

CDRI Position Paper

Mainstreaming Disaster Resilient Infrastructure in Climate Action





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Climate action delivers lasting adaptation, mitigation and development benefits when the infrastructure and essential services that underpin these efforts are resilient to climate risks.

CDRI therefore calls on Parties to use COP31 to integrate Disaster Resilient Infrastructure (DRI) across Adaptation, National Adaptation Plans, NDCs and GST, Loss & Damage, Climate Finance, Technology Development and Transfer, and Capacity Building.

Summary of Positions across Priority Workstreams

- **Global Goal on Adaptation (GGA).** Operationalize Target 9(e) indicators so countries can voluntarily assess whether infrastructure and essential services remain functional during climate hazards. Measures should cover service continuity, disruption and recovery time, system interdependencies, cascading risks, and fair and equitable access, without reopening negotiations on agreed indicators, adding reporting burdens or making finance conditional.

- **National Adaptation Plans (NAPs).** Turn climate risk assessments into prioritized, quantified, and finance-ready infrastructure investments. Plans should cover new and existing assets, account for future climate conditions, criticality, interdependencies, and drivers of social vulnerability. The planning process should track whether essential services remain accessible during and after disasters, and how that disruption can be minimized.

- **Nationally Determined Contributions (NDCs) and the Global Stocktake (GST).** Recognize the resilience of infrastructure and essential service systems as a critical enabler of NDC and NAP implementation in the Second GST inputs and voluntary NDC implementation plans. Apply lifecycle and multi-hazard screening and identify priority actions, responsible institutions, investment needs and service-continuity outcomes without creating new reporting obligations.

- **Loss and Damage.** Recognize resilient infrastructure as both a means of reducing avoidable losses and supporting resilient recovery. Strengthen Warsaw International Mechanism (WIM) and Santiago Network support for systemic-risk assessment, including considerations for infrastructure interdependencies, service continuity and risk-informed recovery. Loss assessments should capture direct, indirect, and cascading impacts. The Fund for Responding to Loss and Damage (FRLD) should provide rapid grants and concessional support for restoration of essential public services and safer reconstruction after disasters and extreme events.

- **Climate Finance.** Treat resilience as a quality criterion for climate finance and integrate considerations for physical climate risk, maladaptation, infrastructure interdependencies and whole-of-life performance across climate-finance project cycles. Finance should cover risk data, asset inventories, project preparation, maintenance, retrofits, redundancy and nature-based or hybrid solutions, not only new construction. The $1.3 trillion roadmap and MDB reforms should be fast-tracked to help meet the additional cost of resilience.

- **Technology Development and Transfer.** Make Disaster Resilient Infrastructure (DRI) an explicit priority in technology, needs assessments, action plans, and support programmes. Existing UNFCCC technology bodies and the Belém Technology Implementation Programme should connect multi-hazard tools, resilient design and materials, monitoring, maintenance, early warning and locally repairable technologies with project preparation, demonstration, finance and deployment.

- **Capacity Building.** Build sustained institutional and technical capacity across all stages of the infrastructure lifecycle, including at the subnational level. Measure progress through stronger institutions and finance-ready project pipelines using existing UNFCCC capacity-building arrangements and regional partnerships for curricula, certification, and peer learning.

Across the selected negotiation tracks, CDRI supports contextualized and country-driven action, stronger use of existing institutions and UNFCCC mechanisms, lighter reporting demands, wider and fairer access to finance, and a consistent focus on essential-service continuity, whole-of-life value and equitable outcomes through resilient infrastructure.



1 Adaptation and the Global Goal on Adaptation (GGA)

Status of the negotiations

Decision 12/CMA.7 established the GGA as a standing item on the agendas of the subsidiary bodies and the CMA. It concluded the UAE-Belém work programme and adopted 59 Belém Adaptation Indicators. The indicators are voluntary, country-driven, non-comparative and non-prescriptive, and may not be used as conditions for access to funding. The decision also provides for testing and use in national planning and reporting and requests a secretariat technical paper by 30 September 2026.

