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Cleantech Innovation Capacity Building Framework Report 2025

UNIDO Global Cleantech Innovation Programme (GCIP)

GCIP

Cleantech Group

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Introduction

Purpose of this document

The United Nations Industrial Development Organization (UNIDO) is a specialized agency of the United Nations with a unique mandate to promote, dynamize and accelerate industrial development. The guiding principle of UNIDO's activities is low-emission, climate-resilient development. This means promoting policies, technologies and practices so that countries can take climate action and create millions of new, decent jobs. UNIDO sees innovation as key to mitigating and adapting to climate change.

Micro, small and medium-sized enterprises (MSMEs) form the backbone of the economy and generate a large share of economic value. Given the scale of climate mitigation and adaptation action needed, it is critical that MSMEs are supported to be part of the solutions, be it as entrepreneurs, in the context of small-scale industries and clusters or through their participation in regional and global value chains.

The Global Cleantech Innovation Programme (GCIP) of UNIDO, supported by the Global Environment Facility (GEF), aims to address the growing global demand for environmental sustainability and climate action by harnessing the potential of cleantech innovation and entrepreneurship ecosystems (CIEEs). Through GCIP's theory of change, the programme seeks to empower innovative cleantech startups and MSMEs to make substantial contributions to climate mitigation. The goal is to achieve low-carbon development and stimulate job creation in priority sectors and systems.

Cleantech Group provides market intelligence, consulting, and events to catalyze opportunities for sustainable growth powered by innovation. Cleantech Group's Cleantech Ecosystem Building practice works with cities, regional administrations, national governments, NGOs, and multilateral organizations to create the macro conditions for cleantech innovation to thrive. Cleantech startups face specific challenges as they scale, from long times to market, needs for testing equipment and demonstration opportunities, access to finance, talent, and the need to compete with lower-priced, higher polluting incumbent technologies. Effective cleantech ecosystems support startups to overcome these challenges, creating the conditions to bring more cleantech innovation to market and to scale it faster. The result is economic growth as well as climate impact.

This framework is a key component of the GCIP's activities focused on enhancing and connecting CIEEs, implemented in partnership with the Cleantech Group. GCIP helps strengthen the capacity of national CIEEs in GCIP partner countries, identifies synergies across these national ecosystems and facilitates knowledge exchange and partnership building among different CIEEs.

This Capacity Building Framework Report 2025 builds on the first Capacity Building Framework Report, which was published by UNIDO in 2024. Both Capacity Building Frameworks include a

comprehensive cleantech ecosystem evaluation tool (see Appendix A) which countries can use to identify the strengths of their national CIEEs as well as opportunities for future strengthening. Other frameworks in the series provide ideas and examples to design ecosystem building and strengthening interventions.

Both Capacity Building Framework Reports include evaluation results from GCIP partner countries who participated in workshops to evaluate their local CIEEs. Seven countries participated in workshops in 2023 and 2025, allowing an evaluation of ecosystem progress during that time. Four additional countries are presenting results for the first time.

Methodology

GENERAL APPROACH

This report serves as an update documenting the progress made by GCIP partner countries during the programme. It integrates fresh insights gathered from recent evaluations of GCIP countries and draws upon new global trends and best practices in CIEEs. The methodology employed combines qualitative assessments from GCIP country workshops, quantitative evaluations of ecosystem maturity and insights from international ecosystem benchmarks. This comprehensive approach provides a clear picture of country-level advancements, identifies ongoing challenges, and highlights opportunities for continued ecosystem strengthening and innovation growth.

The learnings in the frameworks developed for GCIP are derived from interviews with 85+ experts from standout cleantech ecosystems globally, and cover capacity building, cleantech innovation policy, strategies for gender and youth inclusion, cluster development and stakeholder engagement. It should be noted, however, that these assessments are not purely objective. The outcomes of country workshops in 2023 and 2025 may reflect differences in evaluator perspectives and the composition of attendees, which can influence how maturity levels are scored. As such, variations in scores should not be interpreted as definitive regressions or progressions, but rather as changes in how ecosystems are assessed at a given point in time. Recognizing this subjectivity underscores the importance of continuing to refine evaluation processes, enhance consistency across workshop facilitation, and strengthen the use of baseline data to complement qualitative insights.

CLEANTECH ECOSYSTEM EVALUATION SYSTEM

The evaluation system seeks to provide an objective method of assessing ecosystem progress, which is comparable across different ecosystems. Evaluation aspects cover the main drivers of ecosystem success distilled from the global frameworks such as cleantech cluster development, innovation policy and ecosystem support, and engagement of ecosystem actors.

OPPORTUNITIES FOR ECOSYSTEM STRENGTHENING IN GCIP COUNTRIES

GCIP partner countries evaluated their CIEEs in online workshops hosted by UNIDO's GCIP and organized and co-facilitated by Cleantech Group. The workshops were attended by selected policymakers, corporates, universities and research organizations, entrepreneurial support organizations and risk capital providers. The discussions were moderated by GCIP partner country Project Management Units (PMUs) and UNIDO's GCIP Global Team and documented by Cleantech Group.

