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Democratic Economic Cell Network

From national foundation to planetary horizon — Patch v5.1: the DSS-PS-EE model is the full build-out of Layer 7 (subsidiary governance with separated powers and elected experts), articulated to the economic core by a fact/value boundary.

Version 5.1 — Subsidiary Governance

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v5.1 specifies the institutional architecture left open by earlier versions; it preserves all gains of the core, the 9 planetary boundaries (v5.0.2) and the Good Life Index (v5.0.3). Backward-compatible patch — no Reference Scenario result is changed.

Table of contents

Document fully recompiled and patched to v5.1 (subsidiary governance). Numbers 9, 12 and 13 of Part II are intentionally absent, consistent with the model's sequencing.

Application notes

PATCH V5.1 · 26 JUNE 2026 — SUBSIDIARY GOVERNANCE

Purpose: specification of the institutional architecture. Through v5.0.3, Layer 7 (Governance) was reduced to a single line. v5.1 integrates the **DSS-PS-EE** model (Swiss Subsidiary Democracy with Separated Powers and Elected Experts) as the full build-out of Layer 7, complemented by a transversal function governing the other layers (§ 7 bis). Adds formulas F8 (fact/value boundary) and F9 (asymmetric thresholds), five glossary entries and three sources. The economic core is unchanged: the modification is institutional, not economic. Backward-compatible.

PATCH V5.0.3 · 26 JUNE 2026 — GOOD LIFE INDEX

Replacement of the headline indicator. GDP becomes an internal variable (Sovereign Fund, income elasticity) and the Good Life Index (IVB) — geometric mean "social foundation × ecological ceiling" — becomes the reference indicator. The Reference Scenario reaches IVB = 83.5/100 ; a higher-growth variant (GDP 385 instead of 280) falls to 72.2.

PATCH V5.0.2 · 26 JUNE 2026 — THE 9 PLANETARY BOUNDARIES

Widening to the 9 planetary boundaries (food & plastics). Layer 12 swaps its strict "carbon budget" for the global 9-boundary framework (Planetary Health Check 2025, EAT-Lancet 2.0). Two protocols: food reform (12.A) and novel entities / plastics (12.B). The general architecture (Layers 0 to 17) is maintained.

Earlier versioning, formula and layout corrections remain fully valid (allocation constraint F1: $\alpha + \beta + \gamma + \delta + \varepsilon = 1$, ε threshold at 2% of GDP, energy balance F4, terminology of the Commons Usage Fee and the Commons Guard).

1. Executive summary

The RCED proposes a radical yet pragmatic transformation of the Swiss economic system. v5.1 preserves all gains of the core — blockchain transparency, cooperative governance, democratic control, shared infrastructure, ecological loop and Decarbonation Fund — applies patch v4.4.3 (use-property), patch v5.0.2 (9 planetary boundaries), patch v5.0.3 (Good Life Index), and finally patch v5.1, which fully builds out Layer 7 as the DSS-PS-EE model.

Patch v4.4.3 has four pillars: (1) capitalist private property gives way to use-property; (2) redistributive taxation is replaced by a Commons Usage Fee; (3) the model shifts from a fiscal-transition tool to a structure of direct social production; (4) the defence of the commons is rigorously structured. Patch v5.0.2 adds protocols 12.A (food) and 12.B (plastics); together, energy + food + materials cover the seven boundaries now transgressed. Patch v5.1 finally endows the model with its decision architecture: five subsidiary levels, three separated powers and elected expert colleges, articulated to the economic core by a constitutionalised fact/value boundary.

Key results — Reference Scenario (Year 20)

83.5/100
Good Life Index
Doughnut reference (soc. × eco.)

72/100
Gross National Happiness
Up by +14 points

0.185
Gini coefficient
Strong reduction (−0.135)

28.5 h
Working hours / week
Time freed (−12.5 h)

−68%
Net emissions
Net-zero 2050 trajectory (LCI)

19.7%
Sovereign Fund surplus
Expressed as % of GDP

1.1 From the GDP metric to the Good Life Index

GDP measures neither quality of life nor respect for planetary boundaries, and rewards the overproduction that use-property seeks to suppress. v5.0.3 relegates it to an internal variable and replaces it with the IVB, inspired by doughnut economics: the geometric mean of a social foundation and an ecological ceiling, so that neither can compensate the collapse of the other.

