

**Implementing the Belém
Technology Implementation
Programme Through the
Technology Executive Committee
and the Climate Technology
Centre and Network**

VICENTE PAOLO B. YU III

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TWN
Third World Network

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Executive Summary

THIS paper provides suggestions for enhancing the work of the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) – the component bodies of the Technology Mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) – in support of the implementation of the Belém Technology Implementation Programme (BTIP). The recommendations are framed from a developing country perspective that is based on the following four key principles: country-drivenness based on technology priorities identified by developing countries themselves, such as in NDCs, NAPs, TNAs, TAPs, and LEDS; adequate and predictable CTCN funding; no new conditionalities; and respect for the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC).

The overarching critique is that the Technology Mechanism has remained process-oriented and advisory rather than delivering real implementation on the ground – that is, technology transfer has largely remained an unrealized obligation of developed countries under the UNFCCC and Paris Agreement – and that hence the Mechanism must transition from an advisory body to one focused on concrete, country-driven implementation.

Incorporating the BTIP into TEC/CTCN workplans is crucial. The paper calls for an “implementation lens” to be applied to all TEC and CTCN work, and proposes four concrete joint workstreams: a project pipeline support stream; a national designated entity (NDE) support stream focused on institutional strengthening; an endogenous capacities and national systems of innovation (NSIs) stream; and a systemic barriers stream. The paper includes a three-column table distinguishing TEC-specific, CTCN-specific, and joint actions, wherein the TEC should focus on policy and normative guidance to address systemic barriers to technology transfer like finance gaps, trade restrictions, and intellectual property rights (IPRs); the CTCN

should focus on delivery, including project preparation, matchmaking, and supporting NDEs; and their joint actions should be in relation to the establishment and operationalization of a “Technology Implementation Accelerator” to convert country priorities into fundable projects and create dedicated workstreams for endogenous capacities and NSIs, including through ensuring that the TEC and CTCN’s individual and joint work map explicitly their activities to the Belem TIP decision’s paragraph 8 elements.

Financial and non-financial resource mobilization to support technology transfer is a key implementation element. The paper highlights that the gap between the identified technology priorities and needs of developing countries and actual finance flows to address these needs is the central problem. It proposes five practical approaches to bridge the gap between identified needs and actual funding – a structured CTCN-to-GCF/GEF/AF/FRLD referral and pipeline mechanism to translate national plans (TNAs, TAPs, NDCs, NAPs, LEDS) into finance-ready concepts for the GCF, GEF, AF, and FRLD; joint roundtables with financial institutions such as the GCF, GEF, AF, FRLD, etc. to embed BTIP priorities into their respective programming and replenishment cycles; engagement with specialized UN agencies for non-financial support; building endogenous capacities and NSIs (not just technology importation); and a clear TEC/CTCN division of labour to avoid duplication. Intellectual property barriers, concessional licensing, patent pools, and public domain approaches for critical technologies are highlighted as areas requiring TEC policy recommendations.

Monitoring and evaluation (M&E) and reporting improve accountability. The paper critiques existing TEC/CTCN M&E approaches as being output-counting rather than outcome-tracking and advocates for a fundamental shift in how the Technology Mechanism tracks its progress. To do this, it proposes a three-layer reporting structure: activity reporting, output reporting, and outcome-oriented reporting on whether support has led to implementation, i.e., moving beyond tracking “outputs” (like the number of workshops) to measuring “impacts” (actual technology deployment and reduced barriers). It maps specific indicators to each of the five BTIP elements in paragraph 8 of the Belém decision and calls for a joint TIP M&E task force with developing country representation; a Party submission portal for indicator suggestions; and linkage to Global Stocktake cycles to ensure that the Technology Mechanism is effectively closing the

“implementation gap”. The TEC/CTCN joint annual report should include a specific chapter mapped to the five core BTIP elements, including a section on systemic barriers identified through global and regional dialogues. The paper posits three simple test questions for the Technology Mechanism M&E system to respond to: Are developing countries receiving support for their own priorities? Is that support translating into implementation? Are systemic barriers being surfaced clearly enough for Parties to act on them?

1

Context and Framing

THIS paper seeks to reflect the substantive priorities that developing countries, as represented through the G77 and China and their constituent groups, have consistently advanced in the negotiations on technology development and transfer under the United Nations Framework Convention on Climate Change (UNFCCC). It draws on the Belém Technology Implementation Programme (BTIP) decision¹ adopted at the 30th Conference of the Parties to the UNFCCC (COP 30) held in Belém, Brazil, in 2025; the G77 and China proposals and talking points tabled during the COP 30 negotiations; and the broader analytical and policy literature on technology transfer from a developing country perspective.

The Belém TIP decision represents the most significant mandate in recent years to shift from policy discussions towards actual technology implementation on the ground. Developing countries expect the UNFCCC’s Technology Executive Committee (TEC) and Climate Technology Centre and Network (CTCN) to use this opportunity ambitiously, coherently, and with a clear country-driven orientation.

A central recurring theme in developing country positions is that technology transfer under the UNFCCC has remained largely unrealized as a substantive obligation. The UNFCCC Article 4.5 commitment by developed countries to “take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. ... the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties” has not been

¹ UNFCCC, Belém Technology Implementation Programme (21 November 2025), at https://unfccc.int/sites/default/files/resource/cma2025_L18E.pdf

matched by commensurate action. That obligation has been reaffirmed, elaborated and institutionalized many times since – through the Marrakesh Technology Transfer Framework (COP 7, Marrakesh 2001, and COP 13, Bali 2007), the Poznan Strategic Programme (COP 14, Poznan 2008), the Technology Mechanism (COP 16, Cancun 2010), the Paris Agreement’s Article 10 (COP 21, Paris 2015, and COP 24, Katowice 2018), and now the TIP (COP 28, Dubai 2023, and COP 30, Belem 2025).

The UNFCCC’s Technology Mechanism – comprising the TEC and the CTCN – must now be urgently repositioned to deliver on the Belém TIP’s concrete objectives, rather than remaining a largely advisory and process-oriented body with limited resources.

