

DISCARDED / DEFERRED PATHS

PATH	WHY DISCARDED OR DEFERRED
Promoting R to a headline metric to compete with GDP	Discarded, with reasoning stated in 8.6. R is dimensionless and directional; substitution into GDP's institutional uses is a category error, and producing a composite headline would require breaking the framework's own per-category rule.
R-weighted kinetic value as a money-denominated aggregate	Declined on purpose, not deferred. It re-imports the GPI/ISEW valuation controversies the framework's account-before-pricing posture was built to avoid.
A universal substrate veto	Discarded. Honest, unusable, and it would make the gate trivially easy to route around.
A universal substrate trigger	Discarded. Travels further and gets absorbed as box-ticking, which is worse than no gate.
Non-commercial licensing	Discarded. It would block legitimate implementers — a city, a lender, a cooperative's vendor — while doing nothing that share-alike doesn't already do against the actual capture risk.
Resolving stewardship by naming a permanent body now	Deferred. No such body exists and inventing one on paper would be worse than naming the interim arrangement honestly.

v4 → v5

CONCEPTS ADDED

CONCEPT	SECTION	ORIGIN	STATUS
R-Reversal Pattern	8.5	Pressure Test 12 (AI training-data builders); regenerative-economics lens	Diagnostic; companion to extractive building (8.4); requires two-component intervention
Asymmetric Reach	9.2	Pressure Test 13 (data centres); macro-historical lens	Aggravating condition in the power-diagnostic layer; not a standalone gap type
Step 0 as Governance Gate	11 (Step 0)	Pressure Test 13; biomimicry and systems lens	Implementation guidance on when Step 0 has the most diagnostic and political force
Intervention Research Protocol (Moves 1–3)	11 (Step 9)	Regenerative-economics, macro-historical, and biomimicry lenses combined	Replaces v4's single-paragraph Step 9 with a three-move research protocol
The Living Library	11 (Step 9)	Regenerative-economics lens	Cumulative infrastructure; named canonically because the protocol depends on it

CONCEPTS RENAMED

FROM	TO	REASON
Builder Scorecard	Builder Profile	"Scorecard" implied a single score the framework forbids. "Profile" states the framework's posture — profile, not verdict — every time the tool is named. Steps and logic unchanged.

CONCEPTS EXTENDED

CONCEPT	CHANGE	ORIGIN
Section 8 (Reach, Irreplaceability, R)	Added 8.5 (R-Reversal Pattern); added reach-as-magnitude note to 8.1	Pressure Test 12
Section 9.2 (Power-Diagnostic Layer)	Added asymmetric reach as a fourth diagnostic question	Pressure Test 13
Step 0 (Substrate Health Check)	Added governance-gate guidance; flagged trigger-vs-veto as open (resolved in v6)	Pressure Test 13
Step 9 (Design Interventions)	Replaced with the Intervention Research Protocol and Living Library	Combined-lens review
Section 13 (Pressure Tests)	Added Test 12 and Test 13	Pressure-testing programme
Section 14 (Research Validation)	Added Meadows' leverage points, Kalundborg industrial symbiosis, and the cross-tradition naming of R-reversal	Synthesis

DISCARDED / DEFERRED PATHS

PATH	WHY DISCARDED OR DEFERRED
A fixed catalogue of prescribed interventions	Discarded. Converts the framework from diagnostic to prescriptive and loses contextual sensitivity. Replaced with the Intervention Research Protocol and the Living Library.
Treating R-reversal as a sub-case of extractive building	Discarded. The compound structure (zero return plus active depletion of future capacity) and the two-component intervention requirement justify naming the pattern separately.
Treating asymmetric reach as a standalone gap type	Discarded. Asymmetric reach modifies the diagnostic implications of other gaps; it belongs as an aggravating condition, not as a peer to those gaps.
A v5 position on progenerative AI agency	Deferred. Test 12 separated the human builders who trained an AI from the AI system itself; the latter is now deferred to v7.

