

NO ONE IS EXPENDABLE · COMPANION ROADMAP

A timeline to the Bright Commons

Annual review points through 2030, then five-year checkpoints toward essentials that are universal, sustainable, resilient, and protected as rights.

20 REVIEW POINTS 2026–2100+ 7 OVERLAPPING GATES ANNUAL SCALE-UP REVIEW

THE GOVERNING RULE

Dates orient. Evidence authorizes. Progress happens service by service, jurisdiction by jurisdiction.

Sustainability and funded resilience begin at Gate 0. No one may be sacrificed for the destination.

2026–2030

ESTABLISH THE OPERATING
SYSTEM

~2060

UNCONDITIONAL ESSENTIAL-
ACCESS REVIEW

~2080

BRIGHT COMMONS TERRESTRIAL
ARCHITECTURE

2100+

BROADER DIFFUSION AND
PERMANENT MAINTENANCE

A review schedule, not a prophecy

The near term is annual because decisions are concrete now. Later checkpoints are five years apart because engineering, institutions, replacement cycles, regeneration, and recovery do not obey a press-release calendar.

One module = one service in one jurisdiction

Potable water in one province can advance while housing in the same country remains at an earlier gate. A favorable average may not conceal an excluded group.

PLAIN-LANGUAGE TERMS

Bright Commons: life’s essentials universally secured, ecologically sustainable, resilient through shock, and protected as rights. **Sustainability:** durable expansion by solving resource and lifecycle problems—not austerity. **Resilience:** funded system continuity and recovery—not personal stoicism.

- 1. **Build or change** names actions institutions can control.
- 2. **Evidence of progress** states what must become observable.
- 3. **Pause or recover** keeps failure reversible and the floor intact.

~2060

Essential-access review horizon

Qualifying modules make the essential tier enforceable and independent of employment. Fiscal stress, appeal, remedy, and fallback pass.

~2080

Bright Commons terrestrial architecture

A qualifying jurisdiction brings every essential-service module through regeneration and resilience. This is the earliest coherent “largely complete” marker.

2100+

Broader Bright Commons diffusion

The condition is widely shared, survives replacement and political cycles, and remains continuously audited. There is no final exit from maintenance.