The following cross-cutting priorities reflect developing country perspectives and should be embedded throughout TIP implementation:

- **Country-drivenness:** All BTIP activities must be grounded in the technology priorities that developing countries themselves have identified – through, for example, their technology needs assessments (TNAs), technology action plans (TAPs), nationally determined contributions (NDCs), national adaptation plans (NAPs), or low-emission development strategies (LEDS) – rather than be imposed externally or through donor-driven priority-setting.
- **Adequate and predictable funding for the CTCN:** Developing countries have consistently noted that the CTCN’s capacity to deliver is constrained by inadequate and volatile funding. Effective BTIP implementation requires that developed countries significantly scale up their financial support to the CTCN, and that its host institution provide ambitious, adequate and sustainable funding as a condition of hosting.
- **No new conditionalities:** Financial and technical support for BTIP implementation must not come with additional conditionalities that limit developing countries’ policy space or technology choices.
- **Respect for the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC):** The obligations of developed countries to provide financial resources and technology transfer to developing countries under the Convention and the Paris Agreement must be the baseline against which BTIP implementation is assessed.

- Focus on developing countries: Developing countries are particularly vulnerable to the adverse effects of climate change and hence generally face the greatest vulnerability and the most acute constraints in accessing technology support. BTIP implementation must include specific provisions and tracked resources to support such developing countries.

The above priorities should then be reflected in four pillars for implementation and action that should shape the TEC and CTCN’s individual and joint work:

Pillar 1 Country-Driven Action	Pillar 2 Enhanced Financial Connectivity	Pillar 3 Accountability through Impact Tracking	Pillar 4 Systemic Barrier Removal
Implementation must be grounded in the specific technology priorities identified by developing countries in their own national plans, such as TNAs, TAPs, NDCs, NAPs, and LEDS.	A structured pipeline must be established to link identified technology needs with the UNFCCC’s Financial Mechanism (Green Climate Fund (GCF), Global Environment Facility (GEF), Adaptation Fund (AF), Fund for responding to Loss and Damage (FRLD)) and multilateral development banks (MDBs), ensuring that technical assistance translates into fundable, large-scale projects.	Monitoring and evaluation must shift from counting outputs (like workshops) to tracking measurable outcomes, such as actual technology deployment and the development of endogenous capacities.	The TEC and the CTCN must move beyond technical discussions to address the political and systemic barriers to technology transfer, including intellectual property rights (IPRs), trade restrictions, and financial accessibility.

The following sections of this paper suggest various ways in which both the TEC and the CTCN could enhance their work to support BTIP implementation, emphasizing that the BTIP must be implementation-oriented, country-driven, support-backed, and capable of addressing systemic barriers rather than becoming another purely procedural dialogue.

2

Incorporating BTIP Implementation into TEC-CTCN Work Programming

DEVELOPING countries have often pointed out that the Technology Mechanism has long been focused on producing analysis and recommendations that, however, do not translate into real changes in their access to environmentally sound technologies (particularly from developed countries that have had a longstanding commitment under Article 4.5 of the Convention to facilitate and support technology transfer) or in the capacity of developing countries to develop and innovate endogenous technologies nor to deploy them. The Belém TIP decision provides the mandate to change this. The TEC and the CTCN should jointly develop and apply an “implementation lens” to all their existing and future work, asking in each case: Does this activity accelerate the conversion of technology priorities into the deployment of needed environmentally sound technologies and/or the development of such technologies endogenously in developing countries?

The TEC and the CTCN should treat the Belém TIP decision as a mandate to shift from general policy discussions on technology transfer towards practical implementation support for meeting and addressing developing countries’ identified technology priorities. Their workplans should therefore be organized, for a start, around the BTIP elements agreed by Parties in paragraph 8 of the decision: addressing implementation challenges across the technology cycle; strengthening national systems of innovation and enabling environments; supporting the integration of climate technology priorities into national policies, programmes and projects; building capacity for project concept notes and fundable proposals; and mobilizing both

financial and non-financial support.² In practical terms, this would mean the following:

- The TEC should focus on the policy, analytical and normative side of the mandate. It could prepare guidance and technical briefs on the systemic barriers repeatedly identified by developing countries, including gaps in finance, weak enabling environments, limited technical and institutional capacity, and barriers arising from trade and intellectual property rules. It should also synthesize lessons from TNAs, NDCs, NAPs, biennial transparency reports (BTRs), CTCN technical assistance, and the periodic assessment of the Technology Mechanism so that Parties have a clear picture of what is preventing implementation on the ground. This is consistent with what developing countries have stressed in the negotiations relating to the BTIP in 2024–2025: that BTIP priorities should be drawn from developing countries’ own identified needs and plans (especially their TNAs, TAPs, NDCs, NAPs, LEDS), and that the programme must help address systemic barriers through a political process rather than through technical discussion alone.
- The CTCN should focus on the delivery side. It should operationalize the BTIP through enhanced support for national designated entities (NDEs), project preparation assistance, matchmaking with providers of finance and technology, follow-up support after technical assistance, and support for pilot and demonstration activities where these respond to country priorities. CTCN functions should more clearly include technology implementation, support to NDEs, strengthening endogenous capacities and national systems of innovation, project finance and technical assistance matchmaking, and follow-up activities.
- Jointly, the TEC and the CTCN should establish a BTIP implementation track in their joint work programme, with a small number of concrete implementation-oriented workstreams:
 - a pipeline support stream for turning country priorities into bankable concepts and projects;
 - an NDE support stream focused on institutional strengthening and coordination across ministries and national stakeholders;

² Belém TIP decision, para. 8(a) to (e). Note that the listing of elements is open-ended and not exhaustive.

- an endogenous capacities and national systems of innovation stream, including support for local research and development (R&D), demonstration, adaptation of technologies to local conditions, and indigenous and endogenous technologies;
- a systemic barriers stream that identifies recurring obstacles requiring Party-level guidance or cooperation with other international bodies.

