



Technology Executive Committee

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Draft knowledge product on incubator and accelerators

Cover note

A. Background

1. As per Activity A.2.2 of its rolling workplan (2023-2027), in 2026, the TEC is to develop a knowledge product on incubators and accelerators, in collaboration with the United Nations Industrial Development Organization (UNIDO) as the lead partner for this activity.
2. At TEC 30, the TEC agreed on the scope of work under this activity¹ and launched the development of the knowledge product referred to in paragraph 1 above by providing guidance to the open-ended activity group on its conceptualization. The TEC underscored the value in mapping, analyzing and sharing policy insights from the development and operation of climate technology incubators and accelerators in developing countries, including with regard to associated enabling environments and financing modalities.
3. At TEC 31, the TEC considered a draft concept note for the knowledge product, and agreed on its objectives, scope and key elements. The TEC provided guidance to the open-ended activity group on the target audience, sources of information, and selection criteria for the incubators and accelerators to be mapped and studied as part of this work.
4. At TEC 32, a co-lead of the open-ended activity group on incubators and accelerators together with a representative of UNIDO, will present a first draft of the knowledge product, as contained in the annex.

B. Scope of the note

5. The annex to this note contains a draft of the TEC-UNIDO joint knowledge product on incubators and accelerators.

C. Possible actions by the Technology Executive Committee

6. The TEC will be invited to consider the draft contained in the annex and provide guidance to the open-ended activity group for further work on this knowledge product.

¹ Scoping efforts to inform this work were conducted in the period of 2023-2025, including through engagement and consultations with the Adaptation Fund, the Climate Technology Centre and Network, the Green Climate Fund, and the Global Environment Facility.

Annex

Draft knowledge product on incubators and accelerators

Foreword and acknowledgments

[Placeholder to be developed following TEC 32, and once the paper is in its final stages of development]

Abbreviations and acronyms

[Placeholder to be developed following TEC 32, and once the paper is in its final stages of development]

Executive summary

[Placeholder to be developed following TEC 32, and once the paper is in its final stages of development]

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Chapter 1: Introduction, context and methodology

1.1 Background

1. Accelerating climate action requires countries to develop, deploy and scale-up technologies that reduce emissions and strengthen resilience. Under the Paris Agreement, Parties recognized that innovation is central to achieving long term climate goals and to supporting sustainable development. But innovation does not happen in a vacuum. It depends on strong National Systems of Innovation (NSIs) – “a network of actors, institutional contexts and linkages that underlie national technological change”.²

2. The performance of NSIs depends on the quality of their actors, institutions and linkages – particularly universities and research bodies that produce and diffuse Science, Technology, Engineering and Mathematics (STEM) and entrepreneurial capabilities. A solid STEM and entrepreneurial education/training are core components of effective NSIs, as they enable knowledge creation, dissemination, experimentation, and the adaptation of technologies to local needs. The NSI concept has been widely used by both scholars and policy makers to explain how interactions between a set of distinct, nationally bounded institutions supports and facilitates technological change and the emergence and diffusion of new innovations.³

3. Entrepreneurs are at the heart of NSIs, as the actors who translate knowledge, research, and technological capabilities into practical applications with market and societal value. They are creating the jobs of the future and could play a key role in driving economic growth in line with the sustainable development goals (SDGs). Their ability to mobilize resources, take risks, and adapt solutions to local economic, social, and environmental contexts makes them indispensable intermediaries in NSIs.

4. To support entrepreneurs within NSIs, incubators and accelerators (I&As) play a pivotal enabling role. They help early-stage entrepreneurs turn ideas into viable climate solutions by offering technical assistance, business development services, access to networks, and linkages to finance. They also help entrepreneurs break out of their isolation, encourage the exchange of experiences, and facilitate the sharing of resources. This is particularly important for developing countries, where entrepreneurial ecosystems are often fragmented, knowledge about new technologies is less accessible and risk capital scarce. I&As can be critical connectors – linking innovators to markets, investors, and public support mechanisms.

5. The Technology Executive Committee (TEC)’s 2018 joint publication⁴ with the Climate Technology Centre and Network (CTCN) and the Green Climate Fund (GCF) highlighted several important insights that remain highly relevant today:

- Climate focused I&As constitute a limited share of the global landscape;
- Entrepreneurs face systemic barriers, including limited access to finance, weak support systems, and fragmented links to climate technology markets;
- I&As can significantly reduce risk by helping entrepreneurs transform inventions into market ready technologies and connect with buyers, suppliers and investors;
- Ecosystems matter: the effectiveness of I&As depends on the broader enabling environment – policies, institutions, finance, talent, and partnerships – within a NSI. When these are weak, I&As struggle to perform their role.

² TEC (2015). TEC Brief #7, Strengthening National Systems of Innovation to Enhance Action on Climate Change. Available at:

https://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/TEC_documents/5be1bf880cc34d52a4315206d54a711b/60d1580f741a4bc783da5a00cf64a879.pdf

As defined in the TEC Brief #7, an NSI consists of:

- Actors: Organizations that participate in technology development and transfer e.g. technology firms, universities and financiers;
- Institutional context; Norms, cultural practices and laws that shape actor efforts e.g. government policies that affect how the private sector invest in a particular sector;
- Linkages: Interactions and relations between the actors and the institutional context e.g. flows of information and knowledge, and collaboration between firms, universities and research institutes.

³ Watkins A., Papaioannou T., Mugwagwa J. and Kale D. (2015). National innovation systems and the intermediary role of industry associations in building institutional capacities for innovation in developing countries: A critical review of the literature. Research Policy (Volume 44, Issue 8). Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0048733315000803>

⁴ UNFCCC (2018). Climate Technology Incubators and Accelerators, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/ttclear/incubators/#fullreport>

6. These findings confirmed both the large potential of I&As to support climate technology development in developing countries, and the structural gaps preventing them from operating at scale.