SB64 did not reach conclusions on GGA. The complete 18 June co-facilitators' text remains unagreed, and consideration of the matter continues at SB65/COP31. COP31 negotiations restart from the COP30 outcomes rather than building on the unagreed text.

The decision further establishes the Belém-Addis process and technical work on indicator metadata and methodologies and the first phase of the Baku Adaptation Road Map which will require terms of reference to be reviewed during 2026–2027.

Issues at COP31

COP31 will need to clarify the scope and governance of the technical work, including whether it is confined to operationalizing the adopted indicators through metadata and methodologies or could result in their effective reopening. Reconsideration of the adopted indicators themselves appears unlikely. Negotiations are also expected to address the balance between Party guidance and expert input; the treatment of finance, technology, and capacity building; adaptation-finance accountability; the relationship between results and Second Global Stocktake; and whether institutional coherence should be pursued through coordination or restructuring. GGA's water target tracks the proportion of critical water and sanitation infrastructure that remains resilient under different warming scenarios, and the health target tracks the proportion of health facilities that are resilient and whether services stayed at full capacity through a hazard. Target 9(e) is the only one that does not yet ask whether infrastructure or services continue to function.

These questions will need to be addressed while preserving the voluntary, country-driven, non-comparative and non-prescriptive character of the indicators, and without creating additional reporting burdens or funding conditionalities.

Positions

1. **Strengthen implementation of Target 9(e) on Infrastructure and Human Settlements:** In developing metadata and methodologies relevant to Target 9(e), the technical work should be, as nationally appropriate and subject to data availability, enable countries to assess the functional resilience of infrastructure systems and essential services, including the continuity and reliability of services; duration of disruption; time to recovery; infrastructure interdependencies and cascading risks; and equitable access for vulnerable populations.

2. **Draw on relevant expertise:** The subsidiary bodies should draw on infrastructure, engineering, utility, service delivery, disaster risk and locally grounded expertise, with balanced geographic and gender representation. Technical institutions with infrastructure mandates, including CDRI, should be invited to contribute their expertise on implementing infrastructure resilience under changing climate scenarios.

3. **Support voluntary testing:** Countries should be encouraged to test a small set of nationally relevant service-performance measures without Party comparison, new reporting burdens or finance conditionality. CDRI recommends a 'report once, use many times' approach to address reporting burdens.

4. **Use existing coordination processes:** The Baku Adaptation Road Map should help connect work on adaptation, finance and technology without reopening the adopted indicators or creating unnecessary institutional restructuring.

2 National Adaptation Plans (NAPs)

Status of the negotiations

Decision 8/CP.30 recognizes progress on NAPs while identifying inadequacy and delays in finance, technology and capacity-building support. It sets clearer mandates for identifying and reporting gaps in monitoring, data and implementation; promotes integration across national, sectoral and subnational levels; and recognizes NAPs as a channel for implementing the UAE Framework.

Paragraph 26 mandates COP31 to continue consideration of NAPs using the 2026 progress report. A separate confirmed pathway is the stocktake of the work of the Least Developed Countries Expert Group (LEG), for which recommendations are expected at COP31/CMA8. A new COP31 decision on NAPs is possible but is not guaranteed. There was therefore no SB64 negotiating outcome on NAPs.

The LEG report records that 27 of 44 LDCs had submitted NAPs and that work continues to progress on reporting, monitoring and project preparation. SBI64 also recorded that seven technically cleared LDCF[1]

[1] Least Developed Countries Fund

proposals and six medium-sized projects could not be funded because resources were insufficient.

Issues at COP31

The central issue at COP31 will be the shift from planning to implementation. Negotiations are expected to address the predictability and accessibility of support for the implementation of NAPs; the development of finance-ready project pipelines; localized risk information; monitoring, evaluation and learning; and alignment between NAP implementation and GGA reporting without imposing prescriptive templates.