FIVE NON-NEGOTIABLES

No mass sacrifice

No rights regression

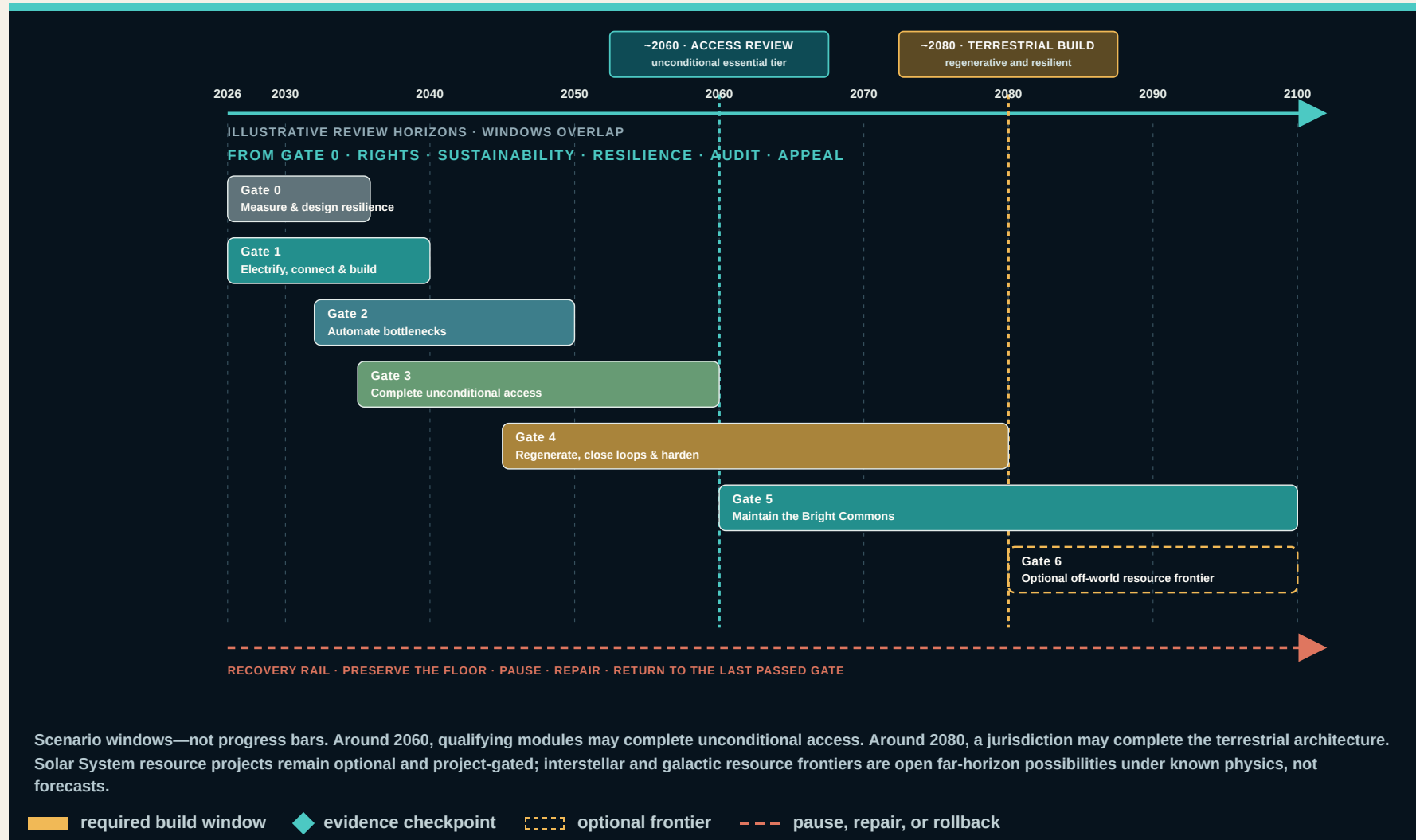
No floor withdrawn before replacement works

No speculative technology on the critical path

No average may hide exclusion

The calendar tells us when to look

The windows overlap because physical construction, automation, entitlement, sustainability, and resilience proceed in parallel from Gate 0. A gate window may open between displayed review years, but only its evidence packet can authorize scale.



Set the floor, expose the bottlenecks, design for continuity

The first five years are annual because early sequencing matters. Rights, baselines, finance, resilience, sustainability, physical construction, and the authority to stop begin together at Gate 0.

2026

ILLUSTRATIVE · NOT A FORECAST

GATE 0

GATE 1 PLANNING

Establish the rules before scale

Start with a legally enforceable floor and make sustainability and resilience design requirements at Gate 0.

BUILD OR CHANGE

Define service × jurisdiction modules. Enact a lifeline tier and non-regression rule. Name the lead, funder, operator, regulator, statistical certifier, auditor, appeal venue, and official empowered to pause. Begin physical, fiscal, lifecycle-resource, ownership, hazard, redundancy, and recovery maps.

EVIDENCE OF PROGRESS

The first gate packets publish baselines, subgroup floors, recurring finance, resource-expansion pathways, evidence windows, continuity service, recovery objectives, and rollback tests. Independent audit and human appeal are real, not ceremonial.

PAUSE OR RECOVER IF

Freeze surveillance-heavy or capture-prone scaling. Keep lifeline services operating through ring-fenced, independently supervised channels while rights and oversight are repaired.

2027

ILLUSTRATIVE · NOT A FORECAST

GATE 0

GATE 1

Make the baseline and resource plan contestable

Turn inventories into public commitments that people can challenge before capital and dependencies are locked in.