The key test would be whether TEC and CTCN activities will help developing countries deploy and diffuse prioritized technologies and innovate and develop their own endogenous technologies, rather than merely generating additional reports or undertaking talkshop-type dialogues. This results-oriented approach is central to the BTIP and to developing countries’ expectations of the Technology Mechanism.

In this regard, the TEC and the CTCN should develop their individual and joint workplans so that each activity is explicitly mapped to one or more elements of BTIP paragraph 8. This should not merely be a labelling exercise, as it will require fundamental reorientation by both the TEC and the CTCN to move from process-oriented outputs (policy briefs, workshops, knowledge products) towards measurable implementation outcomes on the ground in developing countries. Such proposed revision can be envisioned below:

TEC BTIP Implementation	TEC and CTCN Joint BTIP Implementation	CTCN BTIP Implementation
<p>The TEC, as the policy arm of the Technology Mechanism, should take the following steps:</p> <ul style="list-style-type: none"> • Develop targeted policy recommendations specifically aimed at addressing the systemic barriers preventing technology implementation 	<p>The TEC and the CTCN should jointly:</p> <ul style="list-style-type: none"> • Develop a consolidated BTIP Implementation Plan as a joint document that maps existing and planned activities to each BTIP element, identifies gaps, sets milestones, and defines accountability mechanisms. This plan should be endorsed by the TEC and the CTCN and reported to the CMA. • Convene regular joint coordination sessions – beyond the existing annual joint meeting – specifically focused 	<p>The CTCN, as the operational arm of the Technology Mechanism, must take decisive steps to expand and deepen its country-level implementation work:</p> <ul style="list-style-type: none"> • Restructure technical assistance delivery to place greater emphasis on technology implementation,

TEC BTIP Implementation	TEC and CTCN Joint BTIP Implementation	CTCN BTIP Implementation
<p>in developing countries, including intellectual property barriers, unfavourable licensing terms, high costs of access to proprietary climate technologies, and inadequate enabling environments. These recommendations should be concrete, actionable, and explicitly referenced to BTIP paragraph 8(a) and (b).</p> <ul style="list-style-type: none"> Initiate substantive work to support developing countries in strengthening their national systems of innovation (NSIs) and enabling environments, as mandated under BTIP paragraph 8(b). This should include comparative analysis of policy frameworks that have worked in developing country contexts, and identification of what support developed countries and MDBs can provide to strengthen NSIs. Integrate the technology priorities articulated in TNAs, NAPs, NDCs, BTRs, and LEDS into TEC policy analysis. The TEC 	<p>on BTIP implementation tracking, to ensure institutional coherence between the policy and operational arms.</p> <ul style="list-style-type: none"> Ensure that the BTIP mandate explicitly informs the design of the next Joint Work Programme (post-2027), which should be developed with the BTIP as its primary frame of reference. Develop a BTIP implementation track structured around the following four implementation-oriented workstreams: <ul style="list-style-type: none"> <u>1. Pipeline Support Stream</u> Establish and operationalize a Technology Implementation Accelerator to proactively assist developing countries in converting their identified technology priorities (from TNAs, TAPs, and NDCs) into project concept notes and fundable proposals. This moves beyond mere facilitation to concrete implementation support, addressing a persistent gap where planning outcomes often fail to reach the investment stage. This Accelerator should leverage the CTCN's network of partner institutions, including its regional centres, to draw on various models being used by these partner institutions to adopt and implement country-driven national project implementation and investment approaches. <u>2. NDE Support Stream</u> TEC and CTCN to work together to provide targeted technical assistance to NDEs to integrate climate technology priorities into national policies and programmes. The TEC and the CTCN must move 	<p>including pilot and demonstration activities, as consistently called for by developing countries at COP 30. Technical assistance that merely produces project concept notes without follow-through to actual implementation falls short of the BTIP ambition.</p> <ul style="list-style-type: none"> Strengthen the role and capacity of NDEs, including by providing dedicated support for NDE institutional strengthening and for integrating climate technology priorities into national policies, programmes and projects. NDEs are the primary interface between the CTCN and developing country governments, and their effectiveness is a determinant of the CTCN's overall performance. Scale up matchmaking and partnership-building activities to connect developing country technology priorities with relevant financial and technical partners, including GCF,

TEC BTIP Implementation	TEC and CTCN Joint BTIP Implementation	CTCN BTIP Implementation
<p>should coordinate with the Adaptation Committee and the Standing Committee on Finance to ensure these priorities inform financial flows.</p> <ul style="list-style-type: none"> • Provide substantive inputs to and facilitate the U N F C C C Subsidiary Body for Implementation (SBI)'s global dialogues on systemic barriers to technology development and transfer. This includes preparing background analytical briefs on barrier categories such as IPRs and trade restrictions that can inform these dialogues and the subsequent decisions by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA). • Review and update its rolling workplan to explicitly incorporate the five BTIP elements and to ensure that gender-responsive approaches and the needs of least developed countries 	<p>beyond general technical assistance and specifically target priorities identified in NDCs, NAPs, TNAs, TAPs, and LEDS.</p> <p>3. <u>Endogenous Capacities and NSI Stream</u></p> <ul style="list-style-type: none"> • Joint workplans should prioritize building the capacity of developing countries' NSIs. This involves supporting the development of endogenous technologies and ensuring that research, development, and demonstration (RD&D) are aligned with local needs rather than just importing foreign technology solutions. • Jointly promote indigenous and endogenous technologies of developing countries, including through specific joint workstreams to identify and scale Indigenous Peoples' knowledge and endogenous technologies, ensuring that implementation is country-driven and aligned with local circumstances. <p>4. <u>Systemic Barriers Stream</u></p> <ul style="list-style-type: none"> • The TEC and the CTCN should jointly convene the mandated global in-session dialogues (starting in 2027) and regional dialogues (in conjunction with NDE forums) to identify global systemic barriers to technology transfer. From the developing country perspective, these dialogues must not avoid "taboo" topics and should explicitly address trade barriers, IPR regimes, and financial barriers that currently hinder technology deployment. 	<p>GEF, AF, FRLD, MDBs, and UNEP and UNIDO network members. Concrete m a t c h m a k i n g outcomes – partnerships formed, projects initiated, financing committed – should be tracked and reported.</p> <ul style="list-style-type: none"> • Expand support for endogenous t e c h n o l o g y d e v e l o p m e n t , including for indigenous and local technologies, by broadening the CTCN network to include indigenous k n o w l e d g e institutions, national research centres in developing countries, and South-South cooperation bodies.

