CRREM Change & Update Protocol

A Governance Framework

CRREM

CARBON RISK REAL ESTATE MONITOR

Document Control

Version	Description	Approved by	Publication Date
1.0	First publication	CRREM Foundation Board	12.01.2026

Document Scope

This Protocol applies to (1) **maintenance;** (2) **development;** (3) **revisions** and (4) **updates** of CRREM documentation, including new CRREM Pathways for additional regions[1] or property types, as well as the CRREM Pathway Methodology, the CRREM Risk Assessment Tool, the CRREM Reference Guide, and Pathway input datasets. This document also outlines key Principles of the CRREM Foundation that the Technical Council must adhere to in its research and development work. Activities within scope include:

- Methodology development and revisions
- Data collection and integration (for example: baseline year selection, whole-building energy intensities, country-average emission factors and their development, energy mix trajectories, and building stock levels and growth rates)
- Classification of changes into low-, medium-, or high-impact based on their material effect on outputs and users
- Change types (Maintenance, Development, Update, Revision) describe the nature of the work; impact levels (low – LI; medium – MI; high – HI) determine the governance route
- Roles (responsible, accountable, consulted, informed) and their decision points
- Publication and approval processes
- Version control and maintenance of the Change Log
- Documentation of governance decisions, including impact classifications and approvals

Any change to this Protocol requires approval by a majority of the CRREM Foundation Board.

[1] Existing regions are those included in the latest published CRREM Pathways. Additional regions are those not yet covered in the published dataset.

Contents

Introduction

This document sets out the protocol for the maintenance, development, revision, and update of the CRREM Pathways and CRREM Pathway Methodology. It defines the sequence of activities from initial proposal through review, consultation, approval, and publication. It also sets expected timelines and update frequency, to ensure that changes are robust, credible, and transparent. The CRREM Pathways should reflect the best available climate science, policy developments[2], and market data, and are therefore refreshed when material inputs change.

Governance of the CRREM Pathways follows the Terms of Reference (ToR) of the Technical Council (TC) and the CRREM Foundation Board (FB). The TC is responsible for technical development and approval in line with this Protocol. The FB provides oversight and confirms adherence to the Protocols outlined in this document where required for ultimate acceptance of work.

CRREM distinguishes between the (1) **change type** (maintenance, development, update, revision) and the (2) **impact level of that change** (LI, MI, or HI). The governance route follows the *impact level*. A change type may fall into a higher or lower impact level classification depending on its material effect on users or output.

Definitions

Maintenance	Describes corrections, clarifications, formatting improvements, or fixes to existing materials. Maintenance does not change the intent of the Methodology or introduce new analytical content. Changes are typically LI but may, in rare cases (e.g. correction of errors affecting numerical outputs), be MI or HI.
Development	Describes the creation of new Pathways (new regions, property types) using the existing Methodology. Development is typically MI, though impact classification may vary depending on the materiality and its effects.
Revision	Changes CRREM's methodological architecture or structural logic (e.g. downscaling methods or budget allocation logic). Revisions alter the conceptual basis upon which Pathways are generated. They are almost always HI.
Update	Refreshes input datasets (carbon budgets, intensities, emission factors, stock) that generate new Pathway outputs while using the same Methodology. Updates are typically HI because

---

[2] Policy developments are only taken into account insofar as they affect projected emission factor trajectories

	they affect thresholds and user benchmarking; however, minor input adjustments may be LI or MI if their effect is limited in scope.
Protocol	Outlines all steps CRREM commits to taking with respect to (1) maintenance; (2) development; (3) revisions and (4) updates of the CRREM Pathways and CRREM Pathway Methodology. For MI & HI workstreams, the Protocol refers to the 9-step workflow. The workstreams follow a simplified track described in the Low-impact Protocol section.
CRREM Tool	The CRREM Risk Assessment Tool implements the officially published CRREM Pathways and enables real estate owners, investors, and asset managers to assess the carbon- and energy-performance of individual buildings or portfolios against the Pathways. It is upgraded as required to reflect new Pathways or methodological adjustments. Methodological changes are governed as HI updates/revisions to *Pathways/Methodology*, not as Tool changes. Tool changes are implementation and UX only.
Low-Impact (LI)	Changes that do not materially affect published Pathway outputs, the CRREM Pathway Methodology, or the functioning of the CRREM Tool beyond cosmetic or textual improvements. LI changes, for example, include non-substantive corrections, clarifications, formatting adjustments, translations, and bug fixes that do not alter analytical content or outputs.
Medium-Impact (MI)	Changes that alter outputs or documentation in a limited or localized way. For example only affecting a subset of countries or property types without materially shifting global allocations. Changes or updates have moderate implications for users, license partners, or the CRREM Tool. These include most Development workstreams, such as adding new regions or property types using existing methods. They follow the full 9-step Protocol and require TC approval and FB confirmation.
High-Impact (HI)	Changes that for example materially impact benchmarking, alter Pathway outputs across countries or property types, modify core methods or architecture, or require major stakeholder communication. HI changes include all revisions and major updates. They follow the full 9-step Protocol and require TC approval and FB confirmation.