BUILD OR CHANGE

Publish the first disaggregated Capability Ledger and finance packets. Preregister thresholds, lifecycle boundaries, denominators, uncertainty rules, and re-entry tests. Map clean energy, substitution, repair, recovery, restoration, and new-supply options. Identify who funds operations and replacement.

EVIDENCE OF PROGRESS

Budgets and project queues replace slogans. Unit costs, delivery burdens, conflicts, dissenting assessments, and the source of every recurring dollar are visible.

PAUSE OR RECOVER IF

An unknown result cannot pass. Changing a metric restarts its evidence window; rights waivers and unfunded promises stop the module.

Set the floor, expose the bottlenecks, design for continuity

The first five years are annual because early sequencing matters. Rights, baselines, finance, resilience, sustainability, physical construction, and the authority to stop begin together at Gate 0.

2028

ILLUSTRATIVE · NOT A FORECAST

GATE 0

GATE 1

Deliver the first measurable, resilient service gains

Begin the no-regrets physical build and judge it by effective use and recovery, not nominal coverage.

BUILD OR CHANGE

Advance clean power and grids, water and sanitation, housing, primary care, schools, clean cooking, broadband, transit, and childcare in priority modules. Add islanding, cyber segmentation, critical spares, open standards, materials passports, algorithm registers, and human appeal.

EVIDENCE OF PROGRESS

Bottom-half burdens fall, reliability improves, people actually receive the service, and continuity tests work. Coverage cannot be claimed from a nearby wire or an unused program.

PAUSE OR RECOVER IF

When cash outruns supply, preserve targeted protection and redirect marginal expansion toward homes, clinicians, transformers, water systems, and other bottlenecks.

2029

ILLUSTRATIVE · NOT A FORECAST

GATE 0

GATE 1

Publish failures and choose what scales

The decisive early event is not a breakthrough; it is a credible ability to retire what does not work.

BUILD OR CHANGE

Audit pilots, scale validated approaches, retire weak ones, diversify suppliers, train workforces, exercise continuity plans, and lock maintenance reserves. Attach open standards, labor conditions, clawbacks, warrants, or royalties when public money absorbs material risk.

EVIDENCE OF PROGRESS

Pilot results include failures. Cost and schedule variance, incident routes, procurement concentration, workforce capacity, and replacement funding are public.

PAUSE OR RECOVER IF

Modularize or rebid failed megaprojects, replace managers, qualify more suppliers, or change technology. No favored research bet may hold an essential service hostage.

Set the floor, expose the bottlenecks, design for continuity

The first five years are annual because early sequencing matters. Rights, baselines, finance, resilience, sustainability, physical construction, and the authority to stop begin together at Gate 0.

2030

ILLUSTRATIVE · NOT A FORECAST

GATE 0 EXIT

GATE 1

Make the first public pass-or-pause decisions

Qualifying modules move forward; lagging modules remain visible rather than disappearing inside a national average.

BUILD OR CHANGE

Publish signed pass, pause, recovery, or retire decisions with evidence, dissent, conflicts, votes, and appeals. Commit the 2030s infrastructure portfolio while recertifying rights, sustainability, and resilience safeguards annually.

EVIDENCE OF PROGRESS

Passing modules have auditable accounts, stable civil liberties and appeal, recurring revenue for recurring promises, public pilot results, and a supply-and-recovery assessment.

PAUSE OR RECOVER IF

Modules that fail stay at Gate 0 or the fragility track. Maintenance and necessary essential expansion continue under independent supervision; discretionary scale does not.

What a gate packet must contain

A date tells the public when to review. This packet decides whether scale is actually authorized.

ACCOUNTABILITY	REAL RESOURCES	DECISION RULES
Lead, funder, operator, regulator, certifier, auditor, appeal venue, and pause authority.	Capital and operating cost, reserves, debt and currency stress, workforce, materials, and recurring revenue.	Thresholds, subgroup floors, evidence window, uncertainty, continuity, rollback, recovery, and re-entry.