Positions

1. **Deliver finance-ready infrastructure decisions:** NAP implementation process should support countries in translating climate and disaster risk into prioritized, costed and finance-ready infrastructure decisions, covering both new infrastructure and the resilience of existing systems.

2. **Strengthen infrastructure risk information:** As nationally determined and appropriate, NAP risk assessments should integrate information on the location, condition and criticality of infrastructure assets; interdependencies among essential services; social vulnerability; and projected hazards under relevant warming scenarios. These elements should be reflected in the updated NAP Technical Guidelines.

3. **Support NAP and NDC implementation:** The LEG and Adaptation Committee (AC) should support the implementation of countries' NAPs and NDCs that include infrastructure resilience. This support should include technical assistance, project preparation and predictable access to finance for prioritized and costed resilient-infrastructure portfolios covering new construction, maintenance, retrofit, redundancy and operational continuity. This would help move NAP and NDC delivery from planning to implementation, as nationally determined and without new reporting requirements.

4. **Track service-continuity outcomes:** NAP monitoring systems should use existing national and local data to track the continuity of essential services, service disruption duration, population affected, recovery time and equitable access in relation to Disaster Resilient Infrastructure (DRI), or lack thereof.

3 Nationally Determined Contributions (NDCs) and the Global Stocktake (GST)

Status of the negotiations

The Second Global Stocktake (GST2) begins at CMA8 at COP31. Decision 1/CMA.5, paragraph 194, initiates the information-collection and preparation component in November 2026. The modalities in decision 19/CMA.1 define GST2 as a collective and non-prescriptive

process. Its substantive outcome is due at CMA 10 in 2028, and inputs are invited by 28 February 2027.

The annual GST-NDC dialogue concluded under decision 3/CMA.7, paragraph 14, and CMA8 may consider it in its final report. Discussions on NDC features will resume under the relevant mandates, including the CMA 6 report, paragraph 49, although agreement is not guaranteed. Decision 1/CMA.7 also mandates reports and events under the Global Implementation Accelerator and the Belém Mission. The SB64 dialogues generated no negotiated conclusions. The Mitigation Work Programme also stalled at SB64, and the disagreement carries forward to COP31. The Mountains and Climate Change dialogue will continue at COP31, with a view to recommendations on integrating mountain-specific vulnerabilities into the GST.

Issues at COP31

COP31 will need to determine whether the implementation dialogue remains facilitative, or whether it assumes the character of an interim stocktake. Other issues include the balance between implementation of the full GST outcome and a narrower focus on mitigation and energy; the respective roles of international support and domestic enabling conditions; and whether additional NDC features would improve implementation or create new obligations.

The process also provides an opportunity to consider whether the infrastructure and critical systems that underpin NDC delivery can withstand future hazards, without expanding reporting requirements or compromising the nationally determined character of NDCs.

Positions

1. **Include infrastructure resilience in GST2 inputs:** Where information is available, GST2 inputs should cover the resilience of infrastructure and critical service-delivery systems underpinning NDC and NAP implementation, including interdependencies, lifecycle risk, continuity of essential services and related means-of-implementation gaps.

2. **Apply infrastructure resilience screening:** In accordance with national circumstances, Parties should be invited to apply lifecycle and multi-hazard resilience screening to infrastructure policies, projects and investment plans that support NDC implementation.

3. **Strengthen the implementation learning loop:** Successive NDCs or associated implementation plans should be encouraged to identify priority resilient-infrastructure actions, responsible institutions, investment needs and service-continuity outcomes without creating new reporting requirements.

4. **Use the available procedural pathway:** If these issues cannot be reflected in NDC features text, Parties should advance them through a formal GST2 input, voluntary NDC implementation plans, implementation reports and peer exchanges.