7. Recent work by the TEC on NSIs and innovation ecosystems reinforces and expands this understanding. I&As do not operate in isolation; they contribute to NSI functions such as knowledge development and diffusion, entrepreneurial experimentation, market formation, resource mobilization, and legitimation – all of which are essential for climate technology innovation.⁵

8. Parallel findings from the synthesis report for the technical assessment component of the first global stocktake⁶ prepared by the TEC in 2022, underscore persistent challenges that directly relate to I&As:

- Insufficient entrepreneurial ecosystems in developing countries;
- Scarce private finance for early-stage Research, Development and Demonstration (RD&D);
- Limited capabilities to adapt technologies locally;
- Lack of integrated enabling environments (policies, standards, procurement, skills).

9. Building on this foundation, and consistent with Activity A.2.2 of its 2023–2027 rolling workplan,⁷ the current paper aims to advance the understanding of the design and operation of climate technology I&As in developing countries. I&As could help countries unlock innovation at scale within stronger NSIs – allowing entrepreneurs, researchers, institutions, and policymakers to turn climate technology ideas into impactful, investable solutions that advance Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and long-term strategies.

1.2 Objectives

10. This paper serves as a useful resource with policy insights on the role and functions of climate technology I&As in stimulating technology RD&D, building effective ecosystems for entrepreneurs and notably for start-ups, and ultimately strengthening the NSIs in developing countries. In particular, it aims to:

- (a) **Provide an overview** of a diverse range of climate technology I&As in developing countries, including their sources of funding, services offered, institutions involved, and their positioning in the broader NSI;
- (b) **Identify practical pathways** for the development of funding proposals that incorporate I&As and seek to build effective ecosystems for start-ups, including by leveraging insights from the work of the CTCN, implementing agencies of climate funds and other support providers across the value chain of climate technology innovation in developing countries;
- (c) **Offer policy insights** from the development and operation of I&As, including with regard to conducive enabling policy environments and financing modalities, drawing on the experience of, and challenges faced and lessons learned by, among others, developers, support providers, implementers and innovators, including youth, women, and Indigenous People⁸ and local communities.

1.3 Scope and methodology

11. This paper focuses on describing how climate technology I&As function across a range of developing country contexts, drawing on insights from a curated set of real-world examples⁷. This study is not intended to be comprehensive; rather, it outlines the broader landscape with illustrative examples aiming to present how different I&As models operate in practice, how they are structured, and how they interact with their surrounding innovation ecosystems.

⁵ TEC (2023). Good practices and lessons learned on the setup and implementation of National Systems of Innovation, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/tteclear/tec/NSI.html>.

⁶ TEC (2022). Synthesis report for the technical assessment component of the first global stock take, United Nations Framework Convention on Climate Change. Available at: https://unfccc.int/sites/default/files/resource/GST_SR_TEC.pdf.

⁷ UNFCCC (2022). Joint Work Programme of the UNFCCC Technology Mechanism for 2023-2027, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/tteclear/tec/workplan>

⁸ Ijatuyi E. J., Lamm A., Yessoufou K., Suinyuy T., Patrick H. O. (2025), Integration of indigenous knowledge with scientific knowledge: A systematic review, Environmental Science & Policy (Volume 170). Available at: <https://www.sciencedirect.com/science/article/pii/S1462901125001352?via%3Dihub>

12. Findings should therefore be interpreted as indicative rather than definitive. The analysis does not attempt to generalize results beyond the specific initiatives included, nor to draw comparative judgments about performance or impact. Instead, it offers a descriptive, practical view intended to support reflection, dialogue, and learning among policymakers, practitioners, and partners engaged in climate technology innovation.

13. The analysis in this paper draws from multiple sources of information, including desk review to inform the analytical framework and inform the mapping exercise, semi-structured interviews to enrich the findings of the mapping and develop in-depth case studies, as well as stakeholder consultations for informing the mapping and triangulation and validation of findings. It combines prior TEC analytical work, UNIDO's operational experience with innovation ecosystems, and insights from climate projects that include incubator or accelerator components. These institutional sources were complemented by existing mappings and secondary analyses produced by UN agencies, international organizations, and national institutions. Together, they provide a coherent foundation for describing diverse I&As models and ecosystem linkages, without aiming for exhaustive global coverage.

1.4 Structure of the paper

14. **Chapter 1** introduces the background and context of the paper, state its objective and scope, and detail the methodology, especially how evidence will be compiled and analyzed.

15. **Chapter 2** provides concise definitions of I&As, typology, models, differences and their evolution, citing available literature and previous work of the TEC on the topic.

16. **Chapter 3** provides a synthesis of mapping results across geographies, sectors, technology readiness level (TRLs), services, financing models, ecosystem linkages, and results. Drawing from the findings from the reviewed I&As, and complementary insights gathered through desk research and stakeholder interviews.

17. **Chapter 4** offers practical insights regarding the positioning of I&As within NSIs and entrepreneurial ecosystems, including their coordination mechanisms and institutional linkages. It also highlights a range of conducive policy instruments and considerations that may support the design and operation of successful climate technology I&As in developing countries, including aspects related to talent, infrastructure, and inclusion.

18. **Chapter 5** explores various modalities and approaches, through which climate technology I&As in developing countries are financed and sustained. It highlights a range of instruments and funding mixes used to support operational and financial sustainability beyond external project funding, showcasing approaches for scaling and replication across different contexts.

19. **Chapter 6** outlines practical approaches for integrating I&As into climate-related funding proposals. The chapter also specifies the growing role of the private sector in supporting I&As and how these structures can access available funding options.

20. **Chapter 7** presents concise, actionable recommendations for country teams, national policy makers, and NDEs with regard to the development and operation of climate technology I&As in developing countries, with the aim to inform the design of more effective, inclusive, and scalable climate innovation ecosystems in developing countries.