Impact Classification Matrix

The table below illustrates **examples of possible combinations** of change type and impact level. These combinations do not prescribe classification; they clarify that **governance is determined by impact level**, while the change type provides descriptive context.

	Low-impact (LI)	Medium-impact (MI)	High-impact (HI)
Maintenance	✓ **Typical case:** non-substantive corrections (e.g. translations, formatting, clarifications) that do not affect outputs	✓ **Rare case:** where maintenance occurs within a wider MI workstream context without materially altering global outputs	✓ **Rare case:** correction of an error that materially affects Pathway outputs
Development	✗ **Not applicable** Development always expands scope and cannot be purely LI	✓ **Typical case:** adding regions or property types using the existing Methodology	✓ **Rare case:** adding new regions/property types forces recalibration of global allocations
Update	✓ **Typical case:** Updates that specifies interpretation of current methodology	✓ **Rare case:** Minor input adjustments (e.g., limited-scope emission factor corrections) that affect only a subset of markets	✓ **Typical case:** refresh of carbon budgets, intensities, or EF trajectories that materially affect thresholds
Revision	✗ **Not applicable** Methodology changes cannot be low-impact	✗ **Not applicable** Methodology changes cannot be medium-impact	✓ **Typical case:** changes to methodological architecture, downscaling logic, or allocation rules

CRREM Risk Assessment Tool: The tool is managed separately (permanently as LI) to enable agile updates and improvements. Updates will be communicated in a timely manner. Any substantial changes intended for publication will be subject to review by the TC. Any change that implies methodological content must first be governed as an MI/HI Pathway/Methodology workstream, and then reflected in the Tool as LI implementation.

Examples of non-substantial changes include:

- Bug fixes (e.g., correcting broken formulas or cell references)
- Updating input years or default reference years
- Formatting adjustments
- Improving labels or clarifying text descriptions
- Updating embedded charts/ graphs

Tool Update Schedule: Tool updates are released on the last day of the first month of each fiscal quarter.

Roles & Responsibilities

CRREM Foundation Board (FB)	The FB sets research priorities, including which CRREM Pathways the TC undertakes for change or update. It provides oversight and confirms that the TC has followed this Protocol and underlying Principles.
CRREM Technical Council (TC)	The TC is responsible for the technical development, revision, and update of the CRREM Pathways and the CRREM Pathway Methodology. The TC acts independently within this Protocol and underlying Principles, strives for scientific rigor and methodological integrity, and oversees related products such as the CRREM Risk Assessment Tool and any future derivatives of the Pathways.
CRREM Staff	The CRREM staff carries out the technical and operational work of the Protocol in a secretariat function. It prepares drafts, collects and validates data, develops and reviews design options, runs consultations, and manages communication and stakeholder engagement, operating under TC and FB direction.
CRREM Regional Advisory Committees (RACs)	The RACs support the FB and TC by providing regional subject-matter expertise, direction, input, and feedback to the development, revision, and update of the Pathways and Methodology.

Protocol Roles	For each step of the Protocol, a "Responsible, Accountable, Consulted, Informed" (RACI) framework is outlined, covering the roles of the aforementioned stakeholders.	
	R – Responsible	• The person(s) / group(s) who do(es) the work • Executes, produces, analyzes, drafts, builds, delivers • There can be multiple Responsible parties
	A – Accountable	• The single owner ultimately answerable for the outcome • Has final decision authority and veto power • Approves the work • Only one Accountable party per task / step
	C – Consulted	• People who must be consulted before decisions or deliverables • Provide input, expertise, requirements • Two-way communication
	I – Informed	• People who must be kept informed • Receive briefings, outcomes, but do not formally influence the work • One-way communication
Terms of Reference (ToR)	Each governing layer has a set of ToR that define role, scope, composition, appointment principles, and decision-making procedures. They govern how the responsibilities above are carried out.	