4 Loss and Damage

Status of the negotiations

The 2026 WIM-Santiago Network[2] annual report is formally listed for SB65 and must be considered under the relevant COP and CMA negotiations. Decision 22/CMA.7 mandates faster technical assistance through the Santiago Network, work on compound and cascading risks, methodologies for economic and non-economic loss, guidance for Biennial Transparency Reports, and a regular report on the state of Loss and Damage.

Governance of the Warsaw International Mechanism (WIM) remains on the COP31/CMA8 agenda. The governing instrument of the Fund for Responding to Loss and Damage (FRLD), together with the relevant COP and CMA decisions, also requires consideration of the annual Board report and the provision of guidance to the Fund.

SB64 had no dedicated negotiations on Loss and Damage. The 2026 FRLD Board report records demand for $2.8 billion in project proposals against an available budget of $342 million. More than half of the requests concern the restoration of essential services.

Issues at COP31

COP31 is expected to address both operational delivery and institutional architecture of the Loss and Damage ecosystem. Key issues include access and capitalization; the balance between grants and other financial instruments; rapid disbursement and safeguards; and future governance arrangements under the COP and CMA. Work under the WIM and Santiago Network will also need to address compound and cascading risks, loss methodologies, reporting guidance and coordination with the FRLD.

Positions

1. **Strengthen WIM and Santiago Network support:** Technical assistance should facilitate comprehensive multi-hazard and systemic risk assessment, infrastructure-interdependency analysis, service-continuity planning, resilient codes, and risk-informed recovery. The roster of OBNEs (organizations, bodies, networks and experts) providing this assistance should include those with infrastructure resilience mandates.

2. **Improve loss methodologies:** Methodologies and voluntary guidelines developed under decision 22/CMA.7 should capture direct damage as well as indirect and systemic losses[3] arising from disruption to essential services, including the duration of disruption, the population affected, recovery time and cascading impacts.

[2] The Santiago Network was established at COP25 in 2019 under the Warsaw International Mechanism, to connect particularly vulnerable developing countries with organizations, institutions, networks and experts capable of providing demand-driven technical assistance. (Read more https://unfccc.int/santiago-network/about)

[3] CDRI's research finds that, on average, indirect economic costs from infrastructure failures are 7.4 times higher than the direct physical damage to assets. In some country contexts, this ratio can reach up to 16× direct damages. (Source:

3. **Focus the FRLD ask on resilient recovery:** Support should remain focused on recovery, restoration of essential services and avoidance of reconstructed vulnerability. Within this scope, the Fund should recognize the incremental costs of risk-informed recovery, safer siting, project preparation, codes, natural buffers, redundancy, and operation and maintenance.

4. **Prioritize appropriate finance:** Grants, highly concessional finance and rapid-disbursement modalities should be prioritized for non-revenue-generating public services.

5 Climate Finance

Status of the negotiations

Decision 1/CMA.6 calls for climate finance to be scaled to $1.3 trillion annually and establishes the $300 billion goal. It also addresses finance's alignment with climate goals, its effectiveness and impact, equity and allocation, and the role of grants and concessional finance. Decision 1/CMA.7 reiterates implementation, calls for efforts to triple adaptation finance by 2035, and establishes a two-year Climate Finance Work Programme that includes Article 9.1.

The Veredas Dialogue on Article 2.1(c) continues under decision 11/CMA.7, with CMA8 expected to consider its annual report. The Xingu Finance Talks, which will follow later this year, will focus on practical solutions for making financial flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development. COP31/CMA8 will also consider the annual reports of, and guidance to, the Standing Committee on Finance (SCF), Green Climate Fund (GCF), Global Environment Facility (GEF), FRLD and Adaptation Fund (AF). Long-term finance and the unresolved 7th review of the Financial Mechanism were also carried forward to COP31.

Issues at COP31

Following SB64, procedural questions remain over the basis and sequencing of the Climate Finance Work Programme, including the level of Party agreement required for its workplan and whether its operationalization should be considered under a dedicated CMA8 agenda item.