> **DEFINITION**
> IVB = $\sqrt{F_{soc} \times F_{eco}}$. F_{soc} aggregates well-being (GNH), equality (1−Gini), time autonomy and needs met; F_{eco} aggregates climate trajectory, boundaries respected and material sufficiency. Each half-index is itself a geometric mean of sub-scores normalised to 100.

Sub-index (/100)	Baseline 2026	Reference (Y20)	High-growth variant
Well-being (GNH)	58	72	100
Equality (1−Gini)	68	81.5	82
Time autonomy	29	81	74
Needs met	55	90	90
→ **Social foundation**	50.2	80.9	85.9
Climate trajectory	0	85	89.6
Planetary boundaries	28.6	100	100
Material sufficiency	0	75.3	25
→ **Ecological ceiling**	0.0	86.2	60.7
Good Life Index	≈ 0	83.5	72.2

> **STRUCTURING RESULT · V5.0.3**
> The higher-growth variant (GDP 385 instead of 280) gets a better GDP but a lower IVB (72.2 vs 83.5): its extra output is bought at the price of lower energy sufficiency (energy 92.5 vs 77.4), which collapses the ecological ceiling from 86.2 to 60.7. The geometric mean forbidding any compensation, those GDP points translate into a loss of good life. GDP rewarded material excess; the IVB penalises it.

Complementary indicators

Indicator	Value Y20	Impact / Justification
Networks commonised	**3 networks**	Rail, energy and digital open and rent-free.
Final energy (Index Y20)	**77.4**	22.6% drop in final consumption.
Required overbuild (Layer 14)	**1.25×**	Optimised vs ~2× without a wide interconnected grid.
Planetary boundaries covered	**7 / 7**	Energy + food + materials address the 7 transgressed.
Health co-benefit (12.A)	↑↑	Up to 15 M deaths avoided/year (healthy diet).
GDP (index, now internal)	**280.4**	+180.4% over 20 years; used for the Sovereign Fund, no longer a success metric.

2. From v4.3.2 to v5.1

v4.4.x invalidates no v4.3.2 correction but extends it; v5.0.2/5.0.3 carry the logic toward non-energy boundaries and the headline indicator; v5.1 adds the governance architecture. The core (Layers 0 to 12) and the eight numerical consistency checks are unchanged. The model is anchored in existing precedents (SBB, Swissgrid, civil service, EU energy communities) and on Marx (property), Ostrom (commons, graduated sanctions) and radical subsidiarity.

Element (base)	Evolution with the patch	Justification / Impact
γ reallocation (non-automatable)	Layer 13: qualifying citizen service.	A concrete operator for the 3 to 5× pace required for 100% renewables.
Decarbonation Fund (δ)	Layer 13: thermal storage (sand) + local resources.	Removes dependence on critical minerals; seasonal storage.
National commons (Layer 11)	Layer 14: federated energy cells.	Smooths intermittency through space; overbuild ~2× → 1.25×.
Strict carbon budget (Layer 12)	v5.0.2: 9 planetary boundaries + protocols 12.A and 12.B.	Addresses the 5 boundaries beyond reach of energy transition alone + chemistry.
Headline indicator: GDP	v5.0.3: Good Life Index (IVB); GDP becomes internal.	Measures quality of life under the ecological ceiling rather than monetary volume.
Governance (Layer 7), reduced to a line	**v5.1: DSS-PS-EE architecture — 5 levels, 3 separated powers + elected expert colleges (§ 7 bis).**	Specifies who decides and at which level; operationalises the Citizens' Assembly and technical parameter-setting.
Private property & redistributive taxation	Use-property + Commons Usage Fee (Layer 2).	The good is tied to its effective use. Charge at source rather than redistribute afterwards.

3. Paradigm shift (patch v4.4.3)

The model no longer presents itself as a mere fiscal-transition tool, but as a structure of direct social production: economic coordination runs through the use of the commons rather than through accumulation and late redistribution.

3.1 From private property to use-property

The patch removes capitalist private property (the capital title as a right to exclude and collect rent) and substitutes use-property: a good is constitutionally tied to whoever effectively uses it under the rules of the commons. Inspired by Marx reread through Ostrom, this principle does not forbid owning what one uses, but removes the ability to extract rent from an unused good.