PRESSURE TESTS ADDED IN V5

TEST	PURPOSE	OUTCOME
Test 12 (AI training-data builders)	First application of the Intervention Research Protocol to a diffuse-contributor / concentrated-extractor case	Generated multi-component intervention architecture; surfaced R-reversal
Test 13 (Data centres as extractive infrastructure)	Application to a compound gap (reciprocity plus substrate degradation plus a third unnamed condition)	Generated a different intervention architecture, validating the protocol; surfaced asymmetric reach and Step 0 as governance gate

Appendix B: The Builder Economy Vocabulary.

Working definitions, plain-language candidates, and translation notes

How to read this appendix

Each entry has four parts:

- **Term** — the canonical framework vocabulary, with its v5 section reference.
- **Working definition** — one sentence, written for both the smart teenager and the skeptical economist.
- **Plain-language candidate** — a synonym or gloss in everyday words. These are *candidates*, *not replacements*. The canonical term carries lineage and precision; the plain form is for first contact, public-facing material, and translation.
- **Translation note** — known hazards when carrying the term into other languages: false cognates, jargon that travels as jargon, metaphors that don't cross, and terms with strong precedent (e.g., UN human-rights vocabulary) that travel well.

A two-tier vocabulary policy is proposed at the end.

1. Foundations

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
The Builder Economy	A measurement framework for what 8 billion people build — making all forms of building visible, legible, and investable.	The economy of what people build.	"Builder" translates concretely (construction worker) in most languages; pair with the Core Sentence so the broader meaning lands.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Builder	Any person engaged in building across any material – creator, maintainer, steward, carer, teacher, protector.	Someone who makes or keeps things that last.	In many languages the direct equivalent means only construction trades (constructor, Bauarbeiter, 建設者). The verb form ("one who builds") often carries the broader sense better than the noun.
Dignity Axiom (§1)	Every person holds inherent builder value not contingent on their kinetic output.	Everyone counts, whether or not they produce.	"Dignity" travels exceptionally well – it anchors Article 1 of the Universal Declaration of Human Rights, translated into 500+ languages. Keep it. "Axiom" is math jargon; "starting commitment" or "first rule" as plain form.
Substrate Axiom (§1.5)	The living systems all building depends on hold inherent value not contingent on their usefulness to humans.	The living ground has value before we arrive.	See <i>Substrate</i> below – the hardest word in the framework to translate.
Substrate	The living systems building rests on: soils, watersheds, climate stability, biodiversity. Not a material builders work with; the precondition beneath all materials.	The living ground it's all built on.	High hazard. Latin cognates (sustrato, Substrat, substrat) exist but read as chemistry/biology lab vocabulary. "Living ground" or "living foundation" translates more faithfully to intent. Many Indigenous and non-European languages have <i>better</i> words for this concept than English does – translation may improve the term.

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Nested Dignity Architecture (§1.5)	Three layers of inherent value — Builder Dignity (people), Substrate Dignity (living systems), Relational Dignity (the relationships between them) — each with its own diagnostic logic.	Three layers of worth: people, the living world, and the bonds between them.	"Nested" and "architecture" are both metaphors; the three-layer list translates more reliably than the label.
Relational Dignity (§1.5)	The relationships between human builders and living systems hold inherent value (farmer–soil, fisher–estuary, community–watershed).	The bond between people and place has value of its own.	Translates well; many languages and traditions hold this concept natively.