PUBLISHED JULY 25, 2026 · UPDATED JULY 26, 2026 · RVA CYBER RESEARCH · [NEWS.RVACYBER.COM/BRIEFINGS/NO-ONE-IS-EXPENDABLE/TIMELINE/](https://news.rvaciber.com/briefings/no-one-is-expendable/timeline/)

6 / 14

Make essentials plentiful, then make access unconditional

Infrastructure, bounded automation, labor protection, universal finance, resilience, and sustainability overlap. Capacity must grow before broad purchasing power can safely become entitlement.

2035

ILLUSTRATIVE · NOT A FORECAST

GATE 1

GATE 2

GATE 3 BEGINS

Let infrastructure and bounded automation overlap

Automation begins where the answer can be checked and where power, workers, safety, and fallback are already protected.

BUILD OR CHANGE

Continue the universal physical build. Scale structured automation in inspection, logistics, maintenance, scheduling, laboratories, grids, administration, and other measurable tasks. Begin public funding, social insurance, or transfers that make access universal (“universal finance”) only where the lifeline, real supply, and recurring revenue are ready.

EVIDENCE OF PROGRESS

Automation has field-safety, competition, full-lifecycle, cybersecurity, worker-transition, and fallback approval. Infrastructure modules show real access, sustainability, and reliability gains.

PAUSE OR RECOVER IF

Withdraw systems that cross incident, discrimination, cyber, intervention, or maintenance limits. Keep assisted work and repair supply before deepening dependence.

2040

ILLUSTRATIVE · NOT A FORECAST

GATE 1 EXITS

GATE 2

Complete the first broad infrastructure gates

Leading modules can now demonstrate that essential physical access is normal rather than exceptional.

BUILD OR CHANGE

Complete power, water, sanitation, connectivity, primary care, education, clean cooking, and adequate shelter in qualifying modules. Make critical networks islandable, recoverable, and staffed. Expand grant-heavy and concessional routes for access-constrained regions.

EVIDENCE OF PROGRESS

Effective access is near-universal under locally preregistered floors; bottom-half burdens fall; reliability and recovery standards hold; capability grows while absolute emissions and ecological pressure follow a credible trajectory.

PAUSE OR RECOVER IF

Protect the floor, continue building lagging modules, restructure unsustainable debt, and substitute diversified portfolios when a frontier technology fails.

Make essentials plentiful, then make access unconditional

Infrastructure, bounded automation, labor protection, universal finance, resilience, and sustainability overlap. Capacity must grow before broad purchasing power can safely become entitlement.

2045

ILLUSTRATIVE · NOT A FORECAST

GATE 2

GATE 3

GATE 4 BEGINS

Convert productive capacity into durable entitlement

Cheap output becomes abundance only when people possess a reliable claim on it and a share of the gain.

BUILD OR CHANGE

Expand universal essential-service finance, portable benefits, wage insurance, pension bridges, bargaining, works councils, employee ownership, gain-sharing, and social wealth funds. Start Gate 4 only where provision operates and full lifecycle and imported footprints are measured.

EVIDENCE OF PROGRESS

The resource cost of the essential basket falls while income, leisure, or public consumption rises for the bottom half. Dividends use realized, smoothed returns rather than forecasts or debt.

PAUSE OR RECOVER IF

If productivity becomes rent, apply competition and ownership remedies. If cash inflates a constrained sector, preserve the floor and build supply.

2050

ILLUSTRATIVE · NOT A FORECAST

GATE 2 EXITS

GATE 3

Demand proof from automation

By mid-century, automation must be judged by lived cost, reliability, fallback, and distribution—not benchmark spectacle.

BUILD OR CHANGE

Standardize parts and interfaces, extend proven tools to smaller firms and public services, and keep human competence current. Ratchet paid leave and shorter-time options only as measured productivity and service capacity support them.