Principles

Principles in this context set the framework for what falls within CRREM's mandate and, equally, what lies outside the scope of CRREM. They define the conditions that TC outputs must satisfy in order to fall within CRREM's mandate and be eligible for adoption by the CRREM FB.

1. CRREM is aligned with defined temperature change scenarios and their associated carbon budgets.
2. CRREM is developed using a globally systematic methodology, filled, supplemented, or enhanced by local inputs where applicable.
3. CRREM's research process follows transparent, evidence-based methods subject to rigorous internal and external review to ensure methodological integrity.
4. CRREM promotes actual emissions reductions.
5. CRREM is a normative model independent of economic feasibility considerations, including cost-effectiveness, technology affordability, or assumed financial returns.

Low-impact Protocol

LI changes most often refer to Maintenance as defined in the [Definitions](#) section. These changes do not affect Pathway outputs, the Methodology, or input datasets. Examples include typographical corrections, layout refinements, and non-substantive clarifications. Maintenance changes that materially affect Pathway outputs or users must be classified as MI or HI and follow the appropriate governance route for that impact level, as described in the following section. LI changes do not require approval by either the TC or the FB; the CRREM Staff is fully authorized to implement such changes at their discretion and may do so at any time without further governance actions.

LI changes:

- may be made at any time
- are implemented directly by the CRREM staff
- are recorded in the Change Log with a minor version number (e.g. v1.1)
- do not trigger the 9-step Protocol
- do not affect the regular review cycle
- CRREM staff will seek to ensure a reasonable time frame between publication and go-live (effective date)

Medium- and High-impact Protocol

MI and HI changes to the CRREM Pathways and the CRREM Pathway Methodology follow a structured 9-step Protocol grouped into three phases. The first phase, **Review & Input**, explores why a workstream is needed, its expected impact, and which data and stakeholder perspectives are required. The second phase, **Design & Refine**, uses this evidence base to construct and fine-tune concrete technical options. The third phase, **Validate & Publish**, subjects these options to formal review, public consultation, and final approval before they are implemented and communicated to the market. Throughout all phases, the Protocol differentiates between MI and HI workstreams and assigns responsibilities to the CRREM staff, the TC, FB, and RACs accordingly. For a consolidated view of all MI & HI Protocol steps, roles, and decision points, see the [Protocol Overview in Annex I](#). LI changes follow the simplified [Low-impact Protocol](#).

Review & Input Phase (Steps 1-3)

Step 1: Project Proposal & Impact Scan (mandatory for MI and HI workstreams)

Workstreams may be initiated in response to new scientific assessments, user and market feedback, issues raised through Continuous Evaluation, or priorities set by the FB. Each workstream begins with a **Project Proposal & Impact Scan** prepared by the CRREM staff. This document explains why the work is being proposed, what is in scope, and what it may

affect with respect to the CRREM Pathways, the CRREM Pathway Methodology, and related tools and guidance. It also identifies the type of change envisioned and the number of countries, property types, and technical components likely to be involved or affected.

The Proposal outlines initial expectations around timing and required resources (including CRREM staff capacity and any external expertise or contracted support, along with indicative budget and FTE implications). It also describes anticipated implications for users and license partners. At this stage, the Proposal highlights priority data categories that need to be revisited and records key unknowns that must be resolved during subsequent steps.

Once complete, the FB classifies **Project Proposal & Impact Scan,** the proposed workstream and determines whether and/or when it should proceed. Classification assigns both (1) the change type (maintenance / development / update / revision) and (2) its impact level (LI/MI/HI). The impact level determines which governance route applies. The **Project Proposal & Impact Scan** is an internal document and is not published externally.