Chapter 2: Definition, function and evolution of climate technology incubators and accelerators

2.1 Definitions and typologies

21. Climate technology I&As are specialized actors or institutions that enable early-stage innovators, researchers and emerging ventures to advance climate relevant technologies from ideas to adoption.⁷ In developing country contexts – where innovation ecosystems often remain thin, fragmented, or constrained by limited access to finance – I&As “provide broad-ranging support to entrepreneurs, helping them to develop business know-how, market connections and technical capacity, and providing guidance on sources and procedures for access to finance”.⁹

22. Beyond this shared purpose, I&As differ in the way they support early-stage ventures. Incubators typically offer a long-term nurturing environment – often spanning one to five years – providing workspace, business development

⁹ TEC (2018). TEC Brief #12, Energizing entrepreneurs to tackle climate change. Available at: <https://unfccc.int/tteclear/tec/brief12.html>.

services, technical assistance, and structured access to networks and finance. Accelerators, by contrast, operate through short, intensive programmes lasting three to six months, during which selected startups receive targeted mentoring, peer learning opportunities, and direct exposure to investors, often in exchange for equity. Together, these complementary models help entrepreneurs advance climate relevant innovations more effectively by matching the type of support to the maturity and needs of each venture.¹⁰

23. While no widely agreed definition exists for either, there is broad agreement that I&As act as local intermediary actors, strengthening the national ecosystem that nurtures entrepreneurship and the growth of small businesses.¹¹

24. Within the broader NSI and the landscape of climate action, climate technology I&As help countries address their mitigation, adaptation, and crosscutting technology priorities under the Paris Agreement, including through strengthened RD&D systems, talent pipelines, and technology deployment pathways.

Table 1: Typology of climate technology I&As¹²

Type of I&As	Characteristics
Incubators (typically Technology Readiness Levels (TRL) 1-4)	Longer-term programmes supporting ideation, research-to-prototype development, and early business formation. Common in university settings, donor programmes, and national hubs. Functions often include prototyping support, labs access, mentorship, market discovery, and founder skills building.
Accelerators (typically TRL 5-9)	Timebound, cohort-based programmes (6-16 weeks) focused on validation, pilot preparation, investment readiness, and early commercialization. Accelerators often function as “readiness engines”, preparing ventures to absorb blended or commercial capital and enter procurement or pilot partnerships. Sub-types: • Market-driven accelerators (corporate or investor anchored): provide access to testing environments, supply chains, procurement pathways, and scale-up finance. • Network-based or distributed accelerators: operate across multiple countries or regions using shared methodologies to overcome small-market constraints and ecosystem gaps.
Hybrid models	Combine incubation and acceleration within a single institutional structure. Hybrids are particularly important in developing countries where early-stage pipelines are thin and ventures require continuity across multiple TRL stages.

2.2 Functions and value addition

25. Findings of the 2018 publication by the TEC, the CTCN and the GCF points to four core domains in which climate technology I&As deliver value:

- (a) **Technical validation and infrastructure access:** Including prototyping labs, testing facilities, fabrication workshops, standards and certification guidance, and access to corporate or university R&D environments.
- (b) **Business development and entrepreneurial capacity building:** Structured training, market intelligence, business modelling, IP support, sector-specific mentorship, and iterative validation. This is particularly critical in developing countries where entrepreneurship skills and climate technology literacy are uneven.
- (c) **Investment readiness and catalytic finance:** Support for grant mobilization, seed finance, proof of concept funding, investor matchmaking, and blended finance preparation.
- (d) **Ecosystem integration and system-level coordination:** Connecting ventures to ministries, utilities, research institutes, corporates, NDEs, financiers, and end users. These linkages reduce systemic fragmentation and enable pilots, procurement pathways, and technology adoption.

¹⁰ UNFCCC (2018). Climate Technology Incubators and Accelerators, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/ttclear/incubators/#fullreport>.

¹¹ Ibid.

¹² Based on thematic dialogue on incubators and accelerators, organized by the TEC, the CTCN and the GCF in 2018. More information available at: <https://www.ctc-n.org/whats-happening/news/thematic-dialogue-incubators-and-accelerators>.

2.3 Evolution of climate and technology incubators and accelerators

26. Climate technology I&As in developing countries have evolved significantly over the last decades, shaped by the maturation of NSIs and increasing alignment of the entrepreneurship support with the global development and climate agendas.¹³ While the pace and context of this evolution differs in various countries and regions, depending on context-specific constraints and opportunities, research points to three major stages of development:

- Early initiatives were predominantly donor driven incubation programmes, characterized by grant -based support, lightweight infrastructure, and a focus on ideation and early business development (e.g. InfoDev/World Bank Climate Innovation Centres). These models emerged largely in response to fragmented entrepreneurial ecosystems, weak market linkages, and limited access to finance.¹⁴
- A second phase could be marked by the rise of new organizational forms,¹⁵ including regionalized support models. Private, corporate, and hybrid accelerators have expanded in this era, and open innovation theory and social capital frameworks increasingly complemented earlier resource-based perspectives. Regional programmes (e.g., CTCN anchored or UNIDO Global Cleantech Innovation Programmes) act as backbones of entrepreneurial activities where NSIs are still emerging. Through these arrangements, organizations experimented with blended methodologies that combined long-term incubation with cohort-based acceleration cycles to offset persistent ecosystem fragmentation. Moreover, there is a greater attention to inclusivity objectives – particularly gender and youth participation – and a growing interest in standardized approaches to climate impact measurement. Concurrently, regional accelerators expanded their reach by harmonizing tools and processes, strengthening cross border learning and enabling knowledge transfer across developing country contexts.
- Recent years point to a third phase, characterized by the emergence of finance enabled and systems integrated I&As models and a shifting global landscape of innovation hubs. Genome’s 2025¹⁶ findings on the global startup ecosystem indicates that the landscape is undergoing its most dramatic shake-up in years, with Asia and Africa surging ahead. Reviews focused on developing countries,¹⁷ highlight the heterogeneity and experimentation taking place across emerging ecosystems – including the proliferation of innovation hubs, science parks, mixed-model incubators, and policy-driven support structures. I&As are no longer seen as standalone support structures, but as system operators embedded within national climate and innovation frameworks. Programmes now prioritize ventures operating at higher technology readiness levels – particularly TRL 5–8 – where demonstration, piloting, and market integration pose significant challenges. The landscape also shows a rise in corporate and university-anchored hubs to stimulate innovation, as well as blended finance mechanisms designed to de-risk investment along integrated pipelines spanning ideation, incubation, acceleration, and access to climate finance. These developments align with global shifts in climate acceleration practice, as illustrated by models such as European Institute of Innovation & Technology (EIT) Climate Knowledge and Innovation Communities (Climate KIC)’s ClimAccelerator, which integrates investment readiness, systems innovation, and scaling methodologies across regions.