3.2 From redistributive taxation to the commons usage fee

The redistributive tax system (Piketty / Zucman / Saez) is replaced by a Commons Usage Fee. Instead of levying ex-post to redistribute, the model charges at source for the use of common resources (energy, land, data, registry capacity). The contribution becomes a condition of access to the commons, in Ostrom's access-contribution logic.

4. The full layer stack (core + patch)

#	Layer	Institutional function & mechanism
0	Diagnosis	Assessment of inequalities (analytical starting point).
1	Usage registry	Cadastre of energy, land, digital and carbon usage on blockchain.
2	Usage fee	Replaces redistributive taxation: charge at source for the use of the commons.
3	Capitalisation	Citizen sovereign fund investing directly in the real economy.
4a	Production	Worker cooperatives.
4b	Consumption	Consumer cooperatives and democratic supply planning.
5	Health / Time	Solidarity insurance and a reduced working week.
6	Coordination	Federated cells; the free market as a mere transmission signal.
7	Governance (DSS-PS-EE)	**v5.1:** 5 subsidiary levels (commune → canton → State → Constitution → dormant supranational); at each level 3 separated powers + elected, revocable expert colleges. Fact/value boundary (F8), asymmetric thresholds (F9). See § 7 bis.
8	Knowledge	Official training (SERI / OrTra) with qualifying retraining.
9	Propagation	0% investment enabling cells to spread internationally.
10	Time	Work indexing: required time falls with automation.
11	National commons	Rail, energy and digital in open access to purge rents.
12	Ecological loop (v5.0.2)	9-boundary framework. Carbon budget + Decarbonation Fund (δ), food reform (12.A), novel entities / plastics (12.B).
13	Citizen mobilisation	Citizen service + sober thermal storage + structural relocalisation.
14	Energy cells	Nested energy sharing and networked energy subsidiarity.
I.S.	Commons Guard	Internal security: enclosure prevention, technical audit, administrative interposition.
15	Territorial defence	Subsidiary, decentralised external defence, financed by the commons dividend.
16	Immunity	"Broadcast" protocol: automatic, reversible isolation of offending cells.
17	Verification	Decentralised media consensus (human-in-the-loop) to validate real aggression.

4.1 Gains-sharing mechanism

For each year t, the annual automation rate $\Delta P(t) = r$ (estimated between 2% and 6%) is split according to the allocation constraint:

ALLOCATION CONSTRAINT

$$\alpha + \beta + \gamma + \delta \ (+\ \varepsilon) = 1$$

- **α = 45%** → reduction of working time ($\alpha \times \Delta P$).
- **β = 35%** → citizen Sovereign Fund ($\beta \times \Delta P$).
- **γ = 10%** → sectoral reallocation and training / Layer 13 ($\gamma \times \Delta P$).
- **δ = 10%** → Decarbonation Fund / Layer 12 ($\delta \times \Delta P$).
- **ε** (federal contribution / Part II) → conditional, activated only if the Sovereign Fund surplus exceeds 2% of GDP.

GOLDEN RULE & DEMOCRATIC GOVERNANCE

100% of automation gains remain allocated, with no money creation. The modulation of the coefficients (α, β, γ, δ, ε) follows no fixed algorithm: allocation is sovereignly deliberated and validated by a Citizens' Assembly. v5.1 (§ 7 bis) specifies its mechanics and bounds expertise by the fact/value boundary (F8).

5. Layer 12 extended — The 9 planetary boundaries

The strict "carbon budget" of v5.0.1 is replaced by the 9-boundary framework (Planetary Health Check 2025, EAT-Lancet 2.0). A 100% renewable system addresses only 2 of the 7 boundaries transgressed in 2025 (climate, ocean acidification). Two protocols cover the rest.

5.1 Protocol 12.A — Food reform

Transition to agroecology + a strong reduction in meat. Food is the leading driver of boundary transgression; acting on it unlocks five boundaries beyond reach of the energy transition alone (biosphere, land, freshwater, N / P flows). The drop in meat frees land and makes agroecology compatible with the land boundary. Co-benefit: up to 15 million deaths avoided per year.