2. Materials and verbs

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Five Materials (§3)	The five kinds of capital builders work with: Physical, Digital, Social, Knowledge, Natural. Not ranked; every person and place holds a portfolio across them.	The five things you can build with.	"Materials" is deliberately concrete and translates well — better than "capitals," which drags financial connotation in every language. Protect this choice.
Physical	Infrastructure, housing, trades, manufacturing, food systems, logistics.	Things you can touch.	Safe.
Digital	Code, platforms, AI tools, data systems, digital products, content.	Things made of software and data.	Safe; "digital" is a near-universal loanword.
Social	Trust, relationships, networks, mutual aid, organizing, culture-bearing, care.	The bonds between people.	"Social" alone is vague in most languages; the gloss matters more than the label.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Knowledge	Education, teaching, mentorship, research, documentation, skill transfer.	What people know and pass on.	Some languages split "knowledge" into knowing-facts vs. knowing-how (savoir/connaitre, wissen/kennen). The framework means both; say so in translation guidance.
Natural	Ecosystems, soil, water, biodiversity, climate resilience — as a material builders <i>work with</i> , distinct from Substrate beneath it.	The living world you work with.	The Natural-vs-Substrate distinction is subtle in English and will vanish in translation unless explicitly glossed: <i>Natural = what you work with;</i> <i>Substrate = what makes the work possible.</i>
Builder Verb Spectrum (§4)	Seven modes of building, each deserving its own measurement: creating, maintaining, deepening, stewarding, tending, protecting, composting.	The seven ways people build.	See individual verbs. The spectrum's point — that maintenance and care <i>are</i> building — survives translation even where individual verbs wobble.
Creating	Bringing something new into existence.	Making something new.	Safe everywhere.
Maintaining	Keeping existing stocks functional.	Keeping things working.	Safe.
Deepening	Increasing the quality or richness of an existing stock.	Making something better, not bigger.	Mild hazard; "deepen" is metaphorical. The gloss travels.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Stewarding	Caring for something on behalf of others and the future, without owning it.	Caring for something you don't own, for the future.	High hazard. "Stewardship" famously lacks direct equivalents in most languages (closest forms drift toward "administration" or "management," losing the moral weight). Always translate the gloss, not the word.
Tending	Ongoing attentive care of living or relational stocks.	Looking after living things.	Gardening/animal-care verbs exist in nearly every language; translate to those.
Protecting	Defending stocks against degradation or loss.	Keeping things safe from harm.	Safe.
Composting	Letting what has ended break down so its value feeds new building.	Letting old things break down to feed new growth.	The literal word translates; the metaphorical use needs the gloss the first time. Agricultural societies often grasp this verb <i>faster</i> than industrial ones.

3. Stocks, flows, and conversion

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Stock / Potential value (§5)	Accumulated builder value at rest — what has been built and is held, whether or not it is currently in use.	What you've built up. Stored value.	Double hazard: "stock" means financial shares or inventory in most languages, and "potential/kinetic" is a physics metaphor. "Stored value" and "active value" translate cleanly and keep the physics intuition without the jargon.
Flow / Kinetic value (§5)	Builder value in motion — what stocks are actively doing now.	What's moving now. Active value.	Same physics-metaphor hazard. "Kinetic" travels as a cognate but stays jargon in every language.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Direct kinetic value	New output produced now.	Making new things.	Safe with gloss.
Preservative kinetic value	Activity that maintains existing stocks — care work, maintenance, repair.	Work that keeps things from falling apart.	The concept (maintenance counts as production) is the radical part; the words are easy.
Catalytic value	Value created by enabling others to build — including value created by a person's existence and needs.	Helping others build.	"Catalytic" is chemistry jargon and translates as chemistry jargon. "Enabling" / "helping others build" travels.
Latency (§5.5)	Potential value with a long fuse — low conversion today does not mean low value.	Value that's waiting for its moment.	"Latency" reads as network-engineering jargon in most languages now. The gloss is better in <i>every</i> language, including English.
Conversion / conversion rate (§6)	The process and ratio by which potential value becomes kinetic value.	Putting what you've built to work.	Hazard: "conversion" carries religious meaning in many languages and currency-exchange meaning in others. "Putting to work" / "activating" are safer plain forms.
Conversion infrastructure	The pathways — education, networks, institutions, policy, capital — that change how much potential becomes kinetic.	The roads between what you have and what you can do with it.	Translate via the gloss; the metaphor of pathways/roads is near-universal.
Conversion conditions (§6): Access	Can you reach the pathway at all?	Can you get in the door?	All four condition names are common words and travel well — the questions translate better than the labels.