27. [placeholder to include insights from the inclusion of I&As in Parties TNAs/NDCs]

¹³ Manning, S. and Vavilov S. (2023), Global development agenda meets local opportunities: The rise of development-focused entrepreneurship support. *Research Policy* (Volume 52, Issue 7). Available at:

<https://www.sciencedirect.com/science/article/pii/S0048733323000793#bb0130>

¹⁴ InfoDev/World Bank (2010). Climate Innovation Centres – Programme Reports, World Bank Group. Available at:

<https://thedocs.worldbank.org/en/doc/e745077a58ec6a4094560d5b40ac16d7-0350072010/original/Climate-Innovation-Centres.pdf>

EIT Climate-KIC (2022). *Adapte, Mitigate, and Grow: Climate Tech Innovation in Africa*, EIT Climate-KIC. Available at:

<https://www.climate-kic.org>

ClimateLaunchpad (2025). *ClimateLaunchpad Annual Report 2025*, EIT Climate-KIC. Available at: <https://climatelaunchpad.org>

¹⁵ Hausberg J. P. and Korreckt S. (2018). Business incubators and accelerators: a co-citation analysis-based, systematic literature review. *Springer Nature* (Volume 45). Available at: <https://link.springer.com/article/10.1007/s10961-018-9651-y>

¹⁶ Startup Genome (2025). *The Global Startup Ecosystem Report 2025*, Startup Genome. Available at:

<https://startupgenome.com/report/gser2025/introduction>

¹⁷ Egbetokun A. (2025) *Business incubators in Africa: a review of the literature, Innovation and Development*. Available at:

<https://www.tandfonline.com/doi/full/10.1080/2157930X.2023.2295090>

Chapter 3: Mapping climate technology incubators and accelerators in developing countries

3.1 Overview of the mapping

28. The TEC in its previous work pointed to the need to develop a greater understanding of why, despite their potential benefits, there is a limited number of climate technology incubators and accelerators in developing countries.¹⁸ Despite the critical role that I&As can play in strengthening NSIs and supporting early-stage climate technology entrepreneurship, their presence across developing countries remains sparse, unevenly distributed, and insufficiently documented.

29. This mapping aims to generate an updated, evidence-based overview of climate technology I&As operating in developing countries, including by:

- Identifying the diversity of models currently in place;
- Understanding the positioning of I&As within national and regional innovation ecosystems and their financing models;
- Highlighting gaps, and opportunities for promoting their use in climate action; and
- Providing a clearer evidence base to inform policy development, programme design, and future support activities.

30. To achieve this, the mapping reviews a curated sample of 30 climate technology I&As operating in developing countries ([see table 2](#)). These initiatives were selected with a view to ensure diversity, balance and broad representativeness and analytical value, in terms of geographic coverage, thematic scope, stages of support, service offerings, financing models, and the actors involved.

Table 2: Geographic distribution and typology of reviewed I&As

Designation	Country	Geographic coverage	Model
Benibiz 2	Benin	Africa	Accelerator
ClimAccelerator Africa	Multi-countries	Africa	Accelerator
Catalyst Fund	Multi-countries	Africa	Accelerator
500 Global – Sustainable Innovation Program	Multi-countries	Africa	Accelerator
Ghana Climate Innovation Centre (CIC)	Ghana	Africa	Incubator
Kenya CIC	Kenya	Africa	Incubator
CTCN Youth Climate Innovation Programme (CTCN YCI)	Multi-countries	Africa, Asia, MENA, Latin America	Hybrid
CATAL1.5°T	Multi-countries	Africa, Latin America	Accelerator
EnergyLab Asia	Cambodia	Asia	Accelerator
ClimAccelerator Kazakhstan	Kazakhstan	Asia	Accelerator
New Energy Nexus	Multi-countries	Asia	Accelerator
Global Cleantech Innovation Programme (GCIP) Pakistan	Pakistan	Asia	Accelerator
IKEA Green Entrepreneurship Accelerator Programme	India	Asia	Hybrid
Caribbean Climate-Smart Accelerator	Multi-countries	Caribbean	Accelerator
Bloom Cluster	Barbados	Caribbean	Incubator
Eastern Caribbean Green Entrepreneurship Initiative	Multi-countries	Caribbean	Hybrid
GCIP Armenia	Armenia	Eastern Europe	Accelerator
ClimAccelerator Romania	Romania	Eastern Europe	Accelerator
Greencubator	Ukraine	Eastern Europe	Accelerator
AgriFood Business Incubator	Republic of Moldova	Eastern Europe	Incubator
ClimAccelerator East Mediterranean	Multi-countries	Eastern Europe, MENA	Accelerator

¹⁸ UNFCCC (2018). Climate Technology Incubators and Accelerators, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/tteclear/incubators/#fullreport>

Adaptation Fund Climate Innovation Accelerator (AFICA)	Multi-countries	Global	Accelerator
Spring	Multi-countries	Global	Hybrid
ClimAccelerator Colombia	Colombia	Latin America	Accelerator
Cubo Itaú	Brazil	Latin America	Accelerator
Impact Hub São Paulo	Brazil	Latin America	Hybrid
Berytech (Clyntech Accelerator)	Lebanon	MENA	Incubator
UM6P StartGate	Morocco	MENA	Hybrid
Pacific Green Entrepreneurs Network	Multi-countries	Pacific	Incubator
UNDP Youth Business Incubator	Samoa	Pacific	Incubator

3.2 Key findings from the mapping

31. Sub-sections A-F below summarize the mapping results, reflecting the characteristics of the specific sample reviewed. The results should not be interpreted as indicative of broader global patterns. Instead, they illustrate the diversity of approaches within the initiatives analyzed and may provide contextual insights into how climate technology I&As are operating in developing countries.

A. Geographic distribution

32. The mapping carried out as part of this analysis covers 30 I&As ([see table 2](#)): Africa (6) (excluding MENA), Asia (5), Eastern Europe (4), Latin America (3), Caribbean (3), Pacific (2), MENA (2), Global (2), plus multi-region programmes: Africa and Latin America (1), Eastern Europe and MENA (1), Africa–Asia–MENA–Latin America (1). Among the mapping a sizeable portion (12) of climate I&As in developing countries are multi-country or regional programmes rather than single-country hubs.