TRENDS IN ECOSYSTEM BUILDING AND MEASUREMENT

Leading countries for cleantech innovation were selected based on their outstanding performance across key metrics such as venture capital investment volume, policy effectiveness, stakeholder engagement, and innovative ecosystem strategies. These countries demonstrate exemplary ecosystem strength and effectiveness, offering valuable and transferable insights into fostering cleantech entrepreneurship and achieving significant environmental, social, and economic impacts.

INCREASING PARTICIPATION OF WOMEN AND YOUTH IN CLEANTECH ENTREPRENEURSHIP

To enhance ecosystem inclusivity, this report also highlights practical actions for increasing the participation of women and youth in cleantech entrepreneurship. Emphasis is placed on tailored financial mechanisms, targeted capacity-building programmes, mentorship networks and strategic outreach initiatives designed to overcome barriers and leverage the full potential of underrepresented groups in driving sustainable innovation. While the recommendations above are grounded in sound practice, it is important to note that some GCIP partner countries currently lack robust, publicly available baseline data on women's and youth participation in cleantech. Key indicators such as the share of women in STEM degrees, proportion of female-led cleantech ventures, or youth-founded clean-technology startups are often unavailable or not disaggregated at the level of cleantech innovation. Incorporating systematic gender- and age-disaggregated metrics into evaluation frameworks (for instance, in ecosystem surveys and routine reporting) would help anchor these interventions in observable trends and enable tracking of progress over time.

Section 1: Recap of Ecosystem Evaluation Framework

This section provides an overview of the Ecosystem Evaluation Framework utilized to systematically assess CIEEs. It outlines the primary evaluation components, criteria, and scoring methodology applied during the GCIP assessments.

The framework is structured around three core pillars: Innovation Policy and Ecosystem Support, Cleantech Innovation Cluster Development, and Existence and Engagement of Ecosystem Actors. Each pillar contains specific indicators with defined criteria to evaluate the ecosystem's maturity as emerging, developing, or mature.

A detailed breakdown of the assessment tool, including definitions, indicators, and evaluation scales, is provided in Appendix A. This structured approach enables consistent, objective, and comparative analysis of country-level cleantech ecosystem performance. The results from this evaluation framework, presented in the following section, highlight strengths, pinpoint gaps, and outline clear pathways for ecosystem improvement.

Section 2: Country Evaluations and Progress Since Capacity Building Framework

This section provides detailed evaluations of GCIP countries that have participated in the cleantech ecosystem evaluations. The section highlights their progress and key ecosystem developments since the previous Capacity Building Framework assessment.1 It includes a clear breakdown of scores, identifies areas of improvement, and outlines ongoing challenges and opportunities for ecosystem enhancement in each country.

Among GCIP countries, Cambodia leads in gender and youth inclusion, driven by strong public and civil society engagement and rapid progress in supporting women and young innovators. Morocco and Türkiye stand out for their policy maturity and cluster development, with Morocco excelling through its National Green Hydrogen Roadmap, green procurement policies, and multi-regional innovation hubs, while Türkiye benefits from robust national frameworks and active regional clusters. Kazakhstan ranks among the top performers across all categories, showing strong national policy reform, inclusion programs, and international collaboration. Meanwhile, Sub-Saharan Africa—notably Nigeria, South Africa, and Senegal—shines through its ecosystem engagement, with active government and civil society participation, vibrant innovation networks, and growing inclusion of women and youth.