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Friction	What barriers slow or block conversion?	What slows you down or blocks you?	Physics metaphor, but "friction" has entered everyday speech in many languages; the question form is the safe fallback.
Infrastructure	Is there a pathway at all?	Does a path even exist?	Loanword in most languages; safe.
Recognition	Does the system see your potential as real?	Does anyone see what you're capable of?	Translates beautifully – most languages preserve the double sense of "seeing" and "officially acknowledging," which is exactly the framework's point.

4. Value factors and patterns

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Builder Value Equation / effective builder value (§7–8)	(direct + preservative + catalytic kinetic value) × $R \times \text{reach} \times \text{irreplaceability}$.	What your building is really worth, all things counted.	The equation itself is language-independent; that's an asset. Glossary only needs the factor names.
Reach factor (§8.1)	How many people can actually benefit – from personal-only (≈ 1) to open and community-wide ($\gg 1$).	How far the benefit spreads.	One of the safest terms in the framework. "How far it reaches/spreads" exists idiomatically in most languages.
Irreplaceability factor (I) (§8.2)	How reproducible a stock is – from widely held knowledge to the last surviving instance of something.	Whether it's one of a kind.	The English word is six syllables of abstraction. "One of a kind" / "cannot be rebuilt if lost" translates far better; many languages have a vivid native idiom for this.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Regenerative factor (R) (§8.3)	For any flow: does it grow or deplete the underlying stocks? Always measured per stock category, never as a composite. R is a direction, not a magnitude (§8.6).	Does it leave things better or worse than it found them?	"Regenerative" travels as a cognate in Romance languages, awkwardly elsewhere. The question form is the reliable translation. The <i>per-category</i> rule must travel with the term — it is the anti-greenwash safeguard, and under the Rule of Use it is binding, not advisory.
Per-category R	R is computed separately for each of the five materials; a composite score is structurally prohibited.	One score per material, never averaged.	Translate the prohibition explicitly. This is the framework's core defensibility claim and the first thing simplification destroys.
Extractive building pattern (§8.4)	Positive R for the builder, negative R for shared stocks — building for oneself by depleting what's held in common.	Getting richer by leaving everyone else poorer.	"Extractive" has strong cognates in mining economies and lands hard there — sometimes harder than in English. An asset, not a hazard.
R-Reversal Pattern (§8.5, <i>new in v5</i>)	A compound reciprocity gap: a builder's prior positive building is extracted to create a system that depletes that builder's <i>future</i> conversion capacity. Requires a two-component intervention (return value + restore capacity).	Your own building, turned against you.	The plain gloss is more powerful than the technical name in every language, including English. Recommend the gloss as the public-facing form with "R-reversal" as the technical handle.

TERM	WORKING DEFINITION	PLAIN - LANGUAGE CANDIDATE	TRANSLATION NOTE
Reciprocity completeness (§7)	Whether high-value building receives proportional return — the open loop for commons-builders.	Does the value come back to the people who built it?	"Reciprocity" is anthropology jargon but the concept is native to nearly every culture (often with richer vocabulary than English — e.g., <i>ayni</i> , <i>gotong royong</i> , <i>talkoot</i>). Translation may strengthen the term.
Asymmetric reach (§9.2, <i>new in v5</i>)	An aggravating condition: costs concentrated locally while returns flow globally. Modifies the severity of other gaps; not a standalone gap type.	Local costs, distant gains.	The four-word gloss translates almost word-for-word into most languages and is instantly legible. Strong candidate for leading with the plain form.
Power-diagnostic layer (§9.1–9.2)	The framework's standing questions about who owns conversion infrastructure, who benefits from current recognition patterns, what interests resist change — and (v5) whether reach is asymmetric.	Who holds the keys, and who benefits from things staying as they are?	Translate as questions, not as a label.