B. Focus by sector

33. The sectoral focus of the mapped I&As is diverse. There is a strong concentration of activities in 6 sectors: renewable/clean energy (20), energy efficiency (14), smart agriculture (11), mobility (11), water (11) and waste management (11) ([see table 3](#)).

Table 3: Breakdown of the reviewed I&As by sector

Designation	Generalist	Agrifood / Food Systems	Nature based resilience	Smart Agriculture	Mobility	Environment, nature, biodiversity, ecosystem regeneration, land use	Circular Economy	Climate finance	Blue economy	Energy efficiency	Climate data & insights	Insurtech & climate risk financing	Carbon credit	Renewable/clean energy	Water	Waste management	Advanced, sustainable materials	Green buildings, sustainable cities	Disaster Risk Reduction	Green industry
500 Global – Sustainable Innovation Program																				
AFICA																				
Agrifood Business Incubator																				
Benibiz 2																				
Berytech (Clyntech Accelerator)																				
Bloom Cluster																				
Caribbean Climate-Smart Accelerator																				
CATAL1.5°T																				
Catalyst Fund																				

34. Based on the mapping ([see table 4](#)), support is densest around Technology Readiness Level (TRL) 3–6 – i.e., the prototyping, validation and precommercial demonstration phases – where bridge programs such as UNIDO’s Global Cleantech Innovation Programme (GCIP) and the Ghana Climate Innovation Center (CIC) take ventures from MVP to investment readiness through structured acceleration, advisory and grants. By contrast, late-stage vehicles remain comparatively scarce: Cubo Itaú focuses on startups with market traction (corporate connections and VC access), while New Energy Nexus backs pilots and early deployment with catalytic funding and investor linkages – together covering parts of the TRL 6–9 continuum but leaving limited capacity at full commercial scale. Upstream, only a handful of entry point programs – for example BeniBiz 2 (capability building for youth/Small and Growing Businesses (SGBs)), EnergyLab Asia (clean energy ideation and early startup support in Cambodia), and UM6P StartGate (incubation with access to UM6P labs and prototyping) – consistently feed the pipeline before MVP (TRL 1–3/early TRL 4). Taken together, the portfolio is strong at getting innovations ready (TRL 3–6) but thin at taking them to scale (TRL 7–9).

¹⁹ Rossoni A.L., Vasconcellos E.P.G., Rossoni R.L.C. (2023/2024). Barriers and facilitators of university–industry collaboration for research, development and innovation: a systematic review. *Management Review Quarterly*. Available at: <https://link.springer.com/article/10.1007/s11301-023-00349-1>

D. Typologies of I&As

36. In the mapping ([see table 2](#)), 17 were identified as accelerators, 5 as incubators and 8 as hybrid. This mix consists mainly of acceleration formats, but with a significant number of hybrid models that stitch together ideation, incubation, and scale-up pathways.

Table 4: Financing models and TRL of reviewed I&As

Designation	Financing Model	TRL								
		1	2	3	4	5	6	7	8	9
500 Global – Sustainable Innovation Program	Public, Private, Multilateral									
AFCIA	Public, Multilateral									
Agrifood Business Incubator (Moldova)	Public									
Benibiz 2	Public									
Berytech (Clyntech Accelerator)	Public, Private, Multilateral									
Bloom Cluster	Public, Multilateral									
Caribbean Climate-Smart Accelerator	Public, Private									
CATAL1.5°T	Public, Multilateral									
Catalyst Fund	Private, Multilateral									
ClimAccelerator Africa	Public									
ClimAccelerator Colombia	Public									
ClimAccelerator East Mediterranean	Public									
ClimAccelerator Kazakhstan	Public, Private									
ClimAccelerator Romania	Public, Private									
CTCN YCI	Multilateral									
Cubo Itaú	Private									
Eastern Caribbean Green Entrepreneurship Initiative	Public									
EnergyLab Asia	Private, Multilateral									
GCIP Armenia	Public, Multilateral									
GCIP Pakistan	Public, Multilateral									
Ghana CIC	Public, Multilateral									
Greencubator	Multilateral									
IKEA Green Entrepreneurship Accelerator Programme	Private									
Impact Hub São Paulo	Public, Private, Multilateral									
Kenya CIC	Public, Multilateral									
New Energy Nexus	Private, Multilateral									
Pacific Green Entrepreneurs Network	Public									
Spring	Public, Private									
UM6P StartGate	Public, Private									
UNDP Youth Business Incubator	Public, Multilateral									

E. Services offered by I&As

37. The mapping of I&As indicates ([see table 5](#)) that the most common form of support offer by the studies I&As to entrepreneurs is training (21), closely followed by mentoring/coaching (19). Networking (17) and investor matching (17) are also frequently offered services. Access to laboratories (4) and support during the pilot and prototype phases (5) are less common.

F. Financing and business models

38. The mapped initiatives are primarily financed by public and multilateral sources([see table 4](#)). 8 are financed through public and multilateral funding, 8 programmes explicitly combine public and multilateral sources, 7 are publicly funded, and 5 rely exclusively on public-private support. Smaller clusters involve mixed arrangements – 3 triple mixed model combining private, public, and multilateral finance. Purely private models remain the exception, with only 2 privately

financed entries, 3 private–multilateral hybrids and 2 rely exclusively on multilateral support, underscoring how dependent early-stage climate innovation remains on public and development partner capital.

39. The distribution of financial instruments among the mapped I&As initiatives shows a predominance of grant funding (9 cases), while seed/equity funds appear in 4 cases and loan instruments twice. Voucher based mechanisms are mentioned twice, and 9 programmes do not include any form of direct financial support. This configuration suggests that many of the mapped I&As currently emphasize capability building activities, with fewer incorporating embedded financing components.