5.2 Protocol 12.B — Novel entities (plastics)

Limiting plastic by regulation: targeted bans, deposit schemes, extended producer responsibility (EPR, REACH-type). Addresses the 7th transgressed boundary — chemistry / novel entities — aggravated by the materials demand of the energy transition.

Lever (v5.0.2)	Planetary boundaries targeted	Mechanism
Energy core (Layers 12-14)	Climate · Ocean acidification	100% renewable, sufficiency, meshed grid.
12.A Food reform	Biosphere · Land · Freshwater · N/P flows	Agroecology + meat reduction (land release).
12.B Novel entities	Chemistry / plastics	Bans, deposit schemes, EPR (REACH-type).

5.3 Keeping the paradigm — sufficiency vs green growth

A "social-democratic" variant (private property + public investment + regulation) also reaches the viability zone on the 7 boundaries. The RCED's radical architecture is nonetheless kept: use- property removes the incentive to rent — hence to overproduction — and **structurally** suppresses the material engine, ensuring a more robust hold within the boundaries over the long run, where social democracy "patches" each boundary onto an intact growth engine.

6. Layer 13 — Citizen mobilisation of the transition

The pace required to substitute fossils with renewables is 3 to 5 times the current one. Layer 13 articulates three levers: citizen transition service (§ 6.1), sober thermal storage (§ 6.2), renovation & relocalisation (§ 6.3).

6.1 Citizen transition service

Redirecting an existing institution (military/civil service) rather than building new coercion. Qualifying service, supervised by professionals, directed at critical sites: energy renovation, deployment of renewables and heat pumps, ecological restoration, care support. Safeguards: individual freedom (short, qualifying, real choice of track), productivity (complement skilled tradespeople, not replace them), accounting (opportunity cost counted as a labour transfer).

6.2 Sober thermal storage — sand batteries

You do not store electricity, you store heat: sand is raised to 500–600 °C by surplus renewable electricity, then returns the heat over days or months via urban heat networks.

What sand solves	What must be soberly acknowledged
Mineral independence: no lithium, cobalt, nickel or rare earths. Local, abundant resource.	Poor electrical efficiency: unbeatable for heating, unsuited to mobility.
Seasonal storage: shifts energy from summer to winter.	Heavy infrastructure: assumes vast heat networks.
Peak management: absorbs overproduction instead of curtailing it.	A complement — not a substitute — to electrochemical storage (mobility, electronics).

6.3 Renovation, relocalisation and energy balance

Space heating represents nearly 45% of final consumption. A deep renovation cuts heat demand by 50 to 80%; a heat pump (COP 3 to 4) divides the primary energy required.

Transition item	Effect on final consumption
Building heating (renovation + HP)	↓↓↓ Dominant, priority lever.
Freight transport (relocalisation)	↓ Net reduction in physical flows.
Seasonal storage (sand)	Neutral — secures 100% renewable heat.
Specific electricity (electrification)	→ or ↑ Stable to slight rise.
Embodied energy of works	↑ Temporary rise, amortised later.
Net balance (Index Y20 = 77.4)	**−22.6% final consumption, at constant well-being.**

7. Layer 14 — Federated energy cells

The residual blind spot is electricity intermittency. Layer 14 answers through network sharing: time (local storage) and space (meshed grid).

Scale	What space-sharing solves	What it cannot solve alone
Neighbourhood	Fine demand diversity, line losses, self-consumption.	Day/night cycle, local weather hazards.
National	Smoothing of microclimates and regional differences.	Day/night cycle (Switzerland too narrow in longitude).
Continental	Weather compensation, time-zone offsets, wind/solar anti-correlation.	Deep winter-night lulls (Dunkelflaute).
Global	Full resolution of the day/night cycle.	Reopens the immense challenge of political governance (Part II).

7.3 Guiding principle: energy subsidiarity

A fractal, nested architecture: local self-sufficiency is maximised first; each higher level handles only the residue the lower one cannot absorb. Territorial autonomy is the rule, global interconnection the safety net. Thanks to the mesh, overbuild collapses from ~2× to 1.25×, saving embodied energy and critical minerals. Layer 1 traces energy flows and reciprocity credits. Precedents: RCP/ZEV (Switzerland), EU energy communities.