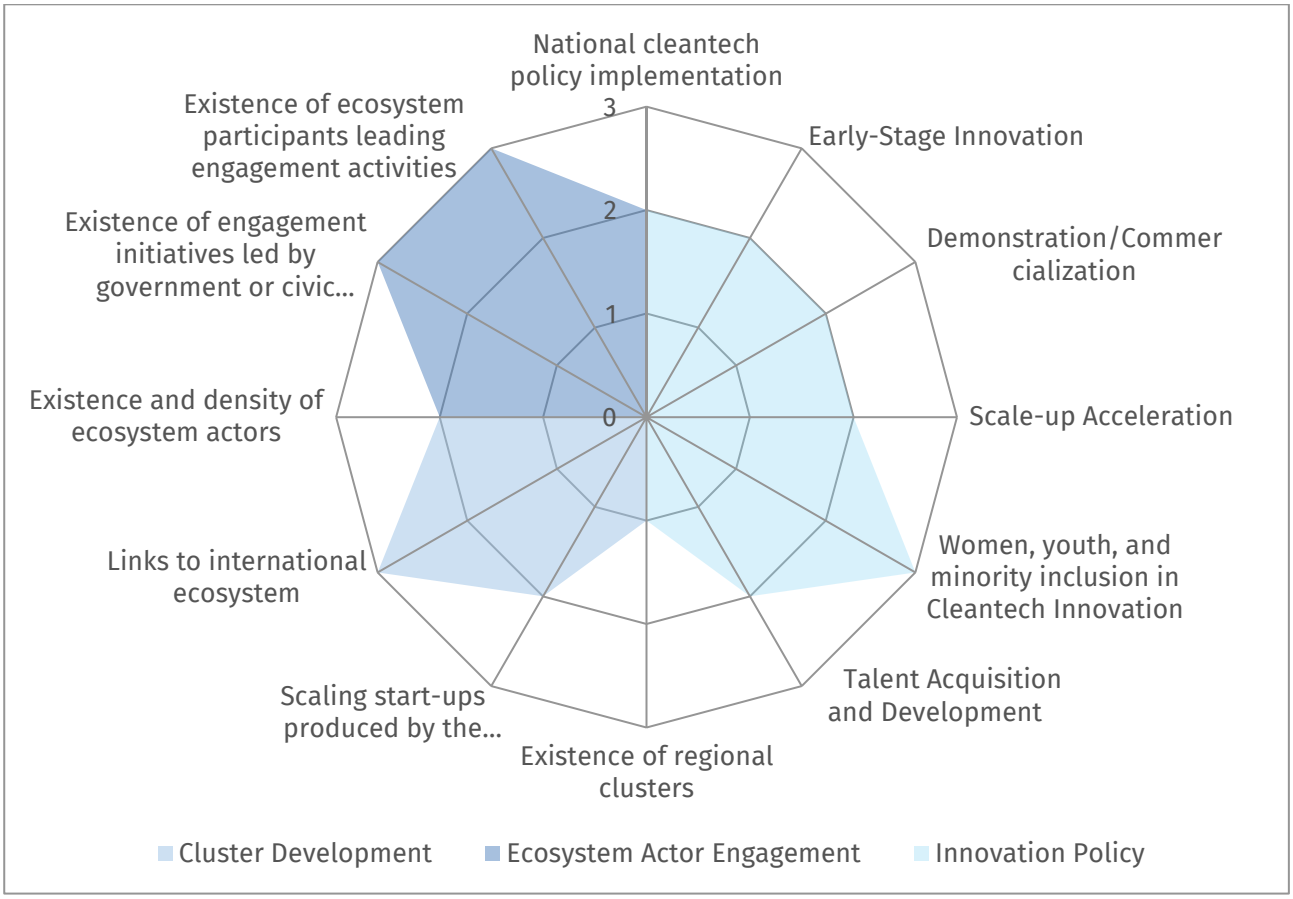
[1] https://www.unido.org/sites/default/files/unido-publications/2024-10/UNIDO%20GCIP%20Cleantech%20Innovation%20Capacity%20Building%20Framework_1.pdf

Reassessed countries and progression

CAMBODIA

The country **has progressed in seven (7) metrics** with several advancing from emerging (1) to mature (3).

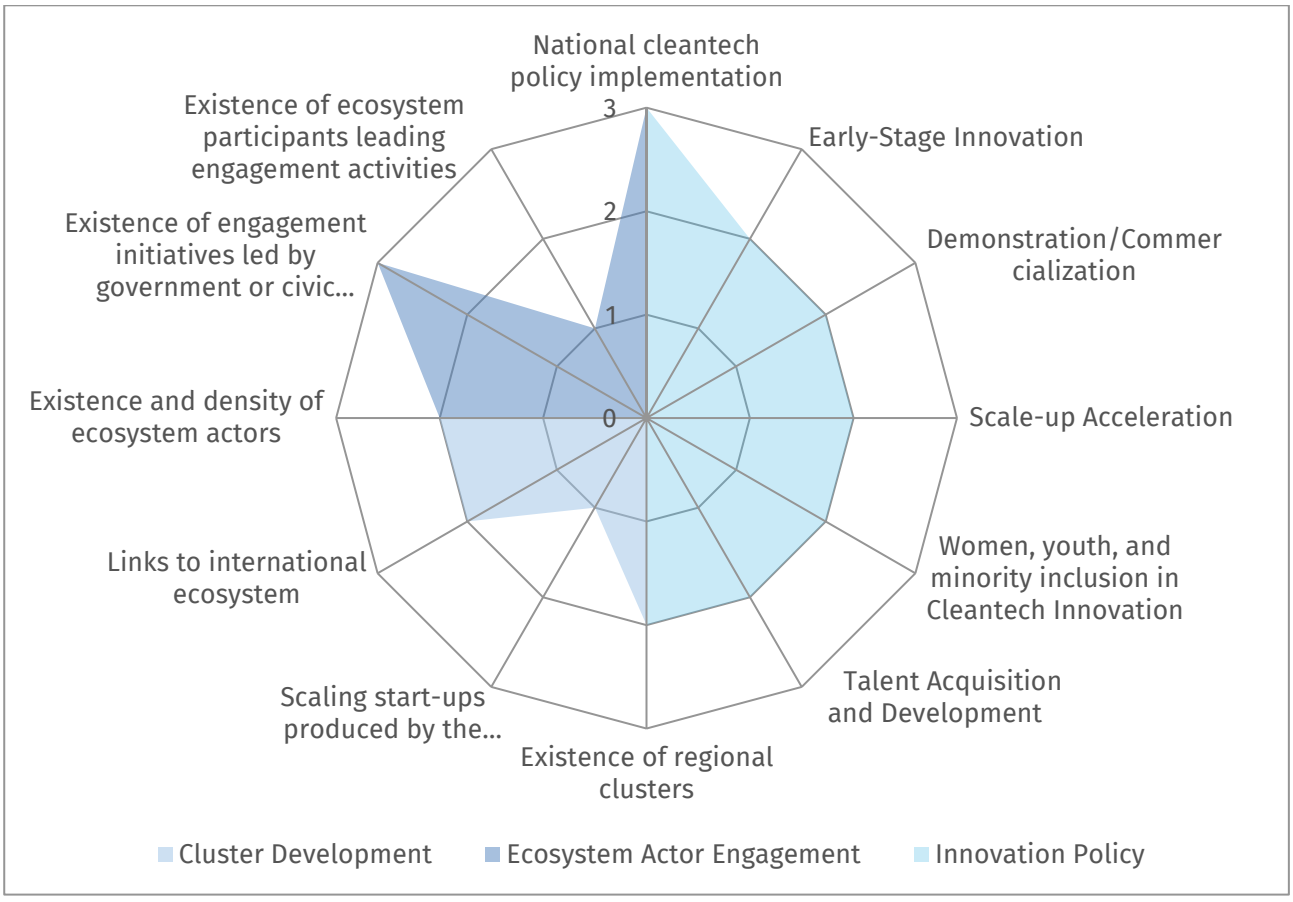
Cambodia stands out as the country that has progressed the most in developing its CIEE, particularly in public and private ecosystem actor engagement, inclusivity initiatives and international collaborations. Notable strengths include mature engagement initiatives led by government and civil society, significant international connectivity, and robust support for early-stage innovation. However, gaps remain, particularly in expanding regional clusters and infrastructure capacity, enhancing funding mechanisms and fully scaling startups. Continued strategic investments in infrastructure, risk capital, and policy refinement will be crucial for transitioning Cambodia's cleantech ecosystem from developing to mature.