Step 2: Market Sounding (optional, at TC discretion, for MI or HI workstreams)

The TC may request, where needed, that a market sounding be undertaken before the project is fully initiated. **Market Sounding** is a focused research and engagement exercise managed by the CRREM team on behalf of the TC. It aims to gather early, targeted input from experts, license partners, and other stakeholders on the specific technical questions or problem areas identified in the **Project Proposal & Impact Scan**. This may involve interviews, requests for evidence, surveys, or focused workshops, as proportionate to the impact classification and scope.

The objective of the **Market Sounding** is to surface relevant data constraints, methodological considerations, regional nuances, and market expectations while there is still flexibility to adjust scope and priorities. The CRREM team consolidates all contributions into a structured summary that highlights the main themes, points of agreement and disagreement, and any critical evidence or insights provided. This summary is shared with the TC and, where appropriate, with the FB. It helps refine assumptions, highlight risks, and clarify which issues will require particular attention in subsequent steps. The underlying submissions are not published, but the existence and main findings of the market sounding may later be reflected in consultation or explanatory materials.

Step 3: Project Initiation (mandatory for MI and HI workstreams)

CRREM staff converts the initial proposal into a detailed work program. This document defines the objectives of the workstream and its impact classification; specifies the precise countries, property types, and elements of the CRREM Pathways or Methodology to be addressed; and outlines the key milestones, decision points, and indicative timelines. The **Project Initiation** also maps the data requirements identified in earlier steps; for example: specifying which baseline years, carbon budgets, energy-intensity datasets, emission

factors, energy mix projections, and other key inputs must be adapted or validated over the course of the project. Finally, it describes the planned stakeholder engagement activities for the rest of the process, which may include task forces, workshops, digital Townhalls, and public consultation. The **Project Initiation** must be assessed against CRREM's overall work program and the FB-approved budget to ensure that the proposed scope, timelines, and resource requirements are feasible.

Governance at this step follows the impact classification. For MI and HI workstreams, the TC approves the scientific scope and methodological direction of the work program. Once the required approvals have been obtained, the work program and indicative timeline are published on the CRREM website so stakeholders can see which projects are underway.

The RACI matrix below, in addition to those on the following pages, apply to MI and HI workstreams only.

	Project Step	CRREM Team	Technical Council	Foundation Board	Regional Advisory Committees	External experts & stakeholders	License Partners & market
1	Project Proposal & Impact Scan	R	C	A*	I	I	I
2	Market Sounding	R	A	I	C	C	C
3	Project Initiation	R	A*	I	I	I	I

*Formal voting for approval required.

See [Annex II (Control List)](#) for a consolidated RACI overview.

By the end of Step 3, the workstream has a clear, documented analytical foundation that can support the formulation and evaluation of Design Options in Phase 2.

Design & Refine Phase (Steps 4-6)

Step 4: Data Collection & Research (mandatory for MI and HI workstreams, with TC discretionary elements)

CRREM staff gathers information needed to support the proposed Protocol activities. This may involve issuing public calls for data, working with external collaborators, and drawing on the expertise of TC members and RACs. **Data Collection & Research** is mandatory for all

MI and HI workstreams, although specific methods (such as public calls for data or external collaborations) are used where proportionate and appropriate.

Step 5: Design Options & Internal Quality Review (mandatory for MI and HI workstreams)

Using the evidence base assembled during the **Review & Input** phase, CRREM staff develops a set of **Design Options** for the workstream. Each option is described in terms of its underlying assumptions, analytical approach, and implications for the CRREM Pathways and users. To make these choices tangible, the CRREM staff produces indicative outputs (such as sample Pathway curves or comparative charts) that show how different **Design Options** would affect the resulting trajectories. The TC considers the **Design Options** for methodological soundness, technical feasibility, and practical implications. The TC may request iterations with the CRREM staff. Once satisfied, the TC selects the preferred **Design Option** for further development (together with any associated technical materials) to be released for public consultation. Throughout this step, the CRREM staff performs quality reviews, checks for consistency and comparability, and documents all sources and methodological choices. Data gaps, uncertainties, and limitations are recorded so they can be accounted for in later design decisions.

Step 6: Public Consultation[3] (mandatory for MI and HI workstreams)

The TC approves the draft technical materials to be released for consultation and may set guiding questions to focus stakeholder input. For MI workstreams, the consultation materials consist of the Design Options and indicative Pathway outputs prepared under Steps 4 and 5. For HI workstreams, these materials may include proposed changes to the CRREM Pathway Methodology. The FB is informed.