EVIDENCE OF PROGRESS

Real labor, energy, and material costs fall; safety and quality remain stable or improve; intervention and life-cycle costs validate the claim; entry remains possible; tested non-AI fallback exists.

PAUSE OR RECOVER IF

Keep brittle systems task-specific or assisted. Freeze subsidized deployment and correct concentration before expanding social dependence.

Make essentials plentiful, then make access unconditional

Infrastructure, bounded automation, labor protection, universal finance, resilience, and sustainability overlap. Capacity must grow before broad purchasing power can safely become entitlement.

2055

ILLUSTRATIVE · NOT A FORECAST

GATE 3

Close the remaining access and fiscal gaps

The hard cases—excluded groups, scarce housing, care capacity, and recession finance—become the center of the program.

BUILD OR CHANGE

Finish supply-backed housing assistance, health and care capacity, automatic income top-ups, social insurance, portable benefits, continuity services, and human remedy. Stress-test every recurring guarantee through recession, higher rates, and demographic change.

EVIDENCE OF PROGRESS

Individual and subgroup floors hold for the full evidence window. Outages and denials receive timely continuity and remedy. Core promises have recurring revenue and funded replacement reserves.

PAUSE OR RECOVER IF

Change management or provider mix without abandoning universal finance. Slow untargeted cash growth when necessary; preserve the floor and accelerate constrained supply.

2060

ILLUSTRATIVE · NOT A FORECAST

GATE 3 EXITS

GATE 4

GATE 5 BEGINS IN QUALIFYING JURISDICTIONS

Review unconditional essential access

This is an essential-access review horizon for qualifying modules—not the completion of ecological hardening or global convergence.

BUILD OR CHANGE

Certify every essential-service module that can pass. Make the essential tier independent of employment or market income. Keep markets for differentiated goods while protecting material exit, portable support, due process, and the option to refuse a job.

EVIDENCE OF PROGRESS

Catastrophic health spending, hunger, unsheltered homelessness, utility disconnection, and digital exclusion are no longer systemic. Services survive fiscal stress; every automated denial has notice, human appeal, and remedy.

PAUSE OR RECOVER IF

Fall the failing module back to the last gate it can pass. Freeze discretionary benefits before cutting the floor, draw declared reserves, and repair capacity without inventing an internal enemy.

Solve sustainability through regeneration and durable expansion

Sustainability is not austerity or a ceiling on human development. It is the engineering and institutional work of expanding capability without hidden depletion, exported harm, brittle networks, or emergency coercion.

2065

ILLUSTRATIVE · NOT A FORECAST

GATE 4

Make regeneration and circularity normal infrastructure

Sustainability expands the feasible future by renewing resources and designing second and third lives before systems are built.

BUILD OR CHANGE

Scale clean energy, substitution, durability, repair, modularity, disassembly, materials identification, take-back, remanufacturing, urban mining, industrial symbiosis, restoration, and low-emissions primary production.

EVIDENCE OF PROGRESS

Product life, collection, recovery yield, and safe secondary use rise while toxicity, frontline exposure, and life-cycle burden fall.

PAUSE OR RECOVER IF

Reject recycling routes that increase toxicity or energy use. Use responsibly sourced virgin material where it is the safer full-system choice.

2070

ILLUSTRATIVE · NOT A FORECAST

GATE 4

Prove sustainability enables durable expansion

Efficiency is not enough; capability must grow while aggregate pressure moves inside declared ecological budgets.

BUILD OR CHANGE

Combine clean energy, substitution, circularity, verified new supply, and restoration. Track absolute carbon, habitat, watershed, nutrient, toxicity, and material pressure. Restore soils, forests, wetlands, fisheries, aquifers, and urban habitat as productive assets.

EVIDENCE OF PROGRESS

Essential capability continues rising while measured absolute pressure declines toward safe budgets and regenerative capacity expands. Frontline communities see falling exposure rather than exported harm.