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<p>(LDCs) and small island developing states (SIDS) are mainstreamed throughout.</p> <ul style="list-style-type: none"> • Provide policy recommendations on overcoming trade-related barriers, including IPRs and technical regulations and standards, to facilitate the transfer of environmentally sound emerging technologies. 		

3

Strengthening TEC-CTCN External Partnerships in Support of BTIP Implementation

A PERSISTENT structural failure in the climate technology architecture has been the gap between the technology priorities of developing countries – identified through TNAs, NDCs, and NAPs – and the actual allocation of climate finance. Developing countries have repeatedly found that their technology priorities, even when formally identified and expressed, do not translate into funded projects. The GCF and GEF project approval processes remain complex, costly, and frequently inaccessible for countries with limited project preparation capacity.

The TEC and the CTCN should seek to structurally embed technology priorities into the programming cycles of the GCF and the GEF, and to actively engage MDBs in the implementation of developing country technology priorities.

The biggest opportunity is to position the TEC and the CTCN as connectors between country-identified technology needs and the institutions capable of financing and supporting implementation, including through building capacity for concept notes and fundable projects, fostering matchmaking and partnership-building, and mobilizing both financial and non-financial resources. The role of the Technology Mechanism should therefore be to help convert identified priorities into implementable pipelines that can be taken up by the GCF, GEF, AF, FRLD and other institutions.

For developing countries, collaboration with the operating entities of the Financial Mechanism should not mean shifting responsibility away from developed countries' obligations. Rather, it should mean making those institutions more responsive to developing country priorities and more effective in supporting implementation. Developing countries explicitly

envisage support coming from the GCF and the GEF, as well as the AF and potentially the FRLD, for a Technology Implementation Accelerator and for strengthening national systems of innovation, while also inviting developed countries, MDBs and other institutions to support these functions in collaboration with the TEC and the CTCN.

Practically, the TEC and the CTCN could pursue collaboration in five ways:

- 1) First, they could create a structured referral and pipeline mechanism under which CTCN technical assistance, TNAs, NDCs, NAPs and BTRs are translated into a set of prioritized, finance-ready concepts that can be referred to the GCF, GEF, AF, FRLD and relevant funds or banks. This would directly address the long-recognized gap between identifying technology needs and securing implementation support.
- 2) Second, they could convene regular joint clinics or roundtables with the GCF, GEF, FRLD, AF, MDBs and regional development banks, and Santiago Network focused on project preparation, accreditation pathways, co-financing structures and support windows for technology implementation. These should be demand-driven and linked to country priorities rather than donor preferences.
- 3) Third, they could collaborate with specialized agencies and institutions for non-financial support, including technical expertise, standards development, training, research partnerships, and regional innovation support. Developing countries have been open to considering TEC/CTCN cooperation with institutions such as UNESCO, UNIDO, ITU, WIPO, IRENA, UNITAR, WTO and WMO, within their mandates.
- 4) Fourth, they should support national systems of innovation and endogenous capacities, not only end-user deployment. Developing countries have consistently stressed that the BTIP must not be reduced to importing finished technologies. It must also strengthen domestic institutions, local adaptation of technologies, research capability, demonstration, and learning-by-doing. This would ensure that BTIP implementation responds to a key element of Article 4.5 of the Convention and Article 10 of the Paris Agreement, namely

that technology transfer should be accompanied by as well as result in the development and enhancement of endogenous capacities and technologies in developing countries.

- 5) Fifth, to avoid duplication, the TEC and the CTCN should define a clear division of labour: the TEC identifies patterns, policy barriers and guidance needs; the CTCN supports country-level implementation and partnerships; the financial institutions provide scaled-up finance and implementation windows; and other partners provide specialized technical or capacity support. The TEC-CTCN joint work programme should then serve as the coordinating platform rather than as a substitute for the mandates of finance entities.

Mobilization of resources for the BTIP must cover both financial and non-financial means of implementation. Developing countries have long emphasized that technology transfer is not only about finance: it encompasses knowledge, skills, capacity, and institutional capabilities. The BTIP's reference to "non-financial resources" must be operationalized through concrete mechanisms. Many barriers identified by developing countries include high costs, poor access to finance, weak policy and regulatory support, limited technical expertise, and intellectual-property-related constraints. This highlights the need to address economic and financial barriers, build human and institutional capacity, strengthen enabling environments, and consider measures such as patent pools, technology banks and IPR flexibilities.

Collaboration should therefore be designed to accelerate implementation of developing country technology transfer priorities, not to repackage existing initiatives. At the same time, while TEC/CTCN engagement with a wide array of financial and institutional partners is important, developing countries have a strong interest in ensuring that this engagement does not result in fragmented or duplicative processes that impose additional transaction costs on countries with limited capacities. The benchmark is whether developing countries gain easier access to technology, finance, know-how, partnerships and policy support in ways that strengthen domestic capabilities over time.