Substantive issues include the relationship between Article 9.1 obligations and broader sources of finance, including private mobilization; the quality of finance and implications for debt; alignment of finance flows under Article 2.1(c) while safeguarding sovereignty and avoiding new conditionalities; the balance between access and

CDRI. (2025). Global Infrastructure Resilience Report, Second Edition. https://cdri.world/resilience-dividend/global-infrastructure-resilience-report-second-edition/)

safeguards; and the tracking of adaptation finance. The Adaptation Fund transition, its fifth review and Board membership also remain unresolved.

Positions

1. **Embed DRI in finance quality:** UNFCCC Finance Mechanism and its operating entities, and the Adaptation Fund (AF) should, within their mandates and in a country-driven and proportionate manner, integrate physical climate risk, maladaptation, infrastructure interdependencies and lifecycle performance throughout relevant project and programme cycles, without creating additional reporting burdens.

2. **Finance the full infrastructure lifecycle:** Grants and highly concessional support should cover risk data, asset inventories, feasibility studies, project preparation, maintenance, retrofit, redundancy, and nature-based or hybrid measures that protect essential services, in addition to new construction. The resilience premium in infrastructure design, typically 5 to 15 percent of upfront costs, is where concessional finance and guarantees are most useful; it returns 7-12 times the initial investment over the asset's lifecycle.

3. **Improve results and access:** The Standing Committee on Finance (SCF) and the funds should be invited to identify DRI finance through existing project data and assess results through service continuity, avoided disruption, recovery time and whole-of-life value, while expanding direct, local and subnational access.

4. **Concessional cover for resilience premium through Roadmap to 1.3T:** Follow up discussions to the Baku to Belém Roadmap to 1.3T, and the MDB reform discussions associated with it, should include concessional cover for the incremental cost of building resilience into infrastructure lending.

6 Technology Development and Transfer

Status of the negotiations

Under decisions 17/CP.20 and 15/CMA.1, the COP and CMA consider the joint annual report of the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN). SB64 has already forwarded complete draft COP31/CMA8 decisions covering coordination among national designated entities, linkages with funds, monitoring and evaluation, and CTCN resources. SB64 also forwarded agreed text on linkages between the Technology Mechanism and Financial Mechanism, including the translation of technology needs assessments and CTCN assistance into fundable projects.

Decisions 10/CP.30 and 17/CMA.7 require COP31/CMA8 to decide on the new host of the Climate Technology Centre and the related memorandum of understanding. SBI64 recommended UNEP as host, while consideration of the memorandum continues at SBI65. Evaluation

of the Poznan strategic programme[4] was deferred to SBI65. Alignment of the CTCN review and the assessment of the Technology Mechanism was deferred to SBI68 and is therefore no longer a COP31 outcome. The second periodic assessment of Technology Mechanism support was formally launched, with an interim report due at SBI66 in June 2027. Decision 18/CMA.7 establishes the Belém Technology Implementation Programme (Belém TIP) and covers technology needs assessments, NAPs, NDCs, endogenous technologies, project preparation, finance partnerships, and monitoring and evaluation.

Issues at COP31

The annual-report and finance-linkages texts are mature and should not be reopened. Outstanding host-related issues include the balance between predictable public funding and diversified sources; collaboration between UNEP, UNIDO and UNOPS; and the strength of support provided to national designated entities. Wider implementation discussions will need to balance access, finance and endogenous capacity with efficiency, partnerships and avoidance of duplication.

A principal gap in the current texts for DRI is that neither the Belém Technology Implementation (TIP) Programme nor the agreed COP31 texts expressly address infrastructure interdependencies, lifecycle performance, local repairability or continuity of essential services.