NEW · PATCH V5.1

7 bis. Layer 7 — Subsidiary governance (DSS-PS-EE)

Until now, Layer 7 was reduced to a single line. The DSS-PS-EE model is its full build-out: it answers the question the economic core left open — **who decides, and at which level** — while governing all other layers transversally.

7 bis.1 The five subsidiary levels

Each level handles only what concerns it; the higher level intervenes only on the residue the lower one cannot absorb (the same fractal logic as Layer 14).

Commune → **Canton / Region** → **State** → **Constitution** → **Supranational (dormant)**

7 bis.2 Three separated powers & expert colleges (at each level)

LEGISLATIVE

Assemblies (citizens or delegates) that make the laws. At the macroeconomic level: the core's Citizens' Assembly modulating α/β/γ/δ/ε.

EXECUTIVE

Collegial governments (5 to 7 members) that apply the laws.

JUDICIARY

Courts (elected judges + sortition) checking legality and constitutionality.

ELECTED EXPERT COLLEGES

Credentialed (master's/doctorate + 5 years), elected by the assembly, **revocable** at any time. Decide technical matters under democratic control.

Mapping onto the layers: **Environment** college → Layer 12 ; **Energy** → Layers 13-14 ; **Economy** → allocation constraint, Sovereign Fund, IVB ; **Health** → Layer 5.

7 bis.3 Key mechanisms

- **Direct democracy**: mandatory referendums (Constitution, commons fiscality) + initiatives (5% commune, 1% canton, 0.5% State).
- **Revocable delegation** by topic or duration ("I delegate my climate vote to expert X"), revocable at any time.
- **Double majority** (State level): citizens + cantons.
- **Full transparency** on the Layer 1 blockchain — a common substrate for energy and decision flows.

7 bis.4 Keystone — the fact / value boundary

DSS-PS-EE lets experts "decide technically"; RCED forbids "technocratic automatism." Reconciliation through a constitutionalised boundary (formula F8):

Facts — authority of the expert colleges	Values — sovereignty of the Assembly
Verifiable questions: nitrogen boundary, achievable COP, agroecology yield, hourly dispatch curve.	Distributive trade-offs: modulation of α/β/γ/δ/ε, level of ambition, sectoral priorities.

JUDICIAL SAFEGUARD

Any decision violating viability constraint **F6** (all 9 boundaries respected) or the use-property charter is **void by operation of law**, on referral to the Layer 7 courts — the constitutional firewall the core's "enumerated competences" only gestured at.

7 bis.5 Structural trade-offs

Redistribution → commons dividend. The DSS-PS-EE "financial equalisation" (~15% of budget) is ex-post redistribution, which RCED abolishes in favour of source-charging. Merged, it is reread as the share of the commons dividend (§ 10) routed to inter-regional equalisation.

Consensus vs speed (F9). The 9 boundaries and the Constitution are ratified once at a high threshold (hard ceiling); the transition measures serving them then pass by simple majority, on a fast track — preserving Layer 13's 3 to 5× pace.

Dormant supranational level = ε. The supranational level stays inactive: its financial activation *is* the ε coefficient (zero while the Sovereign Fund surplus ≤ 2% of GDP), its enforcement the access-contribution (§ 11), its security the interposition logic (§ 14). DSS-PS-EE supplies the Earth Federation's institutional detail; RCED imposes the sequencing discipline.

7 bis.6 Cross-contributions & nested subsidiarity

DSS-PS-EE → RCED

- separation of powers + independent judiciary;
- procedural mechanics of the Assembly;
- legitimacy for setting technical parameters.

RCED → DSS-PS-EE

- a non-GDP objective (IVB as compass);
- economic content (use-property, dividend);
- sequencing discipline for the supranational.

Layer 14's energy architecture maps term-for-term onto the political levels — the same nesting carries energy and authority: Neighbourhood ↔ Commune, National ↔ Canton/State, Continental ↔ inter-State interconnection, Global ↔ Supranational (dormant).

DSS-PS-EE is the constitution, RCED the engine. RCED's under-specified steering wheel (Layer 7) *is* the DSS-PS-EE; the DSS-PS-EE's empty economy *is* the RCED.