The collaboration discussed above can be clearly visualized in the following matrix:

TEC BTIP Implementation	TEC and CTCN Joint BTIP Implementation	CTCN BTIP Implementation
<ul style="list-style-type: none"> • The TEC should seek to formalize a structured dialogue with the GCF Board, the GEF Council, the AF Board, and the FRLD Board with the explicit purpose of ensuring that BTIP-identified technology priorities inform GCF, GEF, AF, and FRLD programming cycles. Developing countries in their BTIP negotiating proposals specifically requested both the GCF and the GEF, and potentially the AF and the FRLD, to “consider providing support for” the Technology Acceleration and for strengthening NSIs, including a reflection on how the CTCN, its network members and regional centres can play a role in such provision. • The TEC should contribute to the periodic assessment of the effectiveness and adequacy of support provided 	<ul style="list-style-type: none"> • The TEC and the CTCN should work with the GEF, GCF, AF, and FRLD to ensure BTIP implementation elements are explicitly incorporated into their replenishment processes and strategic plans. Developing countries emphasize that “significant funding” for the BTIP must come from these operating entities to fulfil the mandate of decision 1/CMA.5. While the TEC and the CTCN should identify opportunities to engage the private sector and philanthropic organizations for non-financial resources, these efforts must complement rather than substitute for the mandatory obligations of developed country Parties to provide predictable financial support under Article 9.1 of the Paris Agreement. • The TEC and the CTCN should advocate, within their interactions with the GEF, for the GEF climate change focal area programming under GEF-9 and beyond to explicitly prioritize technology priorities identified in TNAs and other national planning documents, and for a meaningful portion of GEF resources to be dedicated to building the project preparation capacity of developing countries. • The TEC and the CTCN should jointly develop a partnership framework for MDB engagement that spells out specific roles and responsibilities, ensures that MDB programming is informed by country-driven technology priorities as expressed in TNAs and NDCs, and avoids the imposition of MDB-preferred 	<ul style="list-style-type: none"> • The CTCN should work with the GCF Secretariat to streamline the process by which CTCN-supported concept notes and project proposals are reviewed and considered for GCF, GEF, AF, and FRLD funding. A dedicated technology implementation track or fast-track pathway within these funds’ respective project cycles – for projects originating from CTCN technical assistance – would significantly reduce the gap between technical assistance and funded implementation. • The CTCN’s regional centres can serve as critical intermediaries between MDB country programmes and national technology priorities. Strengthening these centres, including ensuring adequate and predictable funding for their operations, is a precondition for

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<p>to the Technology Mechanism by the Financial Mechanism, ensuring that findings inform the review of the BTIP, the Global Stocktake process, and ongoing GCF, GEF, AF, and FRLD programming.</p> <ul style="list-style-type: none"> The TEC should develop policy recommendations that address the cost of technology access, including by exploring concessional technology licensing arrangements and public domain approaches for critical climate technologies. This would respond to a key concern from developing countries that MDB engagement in technology transfer must not reproduce or reinforce existing asymmetries in which technologies are transferred on commercial terms that are unaffordable for recipient countries. The TEC should develop policy recommendations on how to expand access 	<p>technology solutions on developing countries. There is an opportunity to collaborate with MDBs and other climate finance institutions to support project preparation that is inclusive of technology transfer or technology solutions or to help scale up technology implementation across sectors.</p> <ul style="list-style-type: none"> The TEC and the CTCN should strengthen their engagement with UNEP, UNIDO, UNESCO, UNITAR, IRENA, ITU, and other UN specialized agencies with technology-relevant mandates to leverage their programmes in support of developing country technology priorities. Memoranda of understanding (MoUs) or joint activity plans could formalize this cooperation and create synergies in capacity-building and matchmaking. The TEC and the CTCN should develop a clear division of labour in their respective engagement with financial and non-financial partners, leveraging the TEC’s policy convening role and the CTCN’s operational delivery role in a complementary and coordinated manner. Coordination with the Adaptation Committee, the Warsaw International Mechanism, and the Santiago Network should be strengthened to ensure coherence across the UNFCCC’s institutional landscape, particularly for adaptation technologies and for countries most vulnerable to climate impacts. The TEC and the CTCN should include a dedicated section in their joint annual reports identifying the specific financial gaps that prevent the full implementation of the BTIP, providing a clear “signal of urgency” to the Financial Mechanism. 	<p>effective MDB-CTCN collaboration.</p> <ul style="list-style-type: none"> South-South and triangular cooperation should be a cornerstone of non-financial resource mobilization. The CTCN network should actively facilitate South-South technology exchanges, particularly for technologies that have been successfully developed and deployed in developing country contexts, including indigenous and endogenous technologies. Capacity building for NDEs should be treated as a non-financial resource mobilization priority by the CTCN. NDEs that are well-resourced and institutionally capable can more effectively access and deploy financial and technical support from a wide range of partners.

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<p>to climate technology knowledge and data as global public goods, including through open-source platforms, patent pools, and other mechanisms that reduce intellectual property barriers. This is particularly important for technologies at early stages of the technology cycle where IPR barriers are most acute.</p>		

4

Enhancing the Monitoring and Evaluation Framework of the Technology Mechanism to Support BTIP Implementation

MONITORING and evaluation (M&E) of the Technology Mechanism has, from a developing country perspective, been insufficiently focused on actual outcomes and impacts for developing countries. Existing M&E frameworks have tended to track activity outputs – e.g., number of technical assistance projects, number of workshops, publications produced – without systematically capturing whether these activities have led to real changes in technology access, deployment, or endogenous capacity in developing countries.

Transparent M&E under the BTIP should answer three simple questions:

- Are developing countries receiving support for the priorities they themselves identified?
- Is that support adequate and helping translate priorities into implementation?
- Are the recurring systemic barriers being surfaced clearly enough for Parties to act on them?

The Belém TIP decision (paragraph 9) requests the TEC and the CTCN to incorporate the BTIP elements into their M&E activities. This is an opportunity to fundamentally improve the quality and developmental focus of the Technology Mechanism’s reporting. Developing countries should insist that M&E reform go beyond compliance reporting and instead serve as a genuine accountability mechanism that tracks progress towards the BTIP’s ultimate objective: real technology implementation on the ground.

Reporting and M&E should hence be designed around the BTIP’s implementation purpose. Paragraphs 9 and 10 of the Belém TIP decision make clear that the BTIP elements are to be incorporated into TEC and CTCN

workplans and used to inform M&E, with information on implementation to be included in the TEC/CTCN joint annual report.