CDRI's Global Infrastructure Resilience Survey found that only 12 percent of infrastructure practitioners regularly use sensors or satellite imagery for real-time warnings and damage assessment, and internet penetration in LDCs stands at 36 per cent against 66 per cent globally: early-warning systems and remote sensing cannot scale where the infrastructure supporting connectivity and power is at risk

Positions

1. **Recognize DRI as a technology priority:** DRI should be recognized as an explicit priority within technology needs assessments, technology action plans and relevant technology-support programmes. Parties should be encouraged voluntarily to include, in technology needs assessments and technology action plans, multi-hazard risk tools, resilient materials and design, asset monitoring, predictive maintenance, early-warning integration, and nature-based or hybrid infrastructure.

2. **Promote programmatic delivery:** In implementing decision 18/CMA.7, the TEC and CTCN should facilitate demand-driven, programmatic technical assistance and project preparation that considers system interdependencies, performance under future climate scenarios, affordability, interoperability, local repairability and relevant open standards.

[4] Through the Poznan strategic programme (PSP), the Global Environment Facility (GEF) provides funding to climate technology development and transfer activities. PSP has supported countries to undertake technology needs assessments, develop technology pilot projects and implement climate projects with objectives related to climate technologies. (Read more: https://unfccc.int/ttclear/support/poznan-strategic-programme.html)

3. **Create pathways to scale:** Parties should consider practical pathways that connect technology needs assessments and CTCN assistance with demonstration, finance and deployment, with results measured through continuity of services and whole-of-life value.

4. **Work through existing mandates:** If a negotiated decision is not achieved, DRI should still be embedded in TEC and CTCN workplans, CTCN requests, regional programmes and pilot-to-finance demonstrations rather than through a separate technology window.

5. **Support the proposed TIP dialogue topic "Role of Technology in Risk-Informed Resilient Infrastructure Planning":** CDRI has submitted "Role of Technology in Risk-Informed Resilient Infrastructure Planning" as a proposed topic for the Belém TIP's first global in-session dialogue in 2027, examining how the Technology Mechanism can help developing countries integrate infrastructure resilience into the planning, financing, deployment and scaling of climate technologies identified in their NAPs and NDCs.

7 Capacity Building

Status of the negotiations

Decision 1/CP.21 established the Paris Committee on Capacity-building (PCCB), and subsequent decisions require annual reporting to the COP and CMA. At SB64, Parties agreed on a draft COP31 decision concluding the fifth comprehensive review of the capacity-building framework. The text recognizes current and emerging focus areas, stakeholder participation, persistent gaps, academic partnerships, long-term capacity, challenges in impact assessment, and country-owned support that uses existing mechanisms and avoids duplication. Adoption at COP31 is expected.

The PCCB annual report will also be considered by COP31/CMA8. Its 2025-2026 focus on holistic investment strategies, bankable projects and stakeholder engagement provides an immediate implementation opportunity for DRI.

Issues at COP31

Because the comprehensive-review text is agreed, the main task at COP31 is implementation rather than further negotiation. Key issues are the transition from one-off training to sustained institutional capacity; demand-driven rather than provider-led programmes; the balance between individual skills and institutional or systemic performance; predictable support; and the measurement of results without additional reporting burdens. SBI64 also found that countries frequently report capacity needs outside the original PCCB scope as outlined in decision 2/CP.7.

Positions

1. **Build capacity across the delivery chain:** In response to country-identified needs, Parties and providers should strengthen sustained institutional and technical capacity for climate-resilient infrastructure planning, financing, procurement, operation, maintenance and resilient recovery, including at the subnational level.

2. **Measure institutional results:** The PCCB should promote measures of institutional performance and the conversion of national priorities into finance-ready pipelines, rather than relying only on the number of people trained.

3. **Strengthen regional systems:** Countries in the same region face shared challenges; therefore, capacity building at the regional level should support curricula, professional certification, training-of-trainers and peer learning linked to DRI in NAP and NDC delivery.

4. **Use the existing framework:** DRI should be treated as a cross-cutting application of the capacity-building framework, not as a new thematic mandate. Where appropriate, implementation can proceed through PCCB Network or Capacity-building Hub pilots and regional institutional partnerships.



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