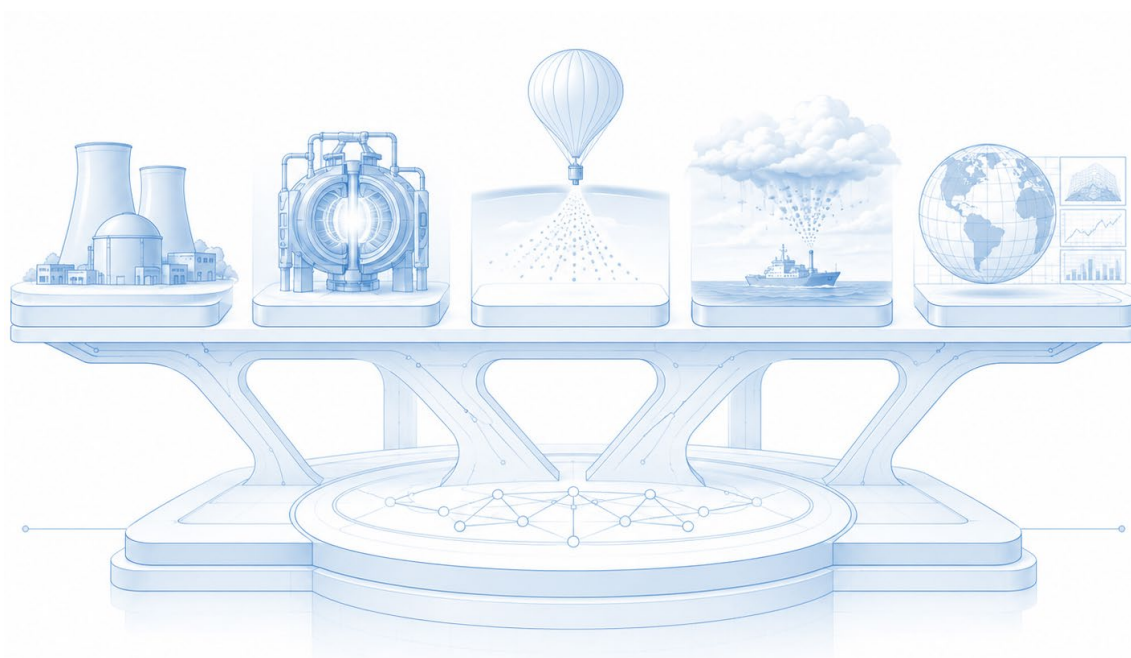


Climate Moonshot Portfolio Common Framework

Common Governance, Procurement & Agreements

OPEN SOURCE • FINANCIAL CONTROLS • INDEPENDENT REVIEW



By Glenn Weinreb

Developed with assistance from ChatGPT

Common framework files are free to copy and modify under the CC BY 4.0 open-source license.

August 21, 2026 | v2j | Copyright © 2026 by Glenn Weinreb | www.APlanToSaveThePlanet.org

Executive Summary

Purpose. We define “Climate Moonshot” as conducting R&D to the extent required to solve the climate problem. Doing so requires a portfolio of R&D initiatives, an example of which is at www.APlanToSaveThePlanet.org. The document you are reading is the Common Framework for those initiatives. It establishes shared rules for governance, procurement, data rights, independent review, and oversight. All documents are [open-source](#) and may be freely viewed, used, and modified.

Why one common framework. The portfolio now contains multiple proposed \$1 billion, five-year R&D programs. They use similar structures: a Funding Source provides restricted funds to a competitively selected Managing Organization; a dedicated program office issues contracts, purchase orders, grants, and task orders; independent scientific, safety, management, and audit functions review the work; and funding is released through evidence-based gates. Repeating those provisions in every technical proposal creates unnecessary length and can produce inconsistent rules.

What remains program-specific. Each proposal should retain its technical mission, budget, development or experimental plan, purchase orders, purchase-order recipients, technical stage gates, safety requirements, cost models, top papers, top researchers, and initiative-specific scientific or engineering advisory panel. The common file governs the shared administrative layer unless a program-specific schedule explicitly overrides it.

How the framework is used. A Funding Source and Managing Organization would convert the planning language in this document into jurisdiction-specific agreements and attach program-specific schedules for scope, budget, milestones, technical requirements, data rights, safety, reporting, and closeout. The common file is a reference architecture, not legal advice and not a final contract.

Success criterion. The common framework is successful if every dollar can be traced to an approved mission and accepted deliverable; technical teams cannot certify their own work without independent challenge; failures and negative results are visible; sponsor-funded foreground work is reusable rather than locked away; reserve funds remain controlled; shared assets are not double-funded; and the Funding Source can redirect, suspend, or replace performers without losing the public-benefit work product.

Program at a Glance

The common framework is intended to be incorporated by reference into current and future Climate Moonshot proposals. It standardizes the administrative and contractual spine while leaving technical design under the relevant initiative.

Item	Common framework
Applies to	Current and future Climate Moonshot R&D initiatives unless a program-specific schedule states otherwise.
Funding chain	Funding Source (FS) -> Managing Organization (MO) -> competitively selected research, engineering, facility, and service recipients.
Common content	Governance; project management; funding-source requirements; procurement; stage gates; reserve; open-source/data/IP; financial controls; independent review; management oversight; master agreements.
Program-specific content	Technical mission; \$1B allocation; experiments or development areas; POs; recipients; technical criteria; scientific/engineering panels; detailed safety and regulatory requirements; cost models.
Decision principle	Fund the next increment only when evidence justifies it; redirect or stop work that no longer supports the mission.
Open technical record	Sponsor-funded foreground data, code, CAD, models, test results, calibration, bills of material, failure reports, and documentation open by default, subject to narrow justified restrictions.
Reserve rule	Central reserve remains under Funding Source control and is not automatically assigned to contractors or charged overhead while unused.
Shared-asset rule	Fund each shared physical or digital asset once; other initiatives pay only incremental requirements, adaptation, operating time, or consumables.