PART II — ASPIRATIONAL HORIZON

Earth Federation Project

A multigenerational project, not deliverable at 20 years. Its activation remains conditioned on the full maturity of Part I (propagation of the network to a critical mass of countries).

8. Status, sequencing and nature of the problem

The Earth Federation differs from Layers 13-14: those solved technical bottlenecks by engineering; the Earth Federation claims to fill the political blind spot — global coordination. Sovereignty does not vanish through a design trick: each phase must prove its robustness before the next.

V5.1 ARTICULATION

In the DSS-PS-EE architecture (§ 7 bis), this horizon corresponds to the **dormant supranational level**: its financial activation is governed by the ε coefficient and its sequencing by the maturity of Part I. DSS-PS-EE supplies its institutional form (3 powers + expert colleges at world scale) without precipitating its construction.

10. Equalisation by commons dividend

Global equalisation is not organised as a direct transfer of wealth between continents, but rests on a planetary commons dividend. The atmosphere (single carbon registry), the international energy backbone, Earth orbit, the oceans and critical-mineral deposits are defined as global commons. Fees charged at source feed a planetary Sovereign Fund: the paradigm is no longer "the rich pay for the poor" but "the planetary commons pays its dividend and distributes it by need".

11. Financing: 0% investment → commons → dividend

The global financial engine reuses the propagation mechanism of Layer 9, inspired by the great cooperative federations (Migros, Coop, Raiffeisen, Mondragon). The surplus of national cells is routed, via the 0% loan, toward infrastructure (interconnection, registries, environmental restoration); once operational, these generate access fees financing structural redistribution.

COLLECTING WITHOUT AN ARMY — THE ACCESS-CONTRIBUTION

Following Ostrom, the global contribution is not an invasive fiscality, but an unavoidable condition of access to the network of commons. To take part in exchanges or use the infrastructure, the cell must be up to date on its access-contribution. There is no coercion by force: technical access is unplugged.

14. Collective security: from non-violent leverage to interposition corps

The most carefully bounded part of Part II. Designed as a last resort, it excludes any centralised standing army and rests on two graduated instruments.

Instrument	Nature & mechanism	Resort
Non-violent leverage	Exclusion from access to the commons (carbon registry, unified market, interconnection). The cell is technically unplugged.	First resort. Mild and economic.
Consented interposition corps	Physical deployment between belligerents to freeze hostilities. Strict blue-helmet logic, never assault troops.	Last resort. Heavy and exceptional.

ABSOLUTE RED LINES

Interposition, not imposition: the federal corps does not deploy to subdue or occupy; it does not govern and levies no tax. Prior consent: deployment only on invitation or consented mandate. The Ostromian confederal approach with enumerated competences serves as a firewall against drift toward an authoritarian world-state.

ANNEXES

Formulas, glossary & sources

A. Mathematical formulas

F1 — Extended macroeconomic allocation constraint

$$\alpha + \beta + \gamma + \delta \ (+\ \varepsilon) = 1$$

$\varepsilon \geq 0$ = federal contribution (Part II), capped and strictly zero if the Sovereign Fund surplus ≤ 2% of GDP.

F2 — Renovated building heat demand & HP consumption

```
Q_heat(t) = Q_heat(0) × (1 − τ_reno)
E_elec = Q_heat / COP
```

Targets: τ_reno ≈ 0.5 to 0.8 | COP ≈ 3 to 4.

F3 — Seasonal thermal storage (sand)

```
S_th(t) = S_th(t−1) + η_charge × E_surplus(t) − Q_returned(t) − losses(t)
```

F4 — Cell energy balance (Layer 14)

```
Self-cons = min( Prod_local , Cons_local )
Surplus_shared(t) = Σ max( Prod − Cons , 0 ) → deficit cells
```

Overbuild target: 1.25× (vs ~2× without a meshed grid).

F5 — Cascading federal financing (Part II)

```
Invest_commons(t) = ε × ΔP(t) × GDP(t)
Dividend_commons(t) = price_carbon · E_taxed + royalties_minerals + fees
Equalisation(t) = distribution( Dividend_commons )
```

F6 — Planetary viability index (v5.0.2)

$$\mathrm{Viab}(t) = \Pi_{i=1..9}\ C[\ \mathrm{Pressure\_i}(t) \leq \mathrm{Limit\_i}\ ]$$

Viable only if all 9 boundaries are simultaneously respected. Covered by: energy {climate, oceans} ; 12.A {biosphere, land, freshwater, N, P} ; 12.B {novel entities}.