5. Governance and dynamics

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Governance Alignment Test (§9.4)	A five-dimension diagnostic for any high-reach stock that surfaces the governance question without prescribing commons as the answer.	A check on whether the right people are in charge of a shared thing.	The five dimension names below are the heavy lift; the test's <i>posture</i> (ask, don't prescribe) must be stated in translation or the test reads as a commons mandate.
– Value flow symmetry	Is R asymmetrically distributed among stakeholders?	Do benefits and burdens fall on the same people?	Question form travels.
– Rivalrousness profile	Does the stock deplete when shared?	Does using it use it up?	"Rivalrous" is economics jargon with no plain cognate anywhere. The five-word question is the term.
– Boundary feasibility	Can stakeholders and stock boundaries be defined?	Can you say what's inside and who's involved?	Question form travels.
– Stewardship capacity	Does governance infrastructure exist?	Is anyone equipped to look after it?	Inherits the <i>stewarding</i> hazard; use the question.
– Temporal alignment	Does governance tempo match the stock's regeneration timeline?	Do the decision-makers move at the speed the thing needs?	Question form travels.

TERM	WORKING DEFINITION	PLAIN- LANGUAGE CANDIDATE	TRANSLATION NOTE
Commons / commons-readiness questions (§9.4)	Shared stocks governed collectively by their stakeholders; four operational checks for when that form fits.	Things owned and run by everyone who depends on them.	High hazard. "Commons" is notoriously untranslatable — German <i>Allmende</i> , Spanish <i>bienes comunes</i> , and most languages reach for multi-word constructions. Ostrom translators have fought this for decades; reuse their per-language conventions rather than inventing new ones.
Adaptive cycle (§10)	The four-phase rhythm systems move through — growth, conservation, release, reorganization — with different building appropriate to each phase.	The natural cycle of growing, holding, letting go, and starting again.	Panarchy vocabulary is academic everywhere. The four plain verbs (grow, hold, release, begin again) translate; seasonal metaphors work in most cultures.

6. Tools and process

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Builder Profile (§11) (<i>renamed from Builder Scorecard in v5</i>)	The step-by-step diagnostic — Step 0 through Step 9 — usable by a person, project, organization, or city.	The walkthrough: what are you building, and what is it built on?	"Profile" was chosen precisely because it avoids the "score" implication of the old name and states the framework's posture (profile, not verdict). Translates cleanly; protect the no-score connotation in each language.

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Substrate Health Check (Step 0) (§11)	Before measuring anything: is the living substrate regenerating, sustaining, or degrading? A degrading substrate is a structural violation no later value can offset.	First question: is the ground beneath this alive and well?	The three states (regenerating / sustaining / degrading) need careful per-language calibration – they are the gate's only outputs.
Step 0 as Governance Gate (<i>new in v5</i>)	Implementation guidance: Step 0 has most diagnostic and political force <i>before</i> development decisions, while communities still hold bargaining leverage.	Ask the ground question before the deal is signed, not after.	Translates cleanly as timing guidance. (Note: veto-vs-trigger remains the open architectural question; this entry describes timing only.)
Intervention Research Protocol (Step 9) (<i>new in v5</i>)	A three-move method for finding case-specific interventions: (1) abstract the gap to its function, (2) search for functional and structural analogues across biological and historical domains, (3) classify intervention depth and test fit.	How to find what has worked before: name the job, look for who has done that job – in nature and in history – then check the fit.	"Protocol" reads as medical/diplomatic in many languages. The three moves in plain verbs are the translatable form.
The Living Library (<i>new in v5</i>)	Cumulative infrastructure: every protocol run adds a case, so the search space grows with use.	A shared shelf of cases that grows every time someone uses the framework.	"Living" + "library" both translate well individually and the compound usually survives. Safe.
Profile, not verdict	The framework's posture: it produces a multi-dimensional diagnostic picture, never a single score or judgment.	A picture, not a grade.	Three words, translates everywhere, carries the framework's whole defensibility posture. Treat as canonical alongside the Core Sentence.