KAZAKHSTAN

The country **has progressed in eight (8) metrics**.

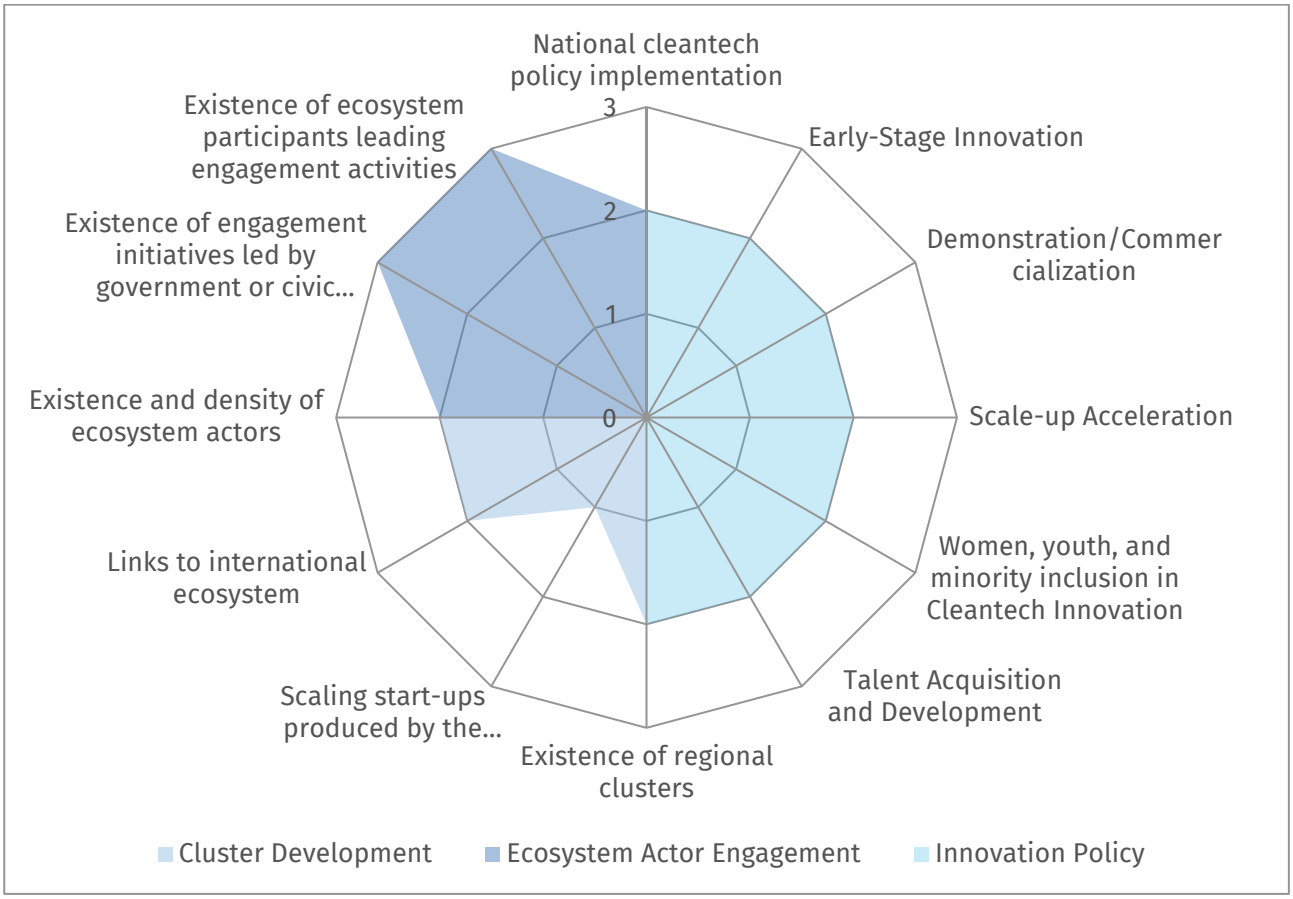
Kazakhstan has significantly strengthened its cleantech ecosystem, primarily concentrated in Astana and Almaty. The country exhibits maturity in early-stage innovation support, robust inclusion policies and growing international connections through initiatives like GCIP and partnerships within Central Asia and beyond. While notable progress has been made in national cleantech policies and demonstration support, gaps remain in VC funding, commercialization incentives and the density of private sector cleantech actors. To reach ecosystem maturity, Kazakhstan must enhance coordination among stakeholders, expand targeted sector-specific initiatives and develop stronger market-driven policies.