Table 5: Overview of support services delivered by the reviewed I&As

Designation	Training	Mentoring / coaching	Peer to peer learning	Market Access	Digital support	Investment readiness	Investor matching	Networking	Grants / loans	Equity funding	Venture - building support	Startup perks	Media support	Labs access	Pilot & proto
500 Global – Sustainable Innovation Program															
AFCIA															
Agrifood Business Incubator (Moldova)															
Benibiz 2															
Berytech (Clyntech Accelerator)															
Bloom Cluster															
Caribbean Climate-Smart Accelerator															
CATAL1.5°T															
Catalyst Fund															
ClimAccelerator Africa															
ClimAccelerator Colombia															
ClimAccelerator East Mediterranean															
ClimAccelerator Kazakhstan															
ClimAccelerator Romania															
CTCN YCI															
Cubo Itaú															
Eastern Caribbean Green Entrepreneurship Initiative															
EnergyLab Asia															
GCIP Armenia															
GCIP Pakistan															
Ghana CIC															
Greencubator															
IKEA Green Entrepreneurship Accelerator Programme															
Impact Hub São Paulo															
Kenya CIC															
New Energy Nexus															
Pacific Green Entrepreneurs Network															
Spring															
UM6P StartGate															
UNDP Youth Business Incubator															

40. The mapping shows also a clear pattern: most of the 30 I&As operate small to medium sized cohorts, which is typical of donor backed, service-intensive models where human and technical support resources constrain cohort scale. Taken together, the financing and business-model patterns reveal an ecosystem that is grant-dependent, structurally undercapitalized, and shaped by public and multilateral investment logics, with only a few emerging examples of blended-finance or corporate-anchored robustness. This financial architecture helps expand access and capability-building – but limits progression into capital-intensive TRL stages unless complemented by more integrated, finance-enabled acceleration pathways.

3.3. Observations from the mapping

41. Observations from the mapping suggest that climate technology I&As in developing countries are evolving in ways that resonate with broader patterns highlighted in chapter 2. Based on the mapping exercise four emerging observations appear particularly relevant for understanding the models through which I&As in developing country contexts operate (see Table 6):

- A. Youth dedicated programmes;
- B. Network-based and distributed models;
- C. Corporate-anchored and university-anchored hubs; and
- D. Donor-backed early-stage incubation structures.

Table 6 : Overview of I&As features across the four models identified in this mapping

Model	Purpose	Target	Support Type	Infrastructure	Finance	Typical Stage
Youth Dedicated Programmes	Build early skills	Young innovators	Training, mentoring, exposure	Very light	No tickets / external investors	Ideation → Early incubation
Network-Based Vehicles	Scale support across regions	Multi-country cohorts	Standardized tools, mentors, networks	Light to medium (via partners)	Variable, mostly grants/partners	Incubation → Early acceleration
Corporate / University Anchored Hubs	De-risk technologies	Startups needing TRL validation	Labs, pilots, R&D, technical experts	High / technique	PPP, corporate co-investment	validation → deployment
Donor-Backed Early-Stage Incubators	Build basic entrepreneurial capacity	Early-stage founders	Training, basic advisory	Very light	Grants or no funding	ideation → prototype

42. This categorization provides a useful lens for interpreting how climate technology support models which are adapting to address persistent gaps across the innovation-deployment continuum, especially where NSIs remain fragmented and early-stage risk capital is scarce. Table 7 indicates the categorization of mapped I&As on this basis. The remainder of this chapter provides a description of each model in more details.

43. Overall, the mapping illustrates a climate innovation landscape that is dynamic but uneven, characterized by strong early-stage pipelines, increasing regional integration, and rising donor engagement – but also by significant gaps in mid-stage infrastructure, finance, evidence systems, and systemic coordination. These findings lay the foundation for the deeper analysis that follows, examining services, financing models, ecosystem integration, performance, and the emerging opportunities that can shape the next generation of climate technology I&As in developing countries.

Table 7: Indication of how the reviewed I&As fit into the observed models

Model	Designation
Corporate/University-anchored hubs	Cubo Itaú; Bloom Cluster; IKEA Green Entrepreneurship Accelerator Programme; Berytech (Clyntech Accelerator); Agrifood Business Incubator; UM6P StartGate
Donor-backed early-stage incubation structures	Catalyst Fund; EnergyLab Asia; AFCIA; Ghana CIC; Kenya CIC;
Network-based and distributed models	ClimAccelerator Africa; 500 Global – Sustainable Innovation Program; Impact Hub São Paulo; CATAL1.5°T; ClimAccelerator Kazakhstan; New Energy Nexus; GCIP Pakistan; Caribbean Climate-Smart Accelerator; GCIP Armenia; ClimAccelerator Romania; Greencubator; ClimAccelerator East Mediterranean; ClimAccelerator Colombia

Youth-dedicated programme	Benibiz 2; Pacific Green Entrepreneurs Network; UNDP Youth Business Incubator; CTCN YCI; Eastern Caribbean Green Entrepreneurship Initiative; Spring
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A. Youth dedicated programmes

44. The mapping shows youth dedicated climate innovation programmes are adopting a lightweight, pipeline-oriented and model-designed to identify, inspire, and equip young innovators, rather than directly financing them. These programmes typically follow a staged progression – such as ideation → incubation → acceleration – and place a strong emphasis on skills development, mentoring, technical guidance, and global exposure. Their goal is to prepare emerging innovators with the entrepreneurial capabilities, climate tech literacy, and market understanding needed to progress toward more mature incubators, accelerators, or investment mechanisms.

45. Youth programmes generally do not provide direct investment. Instead, they rely on building strong linkages with external investors, partners, climate funds, and regional innovation events, encouraging follow on support through ecosystem connectivity rather than inhouse capital. This makes them particularly well suited for contexts where public or donor resources are limited, but where entrepreneurial talent is abundant.

46. By operating across multiple regions – Africa, MENA, Asia, and Latin America – these models leverage a network-based approach: international mentors, regional convenings, and cross-country peer learning. The value they generate lies in pipeline creation and empowerment: they widen access for youth, improve the quality and readiness of early-stage climate ventures, and strengthen the feeder system that supplies more advanced I&A structures (including TRL focused accelerators, corporate labs, and climate innovation centers).

47. In summary, this model represents a capability first, exposure driven pathway, addressing early-stage barriers through mentorship and ecosystem access rather than finance, while helping build the talent foundations necessary for robust climate tech innovation ecosystems.