Table of Contents

Executive Summary	2
Program at a Glance	3
Table of Contents.....	4
Climate Moonshot Videos	5
Climate Moonshot Portfolio Common Framework.....	7
Portfolio-Wide Operating Principles.....	8
Governance and Organizational Structure	9
Project Management	10
Funding Source Requirements	11
Procurement and Purchase Order Standards.....	12
Stage Gates, Reserve, and Change Control	13
Open Source, Data, and Intellectual Property.....	14
Financial Controls, Shared Assets, and Avoiding Double Funding	15
Independent Review, Safety, Conflicts, and Audit	16
Management Advisory Panel.....	17
Agreements.....	18
How Individual Proposals Incorporate This Framework	22
Common Definitions	23
Climate Moonshot Portfolio	24

Climate Moonshot Videos

The following videos summarize climate moonshot.

Climate Strategy

The Climate Solution is More R&D [#19]

<https://www.youtube.com/watch?v=LGPgiIDZoDA>

Do We Need a \$10B Climate Moonshot? [#20]

<https://www.youtube.com/watch?v=ihTGioEKrns>

What is The World's Climate Plan? [#21]

<https://www.youtube.com/watch?v=9-nU31iTTUo>

Climate Science

The Science of Global Warming [#7]

<https://www.youtube.com/watch?v=Por9aWKLdc4>

The Uncertainty of Climate Change [#8]

<https://www.youtube.com/watch?v=HoqX7uBaeKU>

Stratospheric Aerosol Injection

Reflecting Sunlight [#9]

<https://www.youtube.com/watch?v=AJ-ddFDiA4w>

Can Air Pollution Save the Planet? [#10]

<https://www.youtube.com/watch?v=p402hv9tSDA>

Nuclear Fission

Low-Cost Nuclear Power [#11]

<https://www.youtube.com/watch?v=AIlbovU67wI>

Automated Nuclear Power Construction [#12]

<https://www.youtube.com/watch?v=af00cy1l7Qo>

How to Make \$10 Trillion Dollars [#13]

<https://www.youtube.com/watch?v=4gqmKGV1h5Y>

Nuclear Fusion

Fusion Moonshot [#14]

<https://www.youtube.com/watch?v=CvZzGHSugy4>

Climate Moonshot Portfolio Common Framework

The portfolio (i.e. set of proposals) should operate as a family of independent technical programs using one shared governance and contracting architecture. The common layer should be stable enough that a funder can understand the rules once, while each proposal remains free to use the scientific, engineering, procurement, and safety structure appropriate to its technology.

Topic	Common file	Individual proposal
Mission and technical hypothesis	Portfolio-level mission and operating principles.	Technology-specific problem statement, assumptions, targets, and boundaries.
Budget	Common rules for reserve, overhead, allowability, reporting, and change control.	Detailed \$1B work-package allocation and annual profile.
Development / experiments	Generic stage-gate and evidence rules.	Specific phases, campaigns, test articles, model challenges, and technical gates.
Procurement	Competition, conflicts, payment, acceptance, data-rights, audit, and flow-down rules.	Actual POs, recipients, quantities, sites, technical acceptance criteria, and vendor strategy.
Governance	FS/MO structure, independent oversight, management board, audit, conflicts, succession.	Technology-specific scientific/engineering and safety bodies.
Open source / IP	Default licenses, source-file requirements, background-IP schedule, release process.	Any program-specific controlled data, export restrictions, or regulatory exceptions.
Agreements	Master FS-MO and MO-recipient term sheets.	Program schedules attached to the master agreements.
Research community	Common independence and recusal rules.	Top papers, researchers, organizations, and initiative-specific panel membership.

Recommended incorporation language. An individual proposal can include a short chapter stating that governance, procurement, open-source, financial-control, audit, management-oversight, and agreement terms are governed by this common framework except where the proposal identifies a program-specific exception. This avoids repeating many pages while preserving the ability to tailor nuclear, aviation, marine, atmospheric, fusion, or climate-model requirements.

Portfolio-Wide Operating Principles

The common operating philosophy should favor measured public benefit over institutional continuity or predetermined conclusions. A Climate Moonshot is an R&D surge intended to answer decision-relevant questions, not a promise that a preferred technology will succeed.

- **Mission before institution.** The program exists to answer the stated climate and engineering questions, not to preserve a particular organization, laboratory, company, or concept.
- **Evidence before scale.** Large fabrication, field campaigns, or long-duration demonstrations follow requirements review, risk reduction, independent review, and measurable readiness evidence.
- **A credible NO is a successful result.** If an architecture cannot meet cost, safety, reliability, environmental, or scientific requirements, the program should document why and redirect funds.
- **Compete alternatives early.** Maintain competing technical approaches long enough to obtain discriminating evidence; down-select after measurement rather than reputation.
- **Separate design from evaluation.** The team building a machine, model, experiment, or data product should not be the only team certifying its performance.
- **Open results by default.** Public-benefit funding should create reusable knowledge, designs, software, data, and methods rather than unnecessary vendor lock-in.
- **Publish failures and null results.** Negative findings, rejected hypotheses, failed tests, nonconformances, and model misses are part of the deliverable.
- **Use existing infrastructure where efficient.** Strengthen proven aircraft, vessels, labs, model centers, test facilities, and supply chains rather than duplicate them without a reason.
- **Control conflicts structurally.** Recusal, independent approval, direct audit access, and separation of authorization from execution are preferable to relying on personal trust.
- **Design for transition.** Data, contracts, equipment, source files, credentials, and supplier relationships must be transferable if a key person, contractor, or Managing Organization is replaced.