REPUBLIC OF MOLDOVA

The country **has progressed in three (3) metrics**.

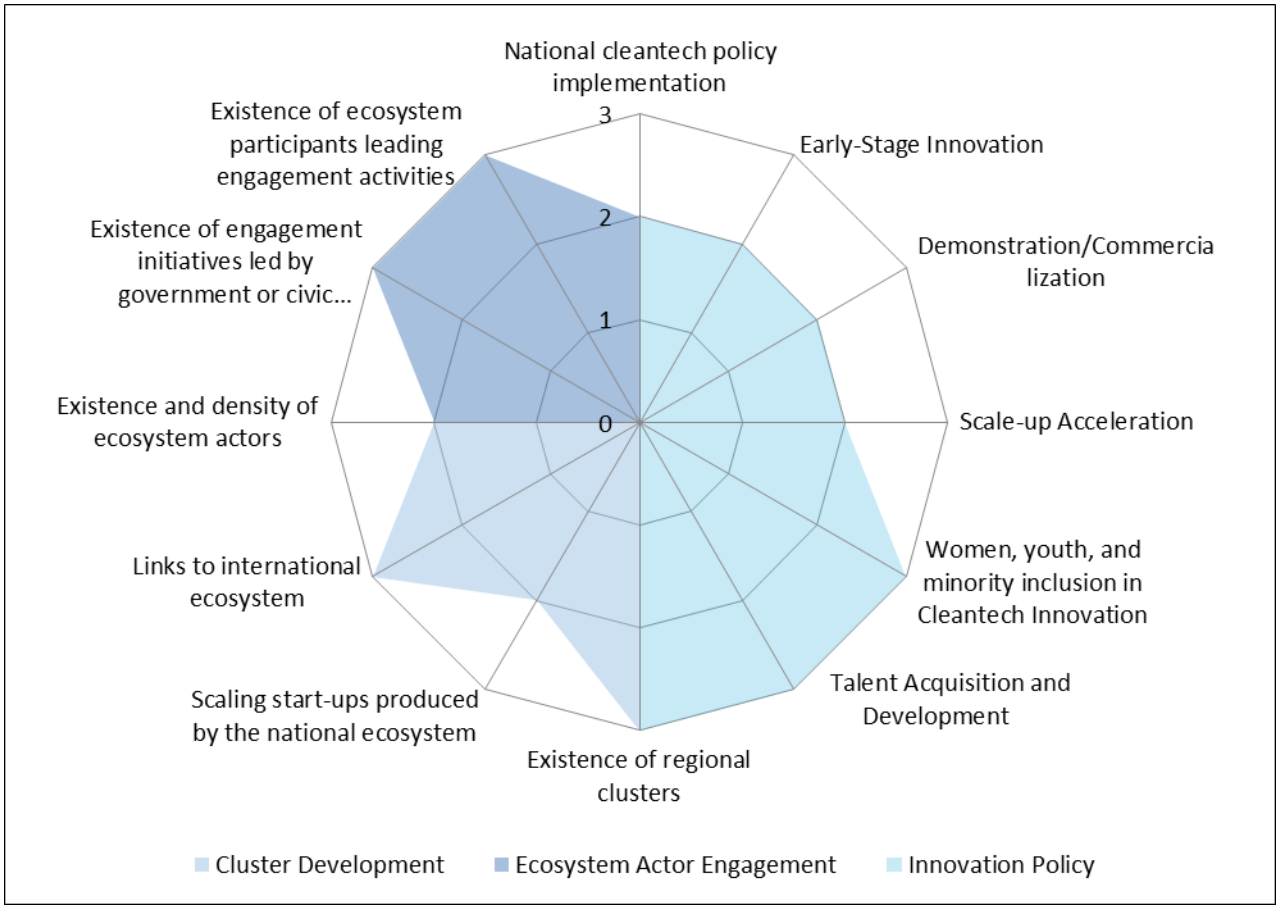
The Republic of Moldova has made tangible progress in its CIEE since 2023, with stronger policy alignment, expanded early-stage support and new inclusion programmes like Women in Tech. The introduction of risk capital providers and increased ecosystem engagement signal meaningful development. However, key gaps persist in scale-up support, regional cleantech-specific clustering and market-based incentives. While international ties and engagement have deepened, sustained advancement will require targeted financing, regulatory tools and infrastructure transition policies.