The following principles should be suggested to guide the development of BTIP M&E frameworks:

- Outcome and impact orientation: M&E should track not only activities and outputs but whether those activities have led to increased deployment of climate technologies in developing countries, strengthened NSIs, improved access to finance for technology projects, and reduced barriers to technology development and transfer.
- Country-driven metrics: Indicators should be developed in consultation with developing countries and should capture what developing countries themselves consider progress. These include qualitative assessments of whether support has been adequate, appropriate, and accessible, alongside quantitative indicators.
- Differentiated treatment: Reporting should be able to provide both aggregate and disaggregated data that can help reveal whether the Technology Mechanism's support is reaching those who most need it, as required by the BTIP's principles.
- Transparency and accessibility: M&E findings should be reported in accessible formats and made available in advance of COP/CMA sessions so that Parties can meaningfully review them and hold the Technology Mechanism accountable.
- Linkage to GST cycles: BTIP M&E should be explicitly linked to the Global Stocktake process, with findings feeding into GST inputs and informing the periodic BTIP review. The second GST will be a critical test of whether the BTIP is on track.

For developing countries, this means the joint annual report should move beyond a catalogue of activities and instead show whether the Technology Mechanism is helping to remove barriers and deliver implementation support. Reporting should therefore be structured around the five core BTIP elements: challenges addressed across the technology cycle; strengthened national systems of innovation and enabling environments; support to integrate technology priorities into national planning and projects; project concept note and fundable proposal support; and mobilization of financial and non-financial resources.

The M&E approach should also reflect that the achievement of the long-term vision on technology development and transfer cannot be measured only by counting technology transfer transactions. It also depends on whether enabling environments are improved, whether finance and capacity barriers are reduced or eliminated, and whether developing countries gain greater autonomy, adaptive capacity and endogenous innovation capability.

A critical M&E element that is not always captured in existing frameworks is the tracking of systemic barriers to technology development and transfer. From a developing country perspective, the joint annual report should hence include a dedicated section on systemic barriers and recommendations for action. Developing countries had proposed in-session global dialogues on systemic barriers (which could be incorporated as part of the mandated global in-session dialogues during SBI sessions referred to in paragraph 11 of the Belém TIP decision), with findings to be reported in the joint annual report. The proposed global and regional dialogues would be to generate understanding among Parties of such barriers and feed recommendations into the intergovernmental process. Reporting should therefore identify not only what assistance was delivered, but also what recurring obstacles remain unresolved, including barriers linked to finance, access conditions, regulatory requirements, trade-related obstacles and intellectual property.

The joint annual report should therefore include a dedicated BTIP chapter that reports on the following elements, mapped to the Belém TIP decision's paragraph 8:

- Paragraph 8(a) – Addressing implementation challenges: Number and nature of activities addressing challenges to implementing developing country technology priorities at different stages of the technology cycle; qualitative assessment of good practices, enablers, and lessons learned exchanged; reference to findings of the periodic assessment of Technology Mechanism effectiveness.
- Paragraph 8(b) – Strengthening NSIs and enabling environments: Qualitative and quantitative assessment of support provided for national systems of innovation and enabling environments (policy, regulatory), including for indigenous and endogenous technologies; tracking of research, development and demonstration activities supported; country-level case studies of improvements in enabling environments.

- Paragraph 8(c) – Supporting integration of technology priorities: Number of countries supported to integrate climate technology priorities into national policies, programmes and projects; assessment of NDE capacity levels and support provided to NDEs; tracking of uptake of CTCN support in NDC and NAP processes.
- Paragraph 8(d) – Capacity building and matchmaking: Number of project concept notes developed and proportion that have progressed to fundable projects and then to implemented projects; number and quality of matchmaking partnerships formed; assessment of effectiveness of CTCN-GCF and CTCN-GEF collaboration pipelines.
- Paragraph 8(e) – Resource mobilization: Total financial resources mobilized in support of BTIP implementation, disaggregated by source (GCF, GEF, AF, FRLD, MDBs, bilateral donors, host institution); total non-financial resources (in-kind technical assistance, South-South exchanges) mobilized; assessment of adequacy of CTCN funding relative to mandated activities. The TEC and the CTCN should include a dedicated section under this element that identifies the specific financial gaps preventing the full implementation of the BTIP, thereby providing a clear “signal of urgency” to the Financial Mechanism.

In addition to being mapped to the five core BTIP elements as suggested above, the BTIP chapter in the joint annual report should also have a section on systemic barriers that should include:

- A synthesis of findings from the SBI global dialogues on systemic barriers (where established) and from the CTCN-organized regional dialogues.
- An assessment of whether and how identified barriers have been addressed through CMA decisions or through actions by other international bodies.
- A forward-looking analysis of emerging barriers and challenges to BTIP implementation, drawing on inputs from developing country Parties, NDEs, and civil society.

TEC/CTCN reporting should shift from activity-based metrics to results-oriented indicators that measure “action on the ground” and the extent to which the “implementation gap” is being closed. Assessment methods must be transparent and based on the technology priorities identified by

developing countries in their TNAs, TAPs, NDCs, NAPs, and/or LEDS. To respect national sovereignty, these M&E frameworks should be voluntary, non-punitive, and avoid cross-country comparisons, focusing instead on identifying and addressing the specific barriers faced by developing countries.

The indicators relating to BTIP implementation that should be incorporated in the BTIP chapter should be transparent, balanced and primarily qualitative-plus-quantitative, rather than narrowly technocratic. In particular, they should capture:

- responsiveness to country-driven priorities;
- accessibility and usefulness of support for developing countries;
- follow-through from technical assistance to implementation;
- resource mobilization achieved and its adequacy relative to identified support needs and priorities;
- progress in strengthening NDEs, national systems of innovation and local capacities;
- identification of systemic barriers requiring Party-level action.

In light of the above, a practical reporting format for the joint annual report's BTIP chapter would include three layers:

- 1) The first is activity reporting: what the TEC and the CTCN did under each BTIP element.
- 2) The second is output reporting: for example, number of NDEs supported; number of countries assisted in integrating technology priorities into national plans; number of concept notes or project ideas developed; number of matchmaking processes convened; number of regional or global dialogues held on systemic barriers.
- 3) The third, and most important, is outcome-oriented reporting: whether countries obtained follow-on support, whether projects moved towards financing or implementation, whether national coordination improved, whether barriers were identified clearly enough to inform Party decisions, and whether endogenous capacities and innovation systems were strengthened.