TERM	WORKING DEFINITION	PLAIN-LANGUAGE CANDIDATE	TRANSLATION NOTE
Rule of Use (front matter, <i>new in v6</i>)	The two binding conditions that travel with the framework under CC BY-SA 4.0: name the framework, and never composite the R.	Credit it, and never average the R into one number.	Must appear in full in every translation and every derivative. The licence text itself has official translations in many languages – use those rather than rendering the licence terms freshly.
Veto-class / trigger-class finding (§11, <i>new in v6</i>)	How a failed Step 0 is classed: veto-class where the harm is irreversible or crosses a boundary, trigger-class otherwise.	Some damage can't be traded away; the rest has to be renegotiated in the open.	"Veto" is a near-universal loanword from international law and lands with the right weight. "Trigger" does not translate well as a noun – use a verb construction ("forces a renegotiation").
Systemic resilience indicator	How well a community cares for members who cannot fully participate – a meta-stock predicting capacity to weather disruption.	How a community treats its most vulnerable tells you how strong it really is.	The sentence form is proverb-shaped and most languages have a native proverb adjacent to it. Use theirs.

7. The naming system (§12)

TERM	CONTENT	TRANSLATION NOTE
Core Sentence	"You are what you build."	Four words in English; check each target language for the are/build rhyme and rhythm – a flat translation here costs more than anywhere else. Commission native-speaker renderings, don't translate literally.
Companion Principle	"Some of the most important things we build, we build around each other."	The "build around each other" construction is idiomatic; needs creative per-language rendering.

TERM	CONTENT	TRANSLATION NOTE
Substrate Principle	"And we build on a living substrate that holds value before we ever arrive."	Replace "substrate" with each language's best living-ground word (see §1).
The Deal	"You build, it lasts, and you have a stake in what you built."	"Stake" is a gambling/finance idiom in English; most languages will need "a share in" or "a claim on."
Battle Cry	"We're building the real economy."	"Real economy" already exists as an economics term (vs. financial economy) in most languages — a free asset.

8. Observations from the listing

Terms that travel as-is (protect them): dignity, reach, recognition, the five material names, the Living Library, "profile not verdict," the question forms of every diagnostic.

Terms that are jargon in every language including English (always pair with the gloss): substrate, kinetic/potential, catalytic, latency, irreplaceability, rivalrousness, R-reversal, axiom, protocol.

Terms with no reliable equivalent anywhere (translate the gloss, never the word): stewarding, commons.

Terms where other languages may be *richer* than English (invite native renderings rather than imposing ours): substrate (Indigenous and agrarian languages), reciprocity (*ayni*, *gotong royong*, *talkoot*), the systemic resilience proverb.

One naming tension surfaced by the exercise, now resolved in v5: "Builder Scorecard" implied a score the framework forbids. The tool is renamed the **Builder Profile** (see Section 11 and Appendix A).

Proposed two-tier vocabulary policy: the canonical term remains authoritative inside the framework document and lineage appendices; the plain-language candidate is the default in public-facing material, web app copy, and all translations, with the canonical term introduced parenthetically on first use. This keeps lineage intact while making first contact — and translation — work from the easy register.

Lineage note: Appendix B adds no concepts. It clarifies existing vocabulary across v2–v6 and proposes a register policy. Three entries were added in v6 — Rule of Use, veto-class/trigger-class findings, and the R-as-direction gloss in section 4.

Appendix C: References.