Governance and Organizational Structure

The default structure should separate fiduciary management, technical execution, independent evaluation, and sponsor decision rights. No single technical performer should control the budget, evaluate its own work, approve its own safety case, and decide whether to scale.

Entity	Primary responsibility
Funding Source (FS)	Sets mission, maximum commitment, restrictions, tranche conditions, major reserved decisions, and appointment/termination rights.
Management Advisory / Agreement Oversight Board	Protects the sponsor-fiduciary relationship; reviews MO performance, procurement integrity, finance, conflicts, reserve, succession, and corrective actions.
Managing Organization (MO)	Employs the program office; ring-fences funds; maintains the integrated baseline; issues awards; accepts deliverables; controls contracts; reports; enforces remedies.
Program Director / PMO	Runs daily execution, systems engineering, procurement, finance, schedule, risk, configuration, data, safety coordination, and contractor integration.
Scientific / Engineering Advisory Panel	Reviews mission, alternatives, technical requirements, experiment or prototype design, value of information, model/test evidence, and gate readiness.
Independent Safety / Ethics / Environmental Authority	Has direct reporting and stop/hold authority for activities requiring heightened safety, environmental, community, ethics, or controlled-perturbation review.
Financial / Procurement Audit Function	Reviews allowability, commitments, invoices, competition, related parties, change orders, assets, indirect costs, fraud risk, and closeout.
Independent Test / Model Evaluation Units	Verify performance using protected data, independent instruments, metrology, cost estimates, model challenges, or witnessed acceptance tests.

Reserved decisions. The MO should manage ordinary execution, while the FS or its independent oversight body retains approval of material mission changes, large reallocations, reserve releases, major sole-source awards, conflicted self-awards, changes in open-data rights, entry into the highest-risk demonstrations, and authorization of any follow-on deployment or Phase II program.

Project Management

The Managing Organization should be selected competitively for fiduciary strength, program management, procurement, audit, engineering or scientific coordination, safety governance, international contracting, data stewardship, and conflict-of-interest controls. An established independent nonprofit applied-research or research-management institute is a strong default, but no organization should be presumed selected in advance.

Candidate form	General suitability	Reason
Established nonprofit applied-R&D institute	Strong default	Good balance of public-purpose mission, audited systems, multidisciplinary program management, contracting flexibility, and independence from one technical product.
Foundation	Strong as Funding Source; weaker as operator	Can set purpose, restrictions, and milestones but often should not build a large procurement and engineering/science operating organization internally.
University	Excellent recipient; conflicted as sole manager	Strong technical performer, but may become both judge and beneficiary when faculty and affiliated centers compete for large awards.
Government agency or laboratory	Potentially excellent under public authorization	Essential technical partner; private-funder control, international contracting, and procurement flexibility may be limited.
Commercial prime	Strong execution; weaker neutrality	Can build major systems but has incentives to steer work toward itself, affiliates, proprietary platforms, or future sales.

Selection method. The FS should run a paid short competition among qualified organizations or consortia. Evaluation should include leadership, comparable programs, audited financials, procurement systems, project controls, insurance, conflicts, open-science policy, data-security capability, international reach, management cost, succession plan, and willingness to accept direct independent oversight.

Program office. A \$1B initiative will typically require a dedicated PMO rather than treating management as a side function. Staffing should be sized to complexity and may include a program director, deputy, workstream project managers, systems engineers, procurement and contracts staff, finance and project-controls staff, safety/environmental leads, data/open-source staff, legal/compliance support, communications, and transition/asset management.

Funding Source Requirements

We assume the Funding Source aims to maximize climate benefit per dollar spent, as opposed to maximize financial return on an investment. This is sometimes referred to as “climate money”, and it differs from the traditional investment portfolio. Sources of climate money include high-net-worth individuals, foundations, and governments.

To maximize climate benefit, the Funding Source should trust enforceable controls and transparent evidence rather than the reputation of the Managing Organization or technical recipients. The requirements below are intended to be common minimums; individual proposals can add stricter nuclear, aviation, marine, environmental, export-control, ethics, or scientific requirements.

Requirement	Common rule
Restricted use / tranches	Funds only for the approved mission. Commit a maximum amount but release later tranches only after approved baselines, performance, audits, and gate evidence; unused or disallowed funds remain with or return to the FS.
Independent review	FS-appointed reviewers receive unfiltered access to relevant contractors, data, tests, meetings, facilities, and records.
Competition / payment	Competition by default; documented exceptions, price/cost analysis, and conflict checks. Tie payment to accepted deliverables, test results, data packages, and closure of material deficiencies.
Open deliverables / IP	Editable source files, raw and calibrated data, code, models, CAD, tests, uncertainty and documentation delivered on schedule; background and third-party restrictions identified before award.
Overhead / fee	Negotiate transparent management fee and pass-through treatment; prohibit hidden markup, double charging, and overhead on unused reserve.
Audit / financial control	Separate ledger/cost center, commitment control, invoice validation, asset register, records retention, annual audit, and FS/auditor access.
Conflicts / ethics	Annual and transaction-specific disclosure, recusal, affiliate register, gifts/influence limits, whistleblower process, and independent investigation rights.
Safety / stop work	Qualified independent authorities have access, hold-point and stop-work powers appropriate to the program.
Transition	FS can obtain data, software, tooling, sponsor-funded equipment, contracts, credentials, and records if a recipient or MO is replaced.