MOROCCO

The country **has progressed in three (3) metrics**.

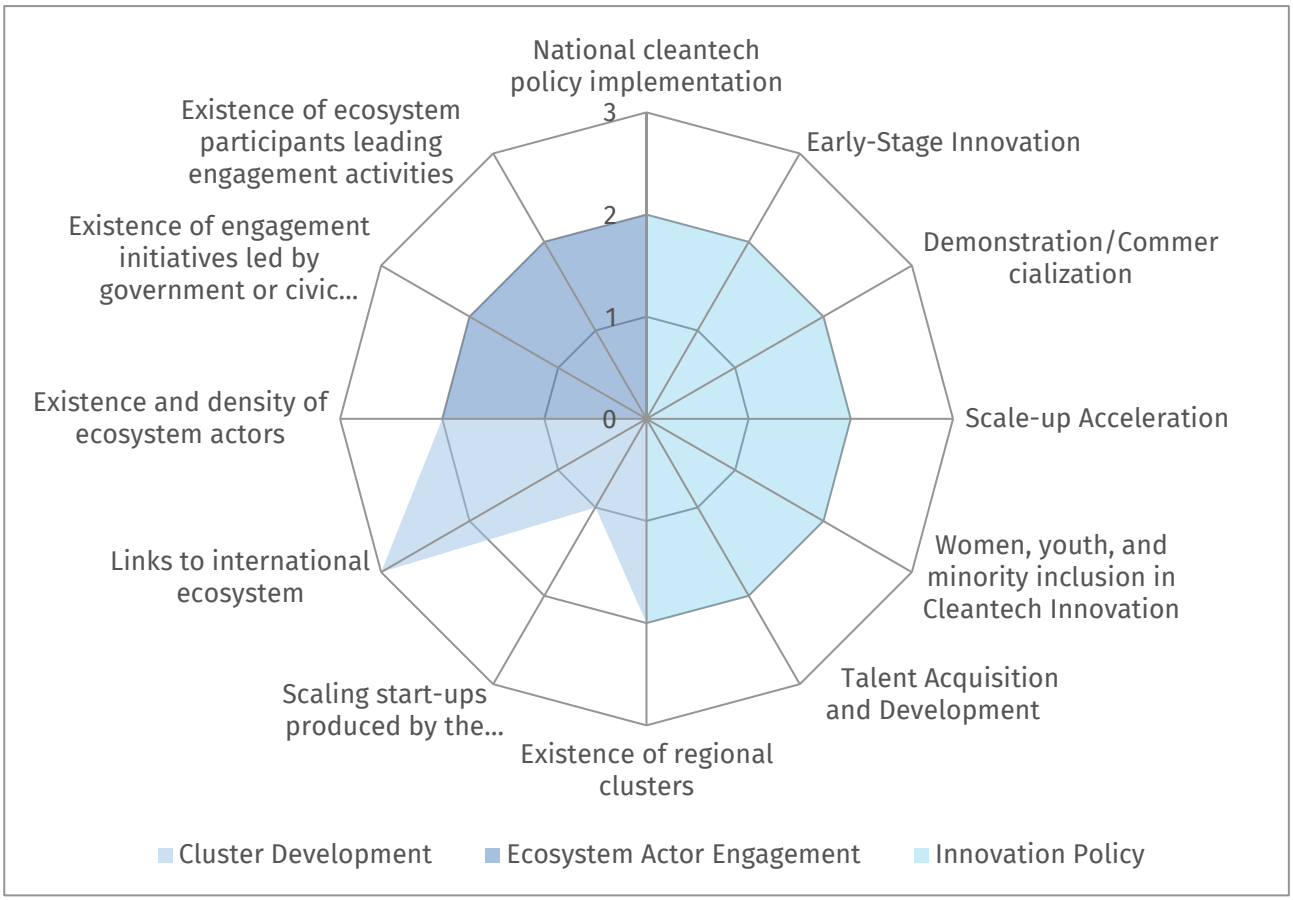
Morocco continues to have a vibrant CIEE, increasingly spread beyond its two major hubs, Casablanca and Rabat, to multiple regional clusters, including Agadir, Fes, Tangier, Marrakech and Ben Guerir. The country maintains gender-balanced universities with strong STEM participation and benefits from notable policy support for demonstration and commercialization stages under the National Green Hydrogen Roadmap and the national strategy for public development which now integrates green procurement. Initiatives such as GCIP, Cluster EnR and the Green Energy Park remain critical pillars. While talent acquisition and development are mature, retention remains a challenge, with skilled individuals often leaving despite government efforts to where there is more perceived opportunity beyond initial funding. Morocco also faces gaps in specialized finance access limiting the ability of promising enterprises to scale up and expand to new markets. Morocco also needs coordinated ecosystem governance specific to cleantech.