Public Consultation is open for a minimum of 60 calendar days (MI & HI), with longer periods established at the discretion of the TC and FB for major Methodology changes. Consultations use a structured submission format so that comments can be traced to specific clauses and supported by rationale and evidence. CRREM seeks a balanced group of stakeholders, including license partners, asset owners, investors, and regional experts, so that input reflects the diversity of the real estate market and other stakeholders.

When the consultation period closes, CRREM staff compiles and analyzes all submissions, identifying common themes, areas of consensus, contested issues, and specific proposals. A summary of this analysis, together with a record of how comments have been addressed, is prepared for the TC. Guided by this input and TC steering, CRREM staff revises the draft materials as appropriate and documents how comments have been addressed. This

---

[3] For clarity, the RACI assignments in this step apply to the preparation, administration, and analysis of the Public Consultation. Participation in the consultation itself through submission of comments is the responsibility of RACs, license partners, external experts, and other stakeholders.

consultation summary forms part of the transparency record for the workstream and is included in the publication package.

	Project Step	CRREM Team	Tech-nical Council	Found-ation Board	Regional Advisory Coms.	External experts & stakeholders	License Partners & market
4	**Data Collection & Research**	A | R	C	I	C	C / I	I
5	**Design Options & Internal Quality Review**	R	A*	I	I	I	I
6	**Public Consultation**	R	A*	I	I	I	I

*Formal voting for approval required.

Validate & Publish Phase (Steps 7-9)

Step 7: Final Review & Approval (mandatory for MI and HI workstreams)

CRREM staff prepares the final publication materials. These typically include the revised Pathways or technical outputs, any associated changes to the CRREM Pathway Methodology (which are always classified as HI workstreams), the updated Tool where applicable, the Consultation Summary and disposition of comments, and the modified Change Log. These materials are submitted to the TC for **Final Review and Approval** in accordance with the decision-making procedures set out in the TC ToR. For both **MI** and **HI** workstreams, approval by the TC is followed **by FB approval of procedural adherence before publication**. If the materials are not approved, the CRREM Team conducts a review cycle led by the TC Chair and resubmits them.

Before publication, CRREM sets and communicates a transition (effective) date. To ensure adequate implementation time, the effective date must be at least:

- 120 days after the first market communication for HI workstreams, unless explicitly justified
- 90 days after the first market communication for MI workstreams

CRREM also provides supporting documentation needed for implementation. All approvals, impact classifications, and changes are recorded in the [Change Log](#) and included in the publication package.

Methodology & Pathway Update: In a two-stage workflow (where Stage 1 revises or updates the full CRREM Methodology and Stage 2 subsequently updates the Pathways), the Process concludes at Stage 8 for the Methodology phase.

The Pathway Update then continues as a separate second stage, running from Step 4 through Step 9.

Example:

- **Stage 1**: CRREM Global EUI Methodology Review.
- **Stage 2**: If the review results in a revised methodology, the Pathways are then derived or updated in the second stage following Steps 4–9.

Stage	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
Methodology (HI)	✓	✓	✓	✓	✓	✓	✓	✓	✗
Pathway (HI)	✗	✗	✗	✓	✓	✓	✓	✓	✓

Step 8: Publication & Stakeholder Engagement (mandatory for MI and HI workstreams)

After final approval, CRREM publishes the finalized materials on the CRREM website along with the complete publication package. **Publication** occurs after the transition (effective) date has been communicated in line with the lead-time requirements set out in Step 7. Materials are published 90 days before the effective date, provided the effective date and implementation guidance are clearly indicated. To prepare stakeholders, CRREM issues a market notice at the time of approval (MI/HI) outlining the nature of the change, the effective date, expected operational impacts, and where supporting materials are available. For MI and HI workstreams, CRREM may also provide **Stakeholder Engagement** content, such as non-technical explainers, webinars, digital Townhalls, or training sessions to support understanding and adoption. Communication is repeated closer to the effective date to ensure broad market awareness.

Step 9: Adoption & Continuous Evaluation (mandatory for MI and HI workstreams)

Feedback from users, license partners, and other stakeholders is collected on an ongoing basis through defined channels. The CRREM staff periodically digests this feedback and presents it to the TC and the FB. The FB uses this feedback, together with TC recommendations, to inform the identification of future workstreams and to shape CRREM's overall work program and budget planning for subsequent cycles. In this way, the change Protocols together remain iterative and responsive.