Procurement and Purchase Order Standards

Prompt to AI: What procurement rules should apply to purchase orders, contracts, grants, cooperative agreements, task orders, and facility agreements across the portfolio?

Response From AI:

The procurement system should select the contractual form that fits technical risk rather than force every activity into the same instrument. Hardware fabrication, university research, aircraft time, ocean cruises, model development, metrology, and independent audit may require different forms, but the mission, deliverable, data, conflict, audit, and acceptance obligations should flow down consistently.

- Define requirements, interfaces, assumptions, exclusions, deliverables, locations, acceptance evidence, and responsibility matrix before award.
- Seek multiple qualified bidders when practical; document sole-source exceptions and preserve written evaluation, conflict, and price/cost records.
- Select fixed-price, cost-reimbursement, milestone, grant, task-order, or hybrid forms according to technical uncertainty and ability to define acceptance.
- Flow down open-data, audit, safety, quality, cybersecurity, conflict, record-retention, and transition obligations to material subcontracts.
- Retain meaningful final payment until required source files, raw data, calibration, code, documentation, accepted tests, and closeout are delivered.
- Require written change authorization and separate builders from final acceptance where practical through independent witnesses, metrology, cost audit, or replication.

Illustrative milestone	Payment	Evidence
Award and approved plans	10%	Baseline schedule; requirements; quality, safety, cyber, data, configuration, insurance, and supplier plans.
Preliminary design / research readiness	20%	Controlled design or protocol; hazards/value-of-information analysis; interfaces; cost/schedule update; independent findings.
Detailed design / execution authorization	30%	Approved drawings/protocols, software/configuration baseline, procurement package, test plan, permits, and readiness evidence.
Integrated demonstration / validation	25%	As-built/as-run records, calibration, required performance evidence, model/test comparison, reliability or replication, independent evaluation.
Final acceptance and open handoff	15%	Accepted source files, raw/processed data, code, documentation, training, IP schedule, asset record, deficiencies closed.

Stage Gates, Reserve, and Change Control

Prompt to AI: Describe a common stage-gate framework and how contingency or technical reserve should be controlled.

Response From AI:

The stage-gate framework should answer one question repeatedly: what evidence justifies spending the next increment? Each initiative can define technology-specific gates, but the common logic should remain consistent.

Common gate	Required evidence before major commitment
G0 - Mission and alternatives	Decision question, boundaries, alternatives, initial economics/value of information, legal/safety constraints, open-output plan.
G1 - Requirements / baseline	Controlled requirements, interfaces, reference cases, schedule, budget, risk register, procurement strategy, measurement/acceptance plan.
G2 - Preliminary design / experiment readiness	Competing concepts, risk-reduction results, preliminary hazards, model predictions, cost/schedule update, independent review.
G3 - Major fabrication / field authorization	Detailed design or protocol, permits/approvals, suppliers, configuration, instrumentation, data plan, failure recovery, readiness review.
G4 - Integrated test / demonstration	Subsystem qualification, open deficiencies, safety/environmental status, independent witness plan, credible success/failure criteria.
G5 - Reliability / replication	Repeated performance, independent replication or validation, cost/lifecycle evidence, uncertainty, failure record, remaining technical debt.
G6 - Closeout / Phase II decision	Accepted archive, audited costs, quantified results, unresolved risks, transition package, and explicit proceed/redirect/stop recommendation.

Reserve and change control. Technical and schedule reserve should be held or controlled centrally by the FS and not allocated pro rata to contractors. A reserve draw should identify root cause, alternatives, independent review, revised baseline, accountable owner, and acceptance test. Material mission, budget, safety-boundary, open-data, shared-asset, or gate changes require written change control that preserves both original and revised baselines.

Open Source, Data, and Intellectual Property

Prompt to AI: What should the portfolio-wide open-source and intellectual-property policy require?

Response From AI:

The default objective is a durable public technical record that can be independently reproduced, modified, competitively manufactured, maintained, and extended. Open-source policy should apply to the form needed to reuse the work, not merely to a PDF summary.

Output	Default delivery / right
Reports and publications	Public release under CC BY 4.0 or another sponsor-approved open license.
Raw and calibrated data	Open, documented, machine-readable formats with metadata, uncertainty, provenance, and calibration records.
Software / scripts / model configuration	Source code, build/run instructions, dependencies, configuration, tests, version history, and suitable open-source license.
CAD / drawings / interface specifications	Native editable files plus neutral exchange formats, bills of material, tolerances, interface-control documents, and revision history.
Test and experiment records	Protocols, as-run settings, logs, environmental conditions, failures, nonconformances, corrective actions, and acceptance evidence.
Cost / lifecycle evidence	Accounting boundaries, quantities, vendor assumptions where releasable, uncertainty, sensitivity, and enough detail for independent reconstruction.
Foreground IP	FS receives ownership or broad perpetual, irrevocable rights sufficient for public release, modification, competition, manufacture, maintenance, and transfer, as appropriate.
Background IP	Identified before award with license terms; protected only to the extent necessary; must not silently prevent the sponsor-funded deliverable from being used.