NIGERIA

The country **has scored differently in four (4) metrics**.

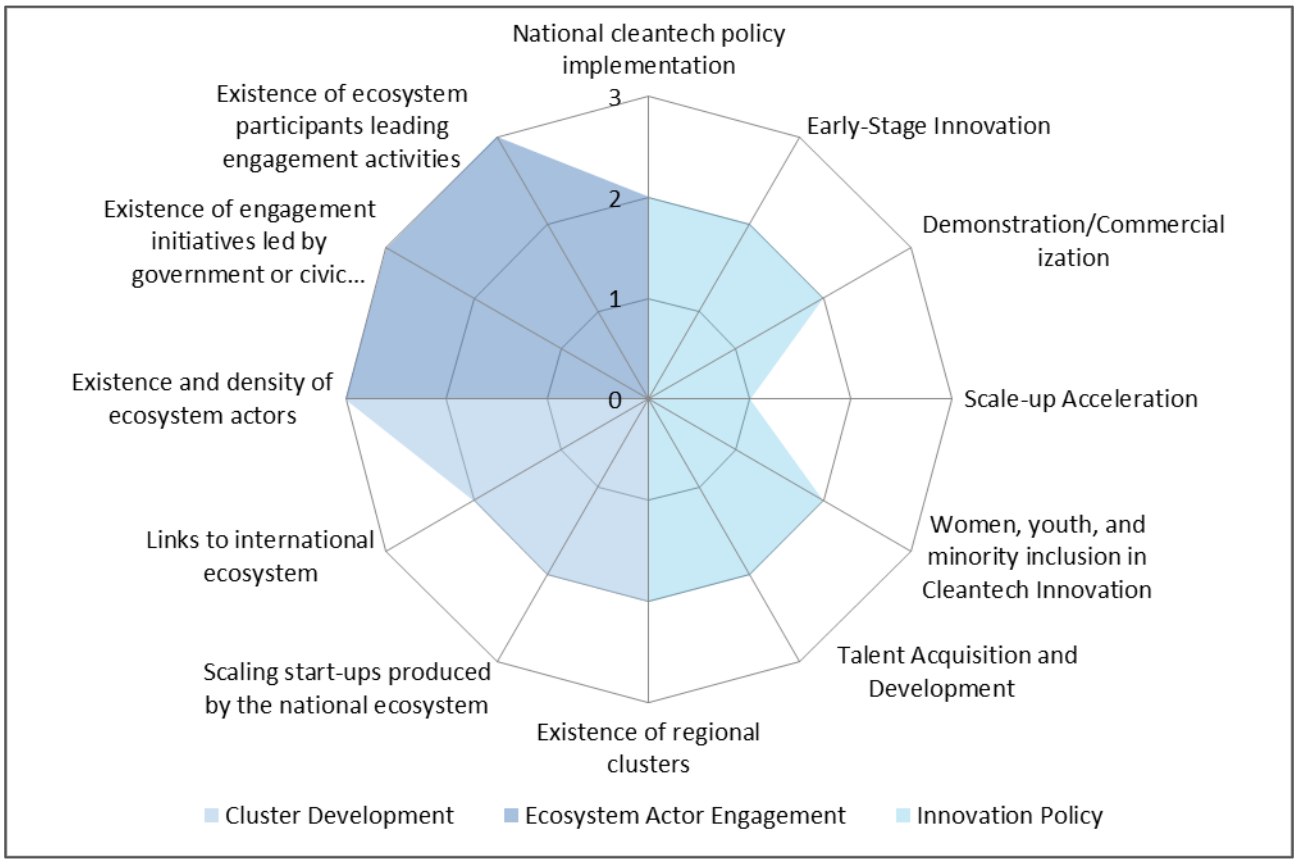
Several factors may have contributed to this difference, such as evaluators applying different perspectives during assessments or possessing a deeper understanding of the ecosystem that prompted more critical evaluations. Nigeria still exhibits notable potential in cleantech innovation with ongoing efforts to implement national cleantech policies and create robust international linkages. The ecosystem shows maturity in government and civil society engagement, particularly through active initiatives led by the Federal Ministry of Innovation, Science, and Technology and private sector participation from entities such as Co-Creation Hub (CCHub). However, Nigeria must enhance early-stage innovation funding, scale-up mechanisms, and regional cluster developments beyond Abuja and Lagos. Addressing these gaps will significantly strengthen Nigeria's capacity to foster sustainable growth in cleantech innovation.



SOUTH AFRICA

The country **has scored differently in four (4) metrics**.