Project Step		CRREM Team	Tech-nical Council	Found-ation Board	Regional Advisory Coms.	External experts & stakeholders	License Partners & market
7a	TC Final Review & Approval	R	A*	I	I	I	I
7b	FB Final Review & Approval	R	I	A*	I	I	I
8	Publication & Stakeholder Engagement	R	I	A	I	I	I
9	Adoption & Continuous Evaluation	R	I	A	C	I	I

*Formal voting for approval required.

Expected Timeline & Publication

LI	Performed continuously as required
MI	Initiated when analysis indicates moderate market effect or partial output change
HI	Initiated when workstreams materially affect user benchmarking or methodological validity
Update Cycle (HI)	CRREM conducts major Updates on a 3-5-year cycle or earlier if triggered by significant changes in input data, global budgets, or emissions science. Updates follow the full 9-step Protocol.

The output of each MI & HI work program is published on the CRREM website once approved through the 9-step Protocol. Each publication is accompanied by the required supporting materials so that users can clearly understand what has changed and prepare for implementation.

The expected full workflow from proposal to publication typically requires approximately 12 months, depending on project scope and data availability. Existing Pathways are reviewed on a 3–5-year cycle, leading to HI Updates or Revisions where appropriate. Interim releases may be warranted where important new data, methodological refinements, or stakeholder needs call for earlier publication; these would always still require FB approval of workflow.

A **target date** of publication will also be published and announced.

The work program and indicative timelines are published and regularly maintained on the CRREM website to ensure transparency.

Publication package materials may include:

- The CRREM Global Pathway file (Excel) containing all country- and property-type specific Pathways
- The CRREM Methodology document, if changes were made to the underlying approach
- A summary of consultation, outlining how stakeholder comments were considered and addressed
- The CRREM Tool, upgraded to align with the new or revised Pathways
- The CRREM Reference Guide, where relevant to the change
- The [Change Log](#), recording version numbers and the nature of all changes
- A non-technical explainer summarizing the key methodological choices, changes, and implications for users (especially for HI workstreams)

Each release identifies the transition (effective) date so that users and license partners have sufficient lead time to amend their systems and integrate the new data.

> **Note:** The update cycle may take longer for full methodological revisions.
>
> Example: The CRREM Global EUI Methodology Review project is expected to take about two years, due to its two stream sequence of changes: (1) Methodology and (2) Pathways.

Publication Package by Change Type

Publication	CRREM Global Pathway File	CRREM Methodology Document	Consultation Feedback	CRREM Tool	CRREM Reference Guide	Change Log	Short Explainer (1-2 pages)
Update of CRREM Pathways	✓	✓	✓	✓	✗	✓	✗
Changes to the Methodology	✓	✓	✓	✓	✓	✓	✓
Adoption of New Pathways	✓	✓	✓	✓	✓	✓	✓
CRREM Risk Assessment Tool	✗	✗	✗	✓	✓	✓	✗

The matrix above shows the supporting materials to be revised or published alongside the relevant project. The publication requirements shown are typical for each change type; however, the final publication package is determined by the impact classification (LI/MI/HI), not the change type.

Communication to the Market

CRREM communicates changes through multiple channels, including the website, email distribution lists, and social media. Market communication is proportionate to impact classification. For HI changes, CRREM may also host public digital Townhalls or webinars to explain the changes, highlight differences from previous versions, and answer stakeholder questions. This communication ensures that users understand what has changed, why it changed, and how it affects their reporting and analysis.

Annex I: Protocol Overview & Decision Points

This annex supports the [Medium- and High-impact Protocol](#) section.