Box 1: CTCN Youth Climate Innovation (YCI) ²⁰

Early-Stage Youth Innovation Pathways

The CTCN Youth Climate Innovation (YCI) Pipeline exemplifies youth-dedicated climate-innovation programming in developing countries. Operating across Africa, MENA, Asia, and Latin America, the YCI model has trained more than 670 young innovators since 2020 through a structured Idea Lab → Incubator → Accelerator pathway. With over 50 mentors per cycle and no embedded ticket funding, the programme focuses on capability building, global exposure, and ecosystem connectivity, preparing youth entrepreneurs to engage with regional investors and more advanced acceleration structures.

B. Network-based and distributed models

48. In the mapping carried out, several I&As are part of global networks, they operate as federated, multi country acceleration systems that spread a common methodology, shared toolkits, and investor access across several regions rather than anchoring activities in a single physical hub. These programmes leverage regional or global networks – often spanning Africa, Asia, MENA, Latin America, and Small Island Developing States (SIDS) – to provide standardized training, mentoring, exposure, and ecosystem connectivity to early-stage climate entrepreneurs. Their strength lies in diffusing capabilities across thin or fragmented national ecosystems, helping overcome common constraints such as limited local expertise, small domestic markets, and insufficient early-stage financing.

49. Instead of relying on in-house infrastructure or grant capital, network-based vehicles focus on harmonizing practices, expanding reach, and ensuring that innovators are plugged into a broader innovation community. Examples in the mapping include regional models such as Climate KIC ClimAccelerators, the GCIP, infoDevstyle Climate Innovation Centers,²¹ and multi-country SIDS initiatives, all of which operate as distributed ecosystems that enable cross-country learning and support. These programmes are purpose built to function as system integrators.

50. In essence, network-based and distributed models are scaling mechanisms: they replicate frameworks, mobilize broad mentor pools, and connect entrepreneurs to international investors and events, enabling climate ventures to benefit from a level of support that individual countries – especially smaller or lower income ones – cannot provide on their own.

²⁰ Find out more about the CTCN YCI: <https://www.ctc-n.org/youth-climate-innovation-programme>
<https://www.youthclimateinnovation.com>

²¹ More information available at: <https://www.worldbank.org/en/news/feature/2016/05/12/innovation-centers-help-developing-countries-capture-climate-change-opportunities>

Box 2: Climate KIC Model²²***The Climate KIC Model: The “Impact Franchise” That Is Reinventing Cleantech Acceleration***

The Climate Launchpad and ClimAccelerators model is based on a standardized international methodology, replicated locally through an operating license, contract, and centralized support.

This model is similar to an impact franchise, where local operators apply a proven structure and tools while mobilizing their national ecosystem. Unlike other cleantech programs, the Climate KIC model stands out for its scalable approach, facilitating the rapid spread of consistent climate accelerators around the world.

C. Corporate-anchored and university-anchored acceleration hubs

51. Some accelerator mapped are corporate anchored and university anchored, they represent a more asset intensive and infrastructure enabled model of climate innovation support. Unlike lightweight or network-based accelerators, these hubs are built around institutions that already possess R&D facilities, laboratories, testing grounds, faculty expertise, industrial assets, or pilot environments – all elements critically needed to advance climate technologies through mid-TRL stages (TRL 5–8).

52. This model offers a powerful proposition: combining the agility of startups with the deep technical capabilities and deployment pathways of corporates or research universities. Corporate hubs and university platforms (e.g., UM6P StartGate in Morocco) provide innovators access to prototyping facilities, expert researchers, industrial mentors, and real-world demonstration sites – resources that are often scarce or entirely unavailable in public incubators. The mapping highlights that this model uniquely addresses one of the most chronic bottlenecks in developing country NSIs: the lack of mid-stage infrastructure required for validation, demonstration, and market-readiness.

53. Beyond technical assets, these hubs can act as deployment partners, offering integration into supply chains, joint testing with corporate business units, or university led applied research partnerships. Their strategic potential lies in derisking climate technologies, supporting scaleup, and accelerating the journey from prototype to commercial adoption – especially in sectors like energy, mobility, water, agri-tech, industrial decarbonization, and circular economy where physical testing environments are indispensable.

Box 3: IKEA Green Entrepreneurship Accelerator Programme²³***Driving Climate Innovation Through Anchored Acceleration Models: An Underutilized Opportunity***

The IKEA Green Entrepreneurship Accelerator Programme in India provides a clear illustration of the anchored acceleration model, where a globally recognized corporate philanthropic actor partners with a specialized implementation organization to deliver high impact, mid-stage support for green enterprises. Through its collaboration with TechnoServe, the IKEA Foundation is supporting approximately 400 green small and growing businesses to become both economically sustainable and environmentally impactful, backed by a grant exceeding €3.4 million and implemented entirely within India. This anchored model goes beyond traditional incubation by mobilizing the corporate partner's global reach, resources, and strategic intent to enable access to tailored business advisory services, market linkages, mentoring, and capacity building infrastructure – elements generally scarce in public incubators. Simultaneously, the programme leverages TechnoServe's sectoral expertise and operational presence to deliver structured acceleration support that strengthens business plans, connects entrepreneurs with over 50 investor partners, and enhances their access to new market segments and finance mechanisms, thereby enabling scalable environmental impact across waste management, textiles, agriculture, clean tech, and renewable energy sectors. This example demonstrates how anchored acceleration models – when backed by corporates or philanthropic corporate foundations – can play a catalytic role in bridging capability gaps for climate oriented ventures, particularly within the TRL 5–8 zone where piloting, validation, and commercial readiness remain critical challenges.

D. Donor-backed early-stage incubation models

54. The mapping also highlighted what could be called donor-backed early-stage incubation models. These models are typically funded by public agencies, multilateral organizations, or bilateral development partners, and they focus on providing training, mentorship, and foundational business development support to innovators operating at very early Technology Readiness Levels (TRL 1–4).