Given the breadth and ambition of the BTIP mandate, the TEC and the CTCN should:

- Convene a dedicated joint task force or working group on BTIP M&E, with participation from developing country TEC members and the CTCN Advisory Board's developing country representatives, to develop a proposed indicator framework for consideration at the next joint meeting. The TEC and the CTCN should launch a call for submissions from Parties and stakeholders on proposed indicators, ensuring that developing country voices are prioritized in this process.
- Set up a TEC/CTCN submission portal where Parties and stakeholders can suggest topics for discussion, including controversial ones like the development of endogenous capacities and simplicity of access to financial support.
- Develop and align BTIP indicators keeping in mind their utility towards providing sufficient information inputs into the Global Stocktake framework and the periodic assessment of the Technology Mechanism, avoid duplication and ensure coherence across UNFCCC reporting mechanisms.
- Ensure that the M&E framework is adaptive to reflect evolving priorities and any amendments to the BTIP decision.
- Ensure dedicated reporting on BTIP elements by means of having the TEC-CTCN joint annual report include a clear, specific section detailing actions taken to implement each of the elements of the BTIP listed in paragraph 8 of the Belém decision. This should include summaries of the outcomes from global and regional dialogues.
- Host dialogues that explicitly address how IPR and trade policies act as barriers or enablers for technology transfer.
- Ensure that the progress reported in the joint annual report serves as formal inputs into the periodic assessments of the Technology Mechanism and the Global Stocktakes, specifically tracking efforts and the progress achieved in implementing Article 4.5 of the Convention and Article 10 of the Paris Agreement related to technology development and transfer for developing countries.

5

Complementarity Between TEC/ CTCN Joint Work and Direct BTIP Implementation

THE recommendations put forward in this paper for the TEC and the CTCN set out how the two bodies should incorporate the BTIP into their own and joint work. It is essential, however, to be clear about what this means and, equally importantly, what it does not mean. The TEC and the CTCN have specific institutional roles within the Technology Mechanism. Their individual and joint work is one channel through which the BTIP could be advanced. But it is not the only channel, and it must not be mistaken for the whole of BTIP implementation.

It is critical to emphasize that the practical steps and recommendations identified for the TEC and CTCN joint work are not intended to replace or silo the broader implementation of the BTIP. Instead, the actions of the Technology Mechanism must be adopted and implemented in a manner that is complementary to the direct implementation of the Belém TIP decision by the Secretariat and other relevant constituted bodies within the UNFCCC and with external partners.

The Belém TIP decision requests the TEC and the CTCN to incorporate the BTIP elements into their workplans and programmes of work “as appropriate” (paragraph 9). This qualification matters. The TEC and the CTCN are asked to embed BTIP priorities within their existing institutional mandates and capacities – not to become the sole or primary vehicle for BTIP delivery. The full implementation of the Belém TIP decision will require action across a much wider set of actors and processes: decisions and actions by developed country Parties to fulfil their obligations on technology transfer and finance under the Convention and the Paris Agreement; the programming and resourcing decisions of the GCF, GEF, and MDBs; the work of the SBI in convening the global dialogues on systemic barriers and forwarding resulting recommendations to the CMA; and, ultimately, CMA

decisions that address the structural and political barriers that no technical body alone can remove.

The recommendations in this paper should therefore be understood and adopted in a manner that is complementary to, and not a substitute for, the broader intergovernmental work required to implement the Belém TIP decision in its entirety. This implies the following:

- First, TEC and CTCN work should actively support and feed into the broader BTIP implementation process. While the TEC and the CTCN focus on their institutional mandates, such as policy guidance and technical assistance, these efforts must serve as the “engine room” for the broader BTIP. The work of the Technology Mechanism should provide the technical evidence and operational pathways that enable the successful execution of the BTIP’s high-level objectives. The policy analysis and recommendations of the TEC, and the operational experience and country-level knowledge of the CTCN, are invaluable inputs into the wider BTIP process. The TEC’s work on identifying systemic barriers, including on finance, intellectual property, and enabling environments, should directly inform the SBI global dialogues and, through them, the CMA decisions that are needed to address those barriers. The CTCN’s matchmaking, project preparation, and NDE support activities will generate the country-level evidence base needed to assess what is and is not working in BTIP implementation. The outcomes from the TEC/CTCN’s Technology Implementation Accelerator and their regional dialogues should serve as direct inputs into the broader BTIP processes. This ensures that the policy lessons learned at the technical level inform the political decisions and financial matchmaking occurring within the wider BTIP framework. The joint annual report should not be merely an accountability document for the Technology Mechanism: it is a primary source of evidence for the broader BTIP review process and for the Global Stocktake.
- Second, the TEC and the CTCN should not allow the incorporation of the BTIP into their workplans to be used to narrow or contain the BTIP’s ambition. There is a real risk that by treating BTIP implementation as primarily a matter of adjusting TEC and CTCN workplans, the broader political and financial obligations embedded in the BTIP decision – in

particular, the obligations of developed countries to mobilize financial and non-financial support, and the responsibility of the CMA to address systemic barriers through binding decisions – are quietly sidelined. The TEC and the CTCN should be vigilant against this dynamic and should use their reporting, recommendations, and convening role to keep the full scope of the BTIP’s ambition visible to Parties. The TEC and the CTCN should not view the BTIP as a separate isolated workstream, but rather as the overarching framework within which their mandates now operate. Successful delivery requires that these joint actions and the direct implementation of the Belém decision function as a single, coherent ecosystem.