F7 — Good Life Index (IVB) (v5.0.3)

```
IVB(t) = √( F_soc(t) × F_eco(t) )
F_soc = ( GNH · (1−Gini)·100 · Time · Needs )^(1/4)
F_eco = ( Climate · Viab · Sufficiency )^(1/3)
```

Geometric mean: a strong dimension does not compensate a collapsed one. GDP remains an internal variable (Sovereign Fund, income elasticity).

F8 — Fact/value-boundary decision rule (v5.1)

```
Decision(p) = Expert_college(p) if p ∈ F (verifiable facts)
              Citizens_Assembly(p) if p ∈ V (values / trade-offs)

Valid(D) = [ D respects F6 ] AND [ D respects use-property ]
```

Any invalid decision is voidable by judicial review (Layer 7).

F9 — Asymmetric decision thresholds (v5.1)

```
Threshold(x) = ≥ 80% + double majority if x ∈ {Constitution, 9 boundaries, property}
               simple majority if x = measure serving an already-ratified ceiling
```

Supranational activation remains governed by ε (F1/F5).

B. Glossary

Use-property

Legal framework tying a good to its effective user under the commons charters. Removes detachable capital titles that allow passive rent extraction (Marx reread through Ostrom).

Usage fee

Source-charging for the use of common resources, replacing ex-post redistributive taxation (Layer 2).

Commons Guard

Civil internal-security body: registry audit (Layer 1), alerting assemblies, administrative interpositions (access exclusions) to block enclosure.

Immunity (broadcast)

Protocol for reversible, immediate isolation of an offending cell. Ostromian graduated sanction.

Verification

Decentralised media consensus including human validation (human-in-the-loop) before any collective response.

Planetary boundaries (v5.0.2)

Framework of 9 environmental boundaries (Planetary Health Check 2025). Replaces the strict carbon budget as the ecological loop (Layer 12).

Agroecology (v5.0.2)

Agricultural system of protocol 12.A, combined with a strong meat reduction. Addresses biosphere, land, freshwater and N/P flows.

Novel entities (v5.0.2)

The "chemistry / plastics" boundary (protocol 12.B), regulated by bans, deposit schemes and EPR (REACH-type).

Good Life Index (IVB) (v5.0.3)

Headline indicator replacing GDP. Geometric mean of the social foundation and the ecological ceiling (doughnut economics), out of 100.

Social foundation (v5.0.3)

IVB half-index: well-being (GNH), equality (1−Gini), time autonomy, needs met.

Ecological ceiling (v5.0.3)

IVB half-index: climate trajectory, respect of planetary boundaries, material sufficiency. The model's limiting factor.

Interposition corps

Peacekeeping force (professional core + volunteers) positioned strictly between belligerents.

Citizens' Assembly

Sovereign deliberative body annually modulating and validating allocation (α, β, γ, δ, ε) outside any technocratic automatism.

Elected expert college (v5.1)

Technical body of a level, composed of credentialed, elected, revocable experts. Decides factual matters under democratic control; no authority over value trade-offs.

Fact/value boundary (v5.1)

Constitutional line separating technical decisions (experts) from distributive trade-offs (Assembly). Core of the expertise ↔ sovereignty articulation (F8).

Revocable delegation (v5.1)

Entrusting one's vote by topic or duration to a delegate/expert, with immediate revocation. Reconciles direct democracy with expert representation.

Asymmetric thresholds (v5.1)

Rule F9: high threshold for fundamentals (Constitution, 9 boundaries, property), simple majority for measures serving an already-ratified ceiling.

Dormant supranational level (v5.1)

Fifth DSS-PS-EE level kept inactive, whose financial activation is governed by ε and the sequencing of Part II.

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Raworth, K. (2017). Doughnut Economics — "social foundation / ecological ceiling" framework of the IVB (v5.0.3).

Concordance model (Switzerland) (v5.1). Collegial Federal Council, double majority people + cantons, direct democracy — precedents for the rewritten Layer 7.

Sortition / deliberative assemblies (v5.1). Mixed court composition (elected + sortition) to limit capture.