Permitted restrictions. Withholding should require a documented legal, safety, security, privacy, export-control, sanctions, protected personal-data, pre-existing background-IP, or similar legitimate basis. Restrictions should be narrow and reviewed. Open obligations include failed prototypes, null results, model misses, calibration failures, abandoned concepts, and cost estimates that invalidate the original hypothesis.

Financial Controls, Shared Assets, and Avoiding Double Funding

Prompt to AI: What common financial controls should apply, and how should shared assets across multiple Climate Moonshot initiatives be handled?

Response From AI:

A multi-program portfolio can save money by sharing aircraft, instruments, digital systems, heavy handling equipment, model infrastructure, metrology, test sites, procurement expertise, and data platforms. The same opportunity creates a double-funding risk, so every shared capability should have asset-level accounting and one explicit lead budget; other initiatives pay only incremental adaptation, operating time, consumables, or added requirements.

Control	Portfolio rule
Separate ledger / cost centers	Each initiative and major work package has identifiable commitments, actuals, forecasts, reserve, assets, and indirect costs.
Commitment control	Report signed obligations and forecast cash in addition to cash already spent; prohibit commitments above authorized ceilings.
Invoice validation	Match invoices to contract terms, labor/material evidence, milestones, receiving reports, and accepted technical progress.
Asset register	Record owner, custodian, funding source, acquisition cost, serial/configuration, location, condition, restrictions, utilization, maintenance, and disposition.
Shared physical assets	Assign one lead budget to purchase/develop the asset; other programs pay only incremental adaptation, operating time, consumables, added tests, or requirements.
Shared software/data	Maintain one common interface and repository where practical; allocate incremental feature work transparently rather than financing parallel stacks.
Common facilities	Use documented utilization rates and life-cycle budgets; avoid buying expensive platforms without a multi-year utilization, maintenance, access, and disposition plan.
Overhead / pass-through	Apply only approved rates; prohibit layered institutional markup that charges the same management burden multiple times through subawards.

Independent Review, Safety, Conflicts, and Audit

Prompt to AI: What independent checks should be common across the portfolio, and which conflicts should be prohibited or firewalled?

Response From AI:

Independence should be created through contracts, reporting lines, data access, and decision rights. A reviewer paid by the builder and unable to communicate directly with the Funding Source is not fully independent for high-value acceptance or safety decisions.

Risk	Common separation / control
Technical self-certification	Prototype or model developer does not solely certify final performance, uncertainty, reliability, or economic claims.
Safety self-approval	Release operator, aircraft/vessel builder, reactor/fusion developer, or hazardous-process contractor does not control final independent safety authorization.
Procurement self-dealing	MO or affiliate technical awards require competition or explicit independent and FS approval; voting members recuse from awards benefiting their institutions.
Data exclusion	Instrument vendor or model developer does not unilaterally decide which adverse data are excluded from the record.
Cost optimism	Major economic claims receive independent cost/schedule reconstruction using consistent boundaries and uncertainty.
Environmental / ethics conflicts	Teams advocating or executing a controlled perturbation do not control the environmental, ethics, public-engagement, or final scale-up decision.
Audit dependence	Financial and procurement auditors report to the FS or an independent board committee, not solely to the MO CFO or procurement head.
Retaliation / hidden failures	Protected whistleblower, non-retaliation, incident-reporting, complaint, and independent-investigation processes.

- Independent reviewers should receive the raw or source-level evidence needed to reproduce a claim, subject to legitimate controlled-information rules.
- Material findings should be written, graded by significance, assigned to an accountable owner, and tracked to closure or explicit acceptance of residual risk.
- Dissenting technical views should be preserved rather than forced into an artificial consensus.
- Stop-work or hold-point authority should be explicit for serious risks; audits should cover finance, procurement, project controls, open-data compliance, cybersecurity, safety/quality, assets, and transition as relevant.

Management Advisory Panel

Prompt to AI: If a separate panel oversees the agreement between the Funding Source and Managing Organization, who should serve and what should it review?

Response From AI:

Technical excellence does not prevent cost growth, procurement failure, weak controls, conflicts, safety-culture erosion, or an organization protecting itself instead of the mission. A separate management panel or board audit committee should therefore oversee the Managing Organization. Members should not be employees of major technical contractors.

Seat	Illustrative profile	Primary responsibility
Independent chair	Former leader of a large public-benefit R&D or infrastructure program	Governance, mission integrity, decision quality, escalation, relationship with FS.
Megaproject / program executive	Former owner-side aerospace, nuclear, chemical, marine, energy, or infrastructure executive	Integrated baseline, interfaces, commissioning/demonstration strategy, transition.
Acquisition / grants expert	Former senior procurement, grants, inspector-general, or contracting professional	Competition, agreements, change orders, self-awards, allowability, records, remedies.
Audit / finance expert	CPA, audit-committee, endowment, public-fund, or project-finance oversight leader	Internal control, cash, forecasts, reserve, indirect costs, fraud risk, reporting.
Safety governance expert	Independent safety-culture / high-hazard program professional	Stop-work independence, incident reporting, retaliation protection, corrective action.
Legal / IP / export / cyber expert	Counsel experienced in R&D, open source, international transactions, IP, cybersecurity and export controls	Data rights, controlled information, licenses, liability, insurance, security, transition rights.
Community / environment / ethics expert	Independent expert appropriate to program impacts and affected communities	Transparency, public process, environmental commitments, complaints, trust.