PAUSE OR RECOVER IF

When rebound erases gains, redesign the pathway: substitute, close loops, restore capacity, or add responsibly governed supply. Preserve the essential floor; pause only the harmful expansion while alternatives are built.

Solve sustainability through regeneration and durable expansion

Sustainability is not austerity or a ceiling on human development. It is the engineering and institutional work of expanding capability without hidden depletion, exported harm, brittle networks, or emergency coercion.

2075

ILLUSTRATIVE · NOT A FORECAST

GATE 4

GLOBAL DIFFUSION

Eliminate exported abundance

A rich jurisdiction has not passed by moving extraction, coercion, emissions, or waste somewhere less visible.

BUILD OR CHANGE

Correct cross-border labor-rights abuses, displacement, waste dumping, extractive harms, and failures to protect host communities. Shift development finance toward grants, foreign-exchange risk sharing, local ownership, regional capacity, and resilient local production.

EVIDENCE OF PROGRESS

Consumption-based emissions and material footprints fall, essential-access gaps narrow, and ecological pressure declines without fortified borders or coerced supply chains.

PAUSE OR RECOVER IF

Trigger debt relief and essential-spending protection, remediate harm, and rebuild neutral delivery channels where fragile institutions cannot yet pass Gate 0.

2080

ILLUSTRATIVE · NOT A FORECAST

GATE 4 EXITS

GATE 5 ENTERS

GATE 6 OPTIONAL

Complete the Bright Commons terrestrial architecture

This is the earliest coherent marker for a largely complete terrestrial Bright Commons in a qualifying jurisdiction.

BUILD OR CHANGE

Bring every essential-service module through Gate 4. Maintain supplier diversity, strategic inventories, islanding, manual fallback, geographic redundancy, and exercised recovery. Open Gate 6 only for projects that add safe capacity after Earth’s floor is secure.

EVIDENCE OF PROGRESS

Universal access, rights, ecological budgets, and recovery systems have survived repeated real shocks without abandoning a group. Capability rises within safe budgets and services recover to published objectives.

PAUSE OR RECOVER IF

Pay for spare capacity and modularity. Retire any frontier project that cannot pass full cost, safety, labor, environmental, debris, rescue, and governance tests.

Prove the Bright Commons survives time, politics, and geography

The Bright Commons is a maintained state, not a finish-line photograph. Institutions must preserve the floor and the capacity to grow across generations without imposing one model of the good life.

2085

ILLUSTRATIVE ·
NOT A
FORECAST

GATE 5

Demonstrate maintenance across shocks

The test of a mature Bright Commons is whether the floor survives bad years and political turnover.

BUILD OR CHANGE

Fund replacement and recovery reserves before discretionary dividends; protect independent audit, appeal, lawful opposition, policy reversal, and resilient service capacity. Keep plural providers and no single point of social failure.

EVIDENCE OF PROGRESS

Recessions, transfers of power, extreme events, and technology failures do not erase rights, essential access, or an entire region’s continuity.

PAUSE OR RECOVER IF

Freeze dividend growth and nonessential expansion, draw reserves, investigate capture, repair capacity, and return the service to its last passing gate.

2090

ILLUSTRATIVE ·
NOT A
FORECAST

GATE 5

GLOBAL DIFFUSION

Broaden convergence, not luxury alone

Productivity at the frontier matters less than whether the remaining gaps actually close.

BUILD OR CHANGE

Prioritize excluded groups and lagging regions through grant-heavy finance, local capability transfer, documentation-flexible access, regional institutions, and fragility-appropriate delivery.

EVIDENCE OF PROGRESS

Subgroup and cross-jurisdiction gaps narrow across the essential bundle while rights, autonomy, sustainability, and resilience tests continue to pass.

PAUSE OR RECOVER IF

Redirect resources from positional consumption and prestige megaprojects toward the failing modules. Mature jurisdictions fall back when evidence deteriorates.