- Benyus, J.** (1997). *Biomimicry: Innovation Inspired by Nature*. William Morrow. See also Life's Principles, Biomimicry Institute.
- Bourdieu, P.** (1986). "The Forms of Capital," in J. Richardson (ed.), *Handbook of Theory and Research for the Sociology of Education*. Greenwood.
- Costanza, R. et al.** (1997). "The value of the world's ecosystem services and natural capital." *Nature* 387: 253–260.
- Daly, H.** (1996). *Beyond Growth: The Economics of Sustainable Development*. Beacon Press.
- Dasgupta, P.** (2021). *The Economics of Biodiversity: The Dasgupta Review*. HM Treasury, London.
- Folbre, N.** (2001). *The Invisible Heart: Economics and Family Values*. New Press.
- Forum for the Future.** The Five Capitals Framework.
- Fujiwara, D.** (2015). *The Seven Principle Problems of SROI*. Simetrica.
- Fullerton, J.** (2015). *Regenerative Capitalism: How Universal Principles and Patterns Will Shape Our New Economy*. Capital Institute.
- Gibson-Graham, J.K.** (2006). *A Postcapitalist Politics*. University of Minnesota Press.
- Gunderson, L. and Holling, C.S.** (eds.) (2002). *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press.
- International Labour Organization** (2018). *Care Work and Care Jobs for the Future of Decent Work*. Geneva. See also ILOSTAT, *Measuring Unpaid Domestic and Care Work*.
- Li, Y., Ding, X., Aierken, A., Pan, Y., Chen, Y. and Hu, D.** (2023). "The Role of Community Cohesion in Older Adults During the COVID-19 Epidemic: Cross-sectional Study." *JMIR Public Health and Surveillance* 9: e45110. doi:10.2196/45110
- Kalundborg Symbiosis.** Kalundborg, Denmark. Ongoing industrial symbiosis network, 1972–present.
- Max-Neef, M.** (1991). *Human Scale Development: Conception, Application and Further Reflections*. Apex Press.
- Mazzucato, M.** (2018). *The Value of Everything: Making and Taking in the Global Economy*. Allen Lane.

Meadows, D. (1999). *Leverage Points: Places to Intervene in a System*. Sustainability Institute.

Meadows, D. (2008). *Thinking in Systems: A Primer*. Chelsea Green.

Nussbaum, M. (2011). *Creating Capabilities: The Human Development Approach*. Harvard University Press.

Oliver, M. (1990). *The Politics of Disablement*. Macmillan. Foundational statement of the social model of disability.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.

Oxfam (2020). *Time to Care: Unpaid and Underpaid Care Work and the Global Inequality Crisis*. Oxfam International.

Perez, C. (2002). *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*. Edward Elgar.

Raworth, K. (2017). *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*. Random House Business.

Rockström, J. et al. (2009). "A safe operating space for humanity." *Nature* 461: 472–475.

Sansom, G., Sansom, L., Losa, L., Hernandez, R. and Johnson, J.N. (2025). "Cohesive Cities and Resilient Cities: Are They the Same?" *Disaster Medicine and Public Health Preparedness*. Cambridge University Press, published online 10 July 2025.

Sen, A. (1999). *Development as Freedom*. Oxford University Press.

United Nations (2026). *Counting What Counts: A Compass of Progress for People and Planet*. Report of the Secretary-General's Independent High-Level Expert Group on Beyond GDP. New York.

United Nations. *System of Environmental-Economic Accounting (SEEA)*. UN Statistics Division.

Waring, M. (1988). *If Women Counted: A New Feminist Economics*. Harper & Row.

World Bank (2021; 2024). *The Changing Wealth of Nations*. Washington, DC.

You are what you build.

Some of the most important things we build, we build around each other.

And we build on a living substrate that holds value before we ever arrive.

What are you building? And what is it built on?

The Builder Economy · Version 6.0 · Regenerous Labs · September 2026

Published under Creative Commons Attribution-ShareAlike 4.0 International. Name the framework. Never composite the R.