Panel responsibilities. Review annual plans, delegated authorities, staffing/compensation principles, indirect costs, audits, risk appetite, cost/schedule forecasts, reserve draws, major awards, claims, incidents, whistleblower matters, conflicts, public-data restrictions, corrective actions, and succession. The panel may commission investigations and recommend withholding, redirecting, or terminating funds; it does not direct daily engineering or override technical or safety authorities.

Agreements

Prompt to AI: Provide common planning term sheets for (A) the Funding Source to Managing Organization agreement and (B) the Managing Organization to a purchase-order, contract, grant, or task-order recipient. These should be generic across the portfolio, with program-specific schedules attached later.

Response From AI:

These are planning term sheets, not legal advice and not complete contracts. Final agreements must reflect party identities, jurisdiction, tax status, public or private funding, regulatory regime, labor, environmental requirements, insurance, intellectual property, cybersecurity, export controls, sanctions, privacy, facility rules, and the technical risks of the specific initiative. The core principle is an enforceable chain: every material promise the MO makes to the Funding Source should flow into downstream awards when relevant.

Agreement A: Funding Source to Managing Organization

Term	Recommended common provision
Purpose and restricted use	Manage the approved Climate Moonshot initiative for the public-benefit R&D mission stated in the attached program schedule; use funds only for authorized awards and administration; return unused or disallowed funds.
Term and funding tranches	Nominal five-year term plus closeout/transition; maximum commitment stated, but annual or gate-based tranches and reserve releases require approved evidence.
Program plan and budget	Attach controlled mission, work breakdown, technical baseline/reference cases, integrated schedule, budget, performance metrics, success/failure criteria, exclusions, risk register, procurement plan, and annual operating plan.
Governance and appointments	FS approves or has defined rights regarding Program Director, key fiduciary staff, independent panel chairs, safety/quality authorities, and material replacements.
Decision rights	MO manages daily execution; FS reserves material mission changes, large reallocations, reserve releases, major sole-source or related-party awards, changes in public-data rights, highest-risk demonstrations, and Phase II/deployment decisions.
Procurement	Documented competition by default; written exceptions; cost/price analysis; conflict disclosures; related-party controls; flow-down of mission, data, safety, quality, audit, transition, and open-access terms.
Financial controls	Restricted account or cost centers; applicable accounting standards; commitment control; timekeeping/allowability as relevant; invoice validation; asset register; monthly dashboard; annual independent audit; FS access.
Overhead and fee	State approved management fee, indirect-cost treatment, pass-through rates and caps; no hidden markup, double charging, or overhead on unused reserve.

Term	Recommended common provision
Open results and data rights	Worldwide, durable rights to sponsor-funded foreground outputs sufficient for public release and reuse; native source files and raw data required; background IP identified before award; restrictions require written basis.
Safety, quality, environment and ethics	Establish independent authorities and hold/stop rights appropriate to the activity; incidents, near misses, environmental/ethical concerns and corrective actions reported through defined channels.
Cybersecurity and controlled information	Risk-based security, access control, data classification, incident notification, export/sanctions compliance, secure collaboration and secure closeout.
Records and transparency	Retain procurement, finance, technical, test, data, safety, quality, conflict, governance and change-control records; provide FS read access and public index where lawful.
Conflicts and ethics	Annual and transaction-specific disclosure, recusals, gifts and influence restrictions, affiliate register, whistleblower/non-retaliation mechanism, independent investigation rights.
Reporting	Monthly financial/project dashboard; quarterly technical and financial report; annual public report; immediate notice for serious incidents, data loss, material claims, security events, forecast overruns or inability to meet mission.
Reserve	Held or controlled by FS; release only after documented root cause, alternatives, independent review, revised baseline, accountable owner and acceptance criteria.
Key personnel and succession	Identify key staff, time commitment, replacement qualifications, removal rights, transition support, and continuity plan.
Independent review and audit	FS and appointed reviewers have direct, timely access to relevant contractors, facilities, raw/source data, tests, meetings and records; MO responds to findings and tracks closure.
Insurance and liability	Coverage and allocation appropriate to professional, worker, property, cyber, environmental, aviation, marine, nuclear, chemical, test-site or other risks; lawful indemnity and caps determined by counsel.
Performance and remedies	Milestones, acceptance, cure/corrective action, payment withholding, recompetition, step-in, suspension, termination, repayment/disallowance, replacement of personnel or MO, and damages where appropriate.
Termination and transition	FS may terminate for convenience or cause; MO preserves work, transfers contracts/data/software/equipment/records and credentials, assists successor, and prevents lock-in.
Disputes and governing law	Executive escalation, mediation/arbitration or courts, governing law and venue; safe and lawful work continues during disputes when appropriate.

Agreement B: Managing Organization to Recipient

Term	Recommended common provision
Statement of work	Functional or research requirements, controlled deliverables, assumptions, exclusions, interfaces, quantities, locations, standards, responsibility matrix and acceptance evidence attached.