Prove the Bright Commons survives time, politics, and geography

The Bright Commons is a maintained state, not a finish-line photograph. Institutions must preserve the floor and the capacity to grow across generations without imposing one model of the good life.

2095

ILLUSTRATIVE ·
NOT A
FORECAST

GATE 5

Pass the intergenerational test

Abundance cannot live on inherited infrastructure while handing its replacement bill to the next generation.

BUILD OR CHANGE

Renew aging systems, skills, ecological headroom, and fiscal reserves. Keep data and standards open, protect lawful opposition, and preserve enough institutional memory for successors to reverse mistakes.

EVIDENCE OF PROGRESS

The floor does not depend on one coalition, firm, model, donor, or resource windfall. Assets and institutions remain capable of another full replacement cycle.

PAUSE OR RECOVER IF

Cut discretionary expansion, align permanent promises with durable revenue, rebuild reserves, and diversify any newly dominant dependency.

2100

ILLUSTRATIVE ·
NOT A
FORECAST

GATE 5 MATURITY

Broaden the Bright Commons where evidence supports it

This is a planning horizon for widespread maturity, not a claim that the planet crosses one finish line together.

BUILD OR CHANGE

Maintain a rights-protected essential tier, differentiated markets, plural provision, ecological budgets, peaceful policy reversal, open opposition, and transparent allocation of genuinely scarce land, attention, prestige, risk, and time.

EVIDENCE OF PROGRESS

Systemic deprivation and coerced submission are absent in qualifying jurisdictions; planetary pressures move within safe bounds; global gaps keep narrowing; recovery remains credible.

PAUSE OR RECOVER IF

No final gate guarantees against decline. A society returns the failing service to the last gate it can pass and repairs the cause without sacrificing a group.

The Bright Commons keeps the future open

Sustainability is the solved condition for durable expansion, not austerity or a moral ceiling. Earth’s floor is the first obligation, not humanity’s final resource horizon; regeneration is the aspiration and resilience is a funded institutional duty.

2100+

ILLUSTRATIVE ·
NOT A
FORECAST

GATE 5 MAINTAINED

GATE 6 OPTIONAL

Maintain, recertify, and keep the future open

Maintenance keeps abundance durable while disciplined exploration keeps humanity’s resource horizon open.

BUILD OR CHANGE

Recertify scale-up annually, update lifecycle accounts and ecological budgets, renew capital and competence, and pursue optional Solar System resource projects only when delivered cost, safety, rights, governance, debris, contamination, planetary-protection, and lifecycle tests pass.

EVIDENCE OF PROGRESS

Capacity, access, rights, sustainability, and resilience remain jointly acceptable. Interstellar and galactic resource frontiers remain open far-horizon possibilities under known physics—not forecasts, dependencies, or promised resource dividends. “Unknown” still cannot pass.

PAUSE OR RECOVER IF

Pause, repair, or retire. Preserve the floor, rights, and the power to stop. No one is expendable.

Basis and boundaries

This timeline is an editorial planning scenario derived from Gates 0–6 of *No One Is Expendable*. It predicts no arrival date for fusion, artificial general intelligence, general-purpose robots, asteroid mining, or any other speculative capability. Solar System projects are optional and project-specific; wider galactic possibilities are neither a forecast nor a dependency.

Gates 0–4 pass module by module

Gate 5 is jurisdiction-wide and maintained

Gate 6 is an optional off-world resource frontier

Authorization for further scale-up requires annual recertification

Read the source architecture

The paper defines the tests, actors, financing, failure branches, evidence standards, and 56-source-note foundation behind this public timeline.

[Full paper and mini-site](#)

[Visual journey](#)

[Evidence, limits, and further reading](#)

Secure the floor. Solve sustainability. Fund resilience. Regenerate and expand. Keep the frontier optional. **No one is expendable.**