Step	Purpose	Output	Decision Point
1 — Project Proposal & Impact Scan	Define the rationale, scope, expected impact, data needs, risks, and resource implications of the proposed workstream.	A complete Project Proposal & Impact Scan with draft impact classification (low/medium/high).	MI & HI: TC advises on initiation. FB authorizes the workstream to move forward into scoping.
2 — Market Sounding (optional; typically for HI)	Market Sounding as focused research and engagement exercise managed by the CRREM team on behalf of the TC.	Input Summary capturing themes, evidence, and implications for scope.	TC determines whether market input is required. No formal FB decision; FB is informed.
3 — Project Initiation	Convert the proposal into a concrete work program with scope, milestones, timelines, data plan, and engagement plan.	A fully defined Work Program & Timeline.	TC approves work program; FB approves where there are material budget or resource implications, otherwise informed.
4 — Data Collection & Research	Gather, validate, and document all required datasets and analytical inputs.	A documented analytical evidence base covering carbon budgets, emission factors, energy intensities, energy mix trajectories, and stock/growth data.	TC consulted, CRREM Staff accountable and responsible. FB is informed.
5 — Design Options & Internal Quality Review	Develop, test, and internally QA design options based on the evidence base.	A Design Options Package with assumptions, sample outputs, and preferred option(s) identified.	TC selects the preferred option(s) to take into public consultation.
6 — Public Consultation	Test the preferred option(s) with the market, gather structured feedback, and identify consensus and contested areas.	A Consultation Summary and a Disposition of Comments.	TC approves consultation materials and launches. FB informed (MI & HI). TC reviews consultation results and confirms revised option(s).
7 — Final Review & Approval	Finalise the technical materials and seek formal approval for publication.	A complete Publication Package: revised Pathways, Methodology (if applicable), Tool, Reference Guide,	TC votes to approve (≥50% per ToR).

Step	Purpose	Output	Decision Point
		Consultation Summary, and Change Log.	MI & HI: FB confirms procedural adherence before publication.
8 — Publication & Stakeholder Engagement	Publish the changes, communicate transition timelines, and support stakeholders with implementation.	Published files on CRREM website, effective date announcement, and any training or explainer materials.	CRREM Team executes publication; TC/FB informed.
9 — Adoption & Continuous Evaluation	Monitor adoption, collect market feedback, and identify issues that inform future pathway governance cycles.	Periodic synthesis of feedback and recommendations to TC and FB.	FB incorporates insights into priority-setting for future cycles.

Annex II: Control List

This annex provides a consolidated view of responsibilities across Steps 1-9.

Step	Deliverable / Control Point	CRREM Team	TC	FB
1 — Project Proposal & Impact Scan	Project Proposal & Impact Scan drafted with rationale, scope, impact, data needs, risks, and resources.	Draft and submit proposal; propose impact level.	Review for MI & HI; advise on impact classification.	Review and approve initiation for MI & HI
2 — Market Sounding (optional; typically for HI)	Input summary prepared (if TC decides this input is needed).	Plan and run Targeted Expert Input; collect evidence; draft summary.	Decide whether Targeted Expert Input is required (HI); review results.	Informed of sounding and key findings (HI).
3 — Project Initiation	Work Program & Timeline agreed (scope, milestones, data plan, engagement plan).	Draft work program and revise as needed.	Approve work program for MI; recommend HI to FB.	Approve work program for HI; be informed for MI.
4 — Data Collection & Research	Analytical evidence base completed and documented.	Collect, validate, QA data; document assumptions.	Review and acknowledge data sufficiency.	No direct action; may be informed.
5 — Design Options & Internal Quality Review	Design Options Package complete; internal QA done; preferred option(s) identified.	Develop options; run internal QA; prepare sample outputs.	Review options; select preferred option(s).	No direct action; consulted if needed.
6 — Public Consultation (mandatory for MI & HI)	Consultation run; Consultation summary and disposition of comments prepared.	Prepare consultation materials; run consultation; compile and analyse feedback.	Approve consultation draft; review results; confirm final option(s).	Be informed of consultation launch and results.
7 — Final Review & Approval	Final Publication Package prepared and formally approved.	Assemble final package; circulate to TC and FB.	Vote to approve (≥50% per ToR).	FB approval of procedural adherence before publication (MI & HI); note approval and effective date.

Step	Deliverable / Control Point	CRREM Team	TC	FB
8 — Publication & Stakeholder Engagement	Changes published; effective date and supporting communication delivered.	Publish materials; post on website; communicate transition date; deliver webinars/briefings as needed.	Informed of publication and key messages.	Informed of publication and transition plan.
9 — Adoption & Continuous Evaluation	Feedback collected and synthesized for governance bodies.	Monitor adoption; consolidate feedback; propose follow-up actions.	Review feedback; advise on implications for future work.	Use feedback to steer future priorities and new workstreams.