55. These incubators generally rely on grant financing, donor budgets, or voucher schemes rather than equity or loan instruments, reflecting both ecosystem constraints and the public good logic underpinning their design. The mapping

²² Find out more about the ClimAccelerators : <https://climatekic.notion.site/Information-Package-for-ClimAccelerators-6d80d091e2bb4ea3ace6b27f759016ae>

²³ Find out more about the IKEA Foundation Green Entrepreneurship Accelerator Programme & TechnoServe: <https://ikeafoundation.org/grants/green-entrepreneurship-accelerator-programme/>
<https://www.technoserve.org/fight-poverty/projects/greenr-sustainability-accelerator-program/>

shows that purely private financing mechanisms are rare, and that public–multilateral funding remains the prevailing modality for early-stage incubation in developing regions. Their offerings commonly include structured training, mentoring, investor readiness workshops, and networking opportunities – elements that integrative reviews identify as core components of modern incubation success factors linked to human and social capital formation within entrepreneurial ecosystems.

56. Although these models effectively expand access, democratize participation, and strengthen early entrepreneurial pipelines, they often lack the physical infrastructure, R&D assets, or blended capital instruments required to move innovations through mid-stage de-risking. As a result, donor-backed incubators tend to function as entry points within the broader NSIs, preparing early-stage ventures to transition toward more specialized accelerators, network-based regional vehicles, or deep tech hubs anchored in universities or corporates. This limitation is reflected in trend analyses showing that most donor-backed incubators are not equipped to bridge TRL 5–8, where demonstration, piloting, and commercialization risks are highest.

57. In summary, donor-backed early-stage incubation models remain a foundational model in climate innovation ecosystems globally: they are accessible, capability focused, and grant driven, and they play a vital role in widening the funnel of climate entrepreneurship. Their long term impact, however, is significantly enhanced when embedded within stacked or networked pipelines that connect early support to more advanced, infrastructure enabled, or investor linked acceleration pathways.

Box 4: Pacific Green Entrepreneurs Network²⁴

Nurturing Green Startups in the Pacific

The Pacific Green Entrepreneurs Network (PGEN) exemplifies the donor-backed early-stage incubation model observed in multiple developing country ecosystems. Supported by development partners and structured around training, mentoring, and regional networking, PGEN focuses on strengthening the entrepreneurial capabilities of green startups across Pacific SIDS. With no inhouse testing infrastructure or embedded ticket financing, the programme reflects the grant driven, service heavy, infrastructure light design that dominates early-stage climate innovation support in resource constrained settings.

Chapter 4: Enabling policy and ecosystem conditions

58. [Placeholder to be developed following TEC 32:

- Based on findings of the mapping results and stakeholder interviews, this section will expand on details about the positioning of the reviewed I&As within NSIs and entrepreneurial ecosystems, and related coordination and linkages in place (e.g. with universities, labs, ministries, NDEs, investors). It will also describe various policy instruments (standards, procurement, IP frameworks, industry–academia partnerships, Public-Private Partnerships (PPPs), Small and Medium Enterprise (SME) engagement) with real-world examples of conducive measures in developing countries.
- Talent and infrastructure of the climate technology I&As, as well as social impact and inclusivity aspects in their development and operation, such as approaches to gender responsiveness, youth engagement/involvement, and local community benefits will also be explored and highlighted, as appropriate.
- CASE STUDY 1: GCIP Armenia – including background, ecosystem positioning, NSI Linkages, and key enablers.
- CASE STUDY 2: IKEA Green Entrepreneurship Accelerator Programme – including background, ecosystem positioning, NSI Linkages, and key enablers.]

Chapter 5: Financing modalities and sustainability

59. [Placeholder to be developed following TEC 32:

- Based on findings of the mapping results and expert interviews, this section will explore various modalities and approaches, through which climate technology I&As in developing countries are financed and sustained. It will present comparative insights on the range of instruments and funding mixes used (public, private,

²⁴Results and Learnings from Implementation of Green Entrepreneurship Support in the Pacific: <https://gggi.org/wp-content/uploads/2024/08/Results-and-Learnings-from-Implementation-of-Green-Entrepreneurship-Support-in-the-Pacific.pdf>

blended), including grants, equity, revenue-sharing models, guarantees, and typical ticket sizes. The analysis will highlight gaps in access to patient, risk-tolerant capital and explore solutions such as blended finance structures (e.g., first-loss arrangements, guarantees, results-based payments). Finally, it will examine pathways for operational and financial sustainability beyond external project funding, showcasing approaches for scaling and replication across different contexts. Case studies will be used to highlight real-world examples of I&As with different financing modalities and approaches to ensuring operational and financial sustainability.

- CASE STUDY 3: ClimAccelerator East Mediterranean – including background, financing model, funding sources and instruments, and aspects related to financial sustainability.
- CASE STUDY 4: Kenya CIC – including background, financing model, funding sources and instruments, and aspects related to financial sustainability.
- CASE STUDY 5: Cubo Itáu– including background, financing model, funding sources and instruments, and aspects related to financial sustainability.]

Chapter 6: Designing funding proposals with climate technology incubators and accelerators

60. [Placeholder to be developed following TEC 32:

- Based on findings of the mapping results and stakeholder interviews, this section will outline practical approaches for integrating I&As into climate-related funding proposals, complemented with related case studies. It will describe how I&As can be embedded across program components to strengthen innovation ecosystems and support start-up development. Insights will be drawn from successful proposals supported by climate funds (e.g. GCF, GEF, Adaptation Fund), as well as other multilateral and bilateral support providers (e.g. Multilateral Development Banks (MDBs) and development agencies).
- This section will also specify the growing role of the private sector in supporting I&As and how I&As can access these funding options.
- CASE STUDY 6: Example of an incubator or accelerator financed through the support of climate funds under the UNFCCC e.g. AFCIA – including background, design features relevant to funding proposals, and insights from implementation.
- CASE STUDY 7: Example of an incubator or accelerator financed through the support of MDBs – including background, design features relevant to funding proposals, and insights from implementation.]

Chapter 7: Key messages & recommendations

61. [Placeholder to be developed following TEC 32, and once the paper is in its final stages of development:

- Building on the salient points emerging from the previous sections, and stakeholder feedback, this section will present concise, actionable recommendations for country teams, national policy makers, and NDEs with regard to the development and operation of climate technology I&As in developing countries. This section may also include insights on the role of the TEC and CTCN and other support providers in stimulating technology RD&D, building effective ecosystems for start-ups, and ultimately strengthening the NSI in developing countries.]
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