Term	Recommended common provision
Technical / scientific baseline	Incorporate applicable reference design, protocol, model configuration, controlled interfaces, operating domain, measurement plan, uncertainty requirements, data format, and acceptance criteria.
Schedule and milestones	Baseline dates, review gates, test/campaign windows, long-lead items, dependencies, owner-furnished information, critical path and recovery obligations.
Pricing and payment	Choose fixed-price, cost-reimbursement, grant, time-and-material or hybrid form by risk; define allowable costs, fee, ceilings, invoices, retainage and milestone acceptance.
Cost and schedule control	Report actuals, commitments, forecast, physical progress, critical path, risks, changes and estimate at completion; early notice of variance and claim.
Design / protocol / configuration control	Requirements traceability, document control, software/model versioning, interface register, change requests, as-built/as-run configuration, and reproducibility package.
Quality and traceability	Approved quality/data-quality plan; supplier controls where relevant; calibration, material/configuration traceability, nonconformance, corrective action and audit access.
Safety / environment / test conduct	Hazard analysis, permits, qualified personnel, procedures, emergency response, stop-work, incident/near-miss reporting, test/campaign authority and lessons learned.
Testing / validation / acceptance	Specify performance or scientific metrics, uncertainty, baselines/controls, independent witnesses, protected validation data where useful, deficiencies, retest/replication obligations and acceptance authority.
Data and intellectual property	Foreground data/designs/code delivered in editable formats under agreed public rights; background and third-party IP schedules; no undisclosed proprietary dependency; source escrow/continuity where needed.
Open publication	Prompt publication after narrow legal/safety/security/privacy/export/background-IP review; no clause intended mainly to suppress failures, null results, unfavorable comparisons or cost growth.
Personnel and facilities	Identify key personnel, qualifications, facilities, special equipment, access, training and substitution rules.
Subcontracting / subawards	Consent thresholds, competition where appropriate, conflict disclosure, flow-down of material terms, recipient responsibility for performance and data.
Cyber / controlled information	Security plan, access control, encryption, incident notice, export/sanctions compliance, protection of controlled designs/data, secure return/destruction at closeout.
Reporting	Monthly or campaign-appropriate physical progress, financial status, schedule, risks, changes, failures/nonconformance, data status and corrective action.
Changes and claims	Only authorized changes alter scope, price, schedule, baseline or requirements; documented notice and claim process; unauthorized work at recipient risk.
Warranties / support / reliability	As applicable: design/workmanship warranty, software support, spares, defect correction, field support, reliability growth, obsolescence, documentation and training.
Audit and access	MO, FS, safety/quality authorities and independent reviewers may inspect work, records, facilities, suppliers, tests, data, instruments and relevant systems.

Term	Recommended common provision
Public communications	No claim of sponsor endorsement, commercial readiness, safety/regulatory approval, measured climate effect, product cost, or Phase II authorization without written basis.
Suspension, termination and step-in	Rights for safety, quality, integrity, security, nonperformance, loss of funds, convenience, insolvency, corruption, sanctions, withheld data or transition need; sponsor-funded work in process preserved.
Disputes	Early notice, documented change/claim process, continued safe performance where appropriate, executive escalation and final dispute forum.

Required Agreement Schedules

Schedule	Typical contents
A - Program / Statement of Work	Mission, boundaries, work packages, deliverables, assumptions, exclusions, locations, interfaces, responsibility matrix.
B - Budget / Payment	Ceilings, annual profile, fee/indirect treatment, milestone payments, reserve, invoice evidence, retainage.
C - Milestones / Stage Gates	Reviews, decision dates, success/failure criteria, hold points, independent review, authorization matrix.
D - Data / IP / Open Release	Foreground/background IP, licenses, native formats, repositories, release deadlines, permitted restrictions, escrow/transition.
E - Safety / Quality / Environment / Ethics	Applicable standards, authorities, permits, hazard analysis, incident reporting, stop/hold powers, community/public process.
F - Reporting / Audit / Records	Dashboards, technical/financial reports, audit rights, retention, source-system access, asset register, transparency index.
G - Key Personnel / Organization / Closeout	Named roles, effort, qualifications, reporting lines, substitutions, conflicts and independent bodies; final archive, equipment disposition, credential transfer, supplier continuity, successor support and record preservation.

How Individual Proposals Incorporate This Framework

Prompt to AI: How should existing and future Climate Moonshot proposals refer to this common file, and which repeated chapters can be shortened or removed?

Response From AI:

The recommended approach is to keep a short initiative-specific governance chapter in each proposal, then incorporate the common file by reference. This preserves context for a reader who opens only one proposal while removing repeated contractual text.

Existing chapter in proposal	Recommended treatment
Project Management	Reduce to initiative-specific MO skills, scientific/engineering integrator needs, staffing, local/international requirements, and exceptions; reference common Project Management chapter.
Funding Source Requirements	Replace with a short list of initiative-specific additions; reference common requirements for all generic provisions.
Management Advisory Panel	Reference common panel charter; retain only unusual expertise seats needed for the initiative.
Agreements	Remove repeated generic term sheets; include only program-specific schedules or clauses and reference common Agreement A and Agreement B.
Open source / data clauses embedded elsewhere	Reference the common policy, then state any necessary controlled-data or regulatory exceptions.
Procurement rules repeated in POs	Keep actual PO scope, recipients, milestones and acceptance; reference common procurement and downstream agreement terms.
Climate Moonshot Portfolio	May remain as a short portfolio/link chapter, or reference the common file if the proposal needs to be shorter.
Scientific / Engineering Advisory Panel	Keep in the initiative because expertise and membership are technology-specific.
Top papers / researchers / organizations	Keep in the initiative; these are part of the technical case rather than the common administrative layer.

Suggested reference sentence. “This initiative is governed by the Climate Moonshot Portfolio - Common Governance & Agreements framework for project management, Funding Source requirements, procurement, open-source/data rights, financial controls, independent review, management oversight, and master agreement terms. The provisions below identify initiative-specific additions or exceptions.”

Common Definitions

Prompt to AI: Define the common terms used across Climate Moonshot proposals so the same words mean the same thing in every initiative.