- Third, the TEC and the CTCN should be explicit about the limits of what they can achieve within their current institutional capacities and resources. The CTCN in particular has consistently been under-resourced relative to the scale of demand from developing countries, a concern that developing countries have raised repeatedly in the negotiations and that the G77 and China made central to their position at COP 30. Absorbing a substantial new mandate without a commensurate increase in resources risks producing a superficial response that damages rather than advances the credibility of BTIP implementation. The honest approach is to clearly identify, in the joint BTIP Implementation Plan and in subsequent reporting, where capacity and resource constraints are binding, and to use those findings as a basis for advocacy to the Financial Mechanism, developed country Parties, and the CTCN’s host institution for the additional support that is needed.

In sum, the TEC and the CTCN should approach the Belém TIP as something larger than themselves. Their joint work is a necessary but not sufficient condition for BTIP success. Done well, it will strengthen the foundations for the broader intergovernmental process – providing evidence, surfacing barriers, building pipelines, and demonstrating to Parties that the Technology Mechanism is a credible and energetic partner in implementation. Done poorly, or conceived too narrowly, it risks lending a veneer of activity to what remains, in substance, an unfulfilled obligation. The recommendations in this paper are offered in the spirit of the former: concrete, ambitious, and explicitly designed to complement and reinforce the full scope of what the Belém TIP demands.

6

Conclusion

THE Belém TIP is not a new idea. It is the latest iteration of a mandate that has existed since 1992, when the UNFCCC established the obligation of developed countries to promote, facilitate and finance the transfer of environmentally sound technologies to developing countries, and which has since been reaffirmed, elaborated and institutionalized many times over the past quarter of a century (from Marrakesh in 2001 to Belem in 2025). What has been consistently lacking is not the mandate but the delivery.

The BTIP offers a critical opportunity for the Technology Mechanism to move beyond process-oriented activities and deliver concrete implementation on the ground. For the BTIP to be successful, the TEC and the CTCN must transition from their current advisory roles into a results-oriented framework that directly addresses the longstanding “implementation gap”. This transition requires fundamental reorientation guided by the five priorities and four essential pillars referred to above.

This is the context in which the forthcoming work of the TEC and the CTCN should be undertaken. BTIP workplan incorporation, resource mobilization, and M&E cannot be addressed through simple administrative rearrangements or further rounds of technical discussions on the part of the TEC and the CTCN. The underlying thrust has to be about the Technology Mechanism being able to finally change course: to move from producing knowledge products about technology transfer to actually enabling such transfer; from convening dialogues about barriers to helping Parties remove them; from reporting activities to demonstrating outcomes.

The recommendations proposed in this paper reflect what developing countries need to be reflected in the work of the TEC and the CTCN through three concrete commitments:

- First, a joint BTIP Implementation Plan that maps current and planned activities of both bodies to the five BTIP elements in paragraph 8 of the Belém decision, identifies what is missing, sets milestones, and assigns accountability. Without it, BTIP implementation risks becoming a label applied to business as usual.
- Second, a structured resource mobilization strategy that concretely positions the TEC and the CTCN as connectors between country-identified technology priorities and the institutions – GCF, GEF, AF, FRLD, MDBs, UN specialized agencies – that can finance and support their implementation. This strategy must be rooted in the obligations of developed countries under the Convention and the Paris Agreement, not in voluntary goodwill or the appetite of individual donors. It should include an explicit push for a dedicated technology implementation track within the GCF, GEF, AF, and potentially the FRLD, prioritization of TNA-identified needs, and an MDB engagement framework that is country-driven rather than lender-driven.
- Third, a BTIP M&E framework that is genuinely outcome-oriented, developed with active developing country input, and honest about both progress and failure. The joint annual report must become an accountability document, not simply a listing of TEC/CTCN activities. It should answer plainly whether developing countries are receiving support for priorities they identified, whether that support is translating into implementation, and whether systemic barriers are being named and addressed with sufficient political clarity to inform Party decisions.

Underlying all three commitments is a more fundamental point. The Belém TIP was a hard-fought and hard-won achievement by all Parties in the multilateral climate negotiations. It reflects, on one hand, developing countries' longstanding insistence that technology transfer must mean something real, not simply the exchange of information or the facilitation of market transactions, but the genuine building of endogenous technological capacity in developing countries, supported by the means of implementation

that developed countries are obligated to provide. On the other hand, it also constitutes a recognition by developed countries that scaled-up climate ambition by all Parties would require implementation of technology transfer commitments.

The Parties through the TEC and the CTCN have an opportunity to demonstrate that the foresight and insight of the Belém TIP decision that all Parties have agreed to will now be backed by actual action. Whether this happens will depend on the concrete institutional changes the TEC and the CTCN are willing to make to their ways of working – in their workplans, their partnerships, their resource advocacy, and their accountability to Parties. The Belém TIP has created the mandate. The TEC and the CTCN should continue an onward movement to implementation.

By operationalizing the Technology Implementation Accelerator and establishing dedicated workstreams as proposed above, the Technology Mechanism can finally fulfil the technology transfer obligations under the Convention and the Paris Agreement. Ultimately, the success of the BTIP will be measured by whether it enables developing countries to access, innovate, and deploy the technologies necessary for their climate and development goals.

IMPLEMENTING THE BELÉM TECHNOLOGY IMPLEMENTATION PROGRAMME THROUGH THE TECHNOLOGY EXECUTIVE COMMITTEE AND THE CLIMATE TECHNOLOGY CENTRE AND NETWORK

The commitment under the United Nations Framework Convention on Climate Change (UNFCCC) to promote transfer and development of environmentally sound technologies in developing countries has remained largely unrealized. The Belém Technology Implementation Programme (BTIP) decision adopted at the UN climate conference in 2025 offers an opportunity to redress this gap, as it constitutes the most significant mandate in recent years to advance access to these technologies.

This paper explores how the BTIP can best be put into effect by the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) – the component bodies of the UNFCCC's Technology Mechanism – in both their individual and joint work. Implementation must be rooted in developing countries' own technology priorities, be backed by financial and technical support, and address systemic barriers to technology transfer such as trade and intellectual property restrictions. It will also require a reorientation of the TEC and the CTCN from their current advisory, process-centred role to one aimed at delivering concrete outcomes in the form of actual technology deployment in the developing countries.

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