Response From AI:

Term	Common definition
Funding Source (FS)	Government, foundation, consortium, donor vehicle, international institution, or other entity that commits and controls restricted program funding.
Managing Organization (MO)	Entity selected to receive restricted funds, employ the program office, administer awards, maintain fiduciary systems, accept deliverables, enforce terms, and report to the FS.
Program Management Office (PMO)	Dedicated MO team responsible for day-to-day integration of scope, schedule, cost, procurement, risk, interfaces, configuration, data, reporting and transition.
Recipient	Company, nonprofit, university, laboratory, facility, consortium, public body, individual contractor, or other entity receiving an award to perform defined work.
Foreground work	Technical, scientific, software, data, design, documentation, invention, or other work created under sponsor-funded scope.
Background IP	Pre-existing intellectual property or third-party rights identified before award and not created by the funded scope.
Technical / schedule reserve	Funding not committed to baseline recipient scope, controlled centrally to address documented uncertainty, redesign, failures or recovery.
Stage gate	Formal decision point requiring stated evidence before the program commits the next major increment of funding, scale, fabrication, field activity, or risk.
Independent review	Evaluation by a person or organization with reporting, access, financial and conflict protections sufficient to challenge the performer whose work is being reviewed.
Phase II	Any follow-on scale-up, deployment-oriented, licensed, commercial, regional, fleet, plant, or other program authorized separately after the initial R&D phase; completion of Phase I does not automatically authorize Phase II.

Climate Moonshot Portfolio

We define “Climate Moonshot” as doing R&D to the extent required to solve the climate problem. This would require a portfolio of proposals, an example of which is below. These are [open-source](#), and therefore can be freely viewed, used, and modified.

Common Files

Climate Moonshot Portfolio Website

LINK: <https://www.aplantosavetheplanet.org/cmp>

Climate Moonshot Portfolio Common Framework

PDF: https://www.ma2life.org/g/cm/cmp_common_framework.pdf

DOCX: https://www.ma2life.org/g/cm/cmp_common_framework.docx

FILES: <https://drive.google.com/drive/folders/1-Il7mgbxKrJsN3YSZP9Rokizj5rbGo0E>

Nuclear Fission

Automate Nuclear Power Site Construction - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_fission_automate_site_construction.pdf

DOCX: https://www.ma2life.org/g/cm/cmp_fission_automate_site_construction.docx

FILES: https://drive.google.com/drive/folders/1HWNJZ2X3jgx4dXn_7VPq25ljJulG1aS

Co-locate Chemical Processing with Nuclear Power - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_fission_chemical_processing.pdf

DOCX: https://www.ma2life.org/g/cm/cmp_fission_chemical_processing.docx

FILES: <https://drive.google.com/drive/folders/1-G2IHTErHOETdfpCX-i8Nin0khOIEBru>

Nuclear Fusion

Economic Fusion Moonshot - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_economic_fusion_moonshot.pdf

DOCX: https://www.ma2life.org/g/cm/cmp_economic_fusion_moonshot.docx

FILES: <https://drive.google.com/drive/folders/10MfBUhoOICeYbtFnq50ncWDxtCWCEtnu>

Stratospheric Aerosol Injection (SAI)

SAI Reflectivity Plan

PDF: https://www.ma2life.org/g/film/SAI_Reflectivity_Plan.pdf
DOCX: https://www.ma2life.org/g/film/SAI_Reflectivity_Plan.docx
FILES: <https://drive.google.com/drive/folders/1Jf8jmP38b2P-vj9XTWRLGGMuahuLwxB6>

SAI Experimental Research - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_sai_experimental_research.pdf
DOCX: https://www.ma2life.org/g/cm/cmp_sai_experimental_research.docx
FILES: https://drive.google.com/drive/folders/1KRtdfFEjKmzV5XaxiyzRL4JckPzrF_sM

SAI Equipment Development - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_sai_equipment_development.pdf
DOCX: https://www.ma2life.org/g/cm/cmp_sai_equipment_development.docx
FILES: https://drive.google.com/drive/folders/1B0Sko2M2cl_V-uZcPozD-s0cF8bjV-

Marine Cloud Brightening (MCB)

MCB Reflectivity Plan

PDF: https://www.ma2life.org/g/film/MCB_Reflectivity_Plan.pdf
DOCX: https://www.ma2life.org/g/film/MCB_Reflectivity_Plan.docx
FILES: <https://drive.google.com/drive/folders/1Aoz9vLxKLF4qBw1xnjICfYGXERhTY3rl>

MCB Experimental Research - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_mcb_experimental_research.pdf
DOCX: https://www.ma2life.org/g/cm/cmp_mcb_experimental_research.docx
FILES: <https://drive.google.com/drive/folders/1ItaJh7OQMeZMlnUkArcShi-SGVFmzvD0>

MCB Equipment Development - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_mcb_equipment_development.pdf
DOCX: https://www.ma2life.org/g/cm/cmp_mcb_equipment_development.docx
FILES: https://drive.google.com/drive/folders/1Leivbra4GXj5VIPg_jFZfPN1UQyHgR-S

Global Climate Models (GCM)

Global Climate Model Experimental Research - \$1B Proposal

PDF: https://www.ma2life.org/g/cm/cmp_mcb_equipment_development.pdf

DOCX: https://www.ma2life.org/g/cm/cmp_mcb_equipment_development.docx

FILES: <https://drive.google.com/drive/folders/1i6uLaOv3Yfx9RzXsDUEnDvDjL1E0DI-6>