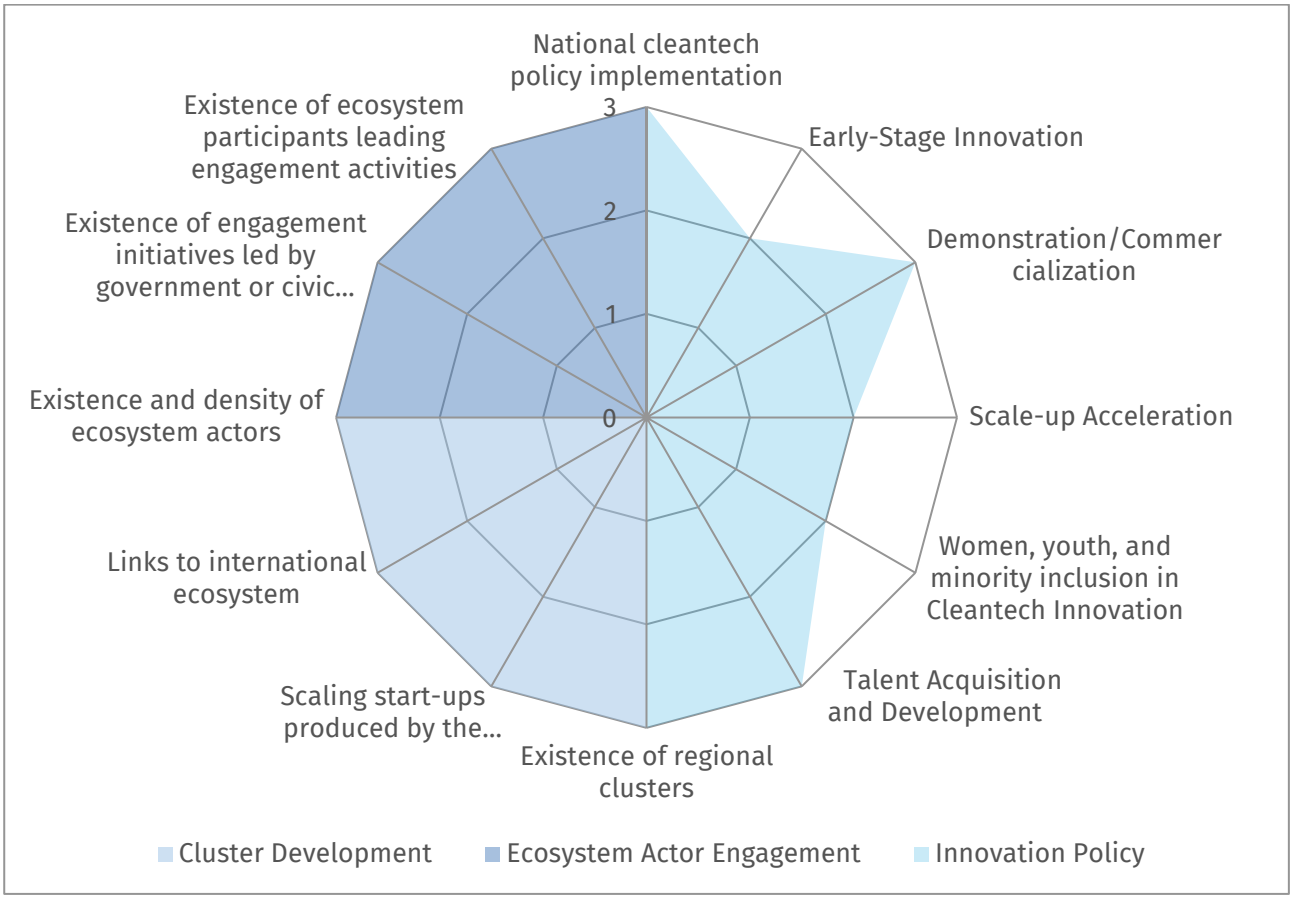
South Africa presents an expanding CIEE with significant strengths, particularly in the density and engagement of ecosystem actors and government-led initiatives. Nevertheless, the country faces challenges in fully implementing policy frameworks, scaling cleantech startups and developing infrastructure and mechanisms for demand stimulation and international integration. Strategic emphasis on comprehensive policy enforcement, funding support beyond early stages and enhanced international collaborations could significantly elevate the ecosystem's maturity. Similarly to Nigeria, factors influencing this may include the level of scrutiny by different stakeholders in the evaluation process from one year to the next and/or greater awareness of a CIEE resulting in a more critical eye.



TÜRKIYE

The country **has progressed in five (5) metrics**.

Türkiye maintains a strong commitment to cleantech, driven by substantial governmental engagement, comprehensive policies, and active regional clusters. Interaction between startups and large corporations remains limited but is slowly improving. The country continues its progress, enhancing policy frameworks, expanding early-stage innovation support, and significantly developing clusters, international linkages, and talent acquisition initiatives. Overall, Türkiye's CIEE shows steady improvement, scoring as developing in several indicators and reaching maturity in most key areas.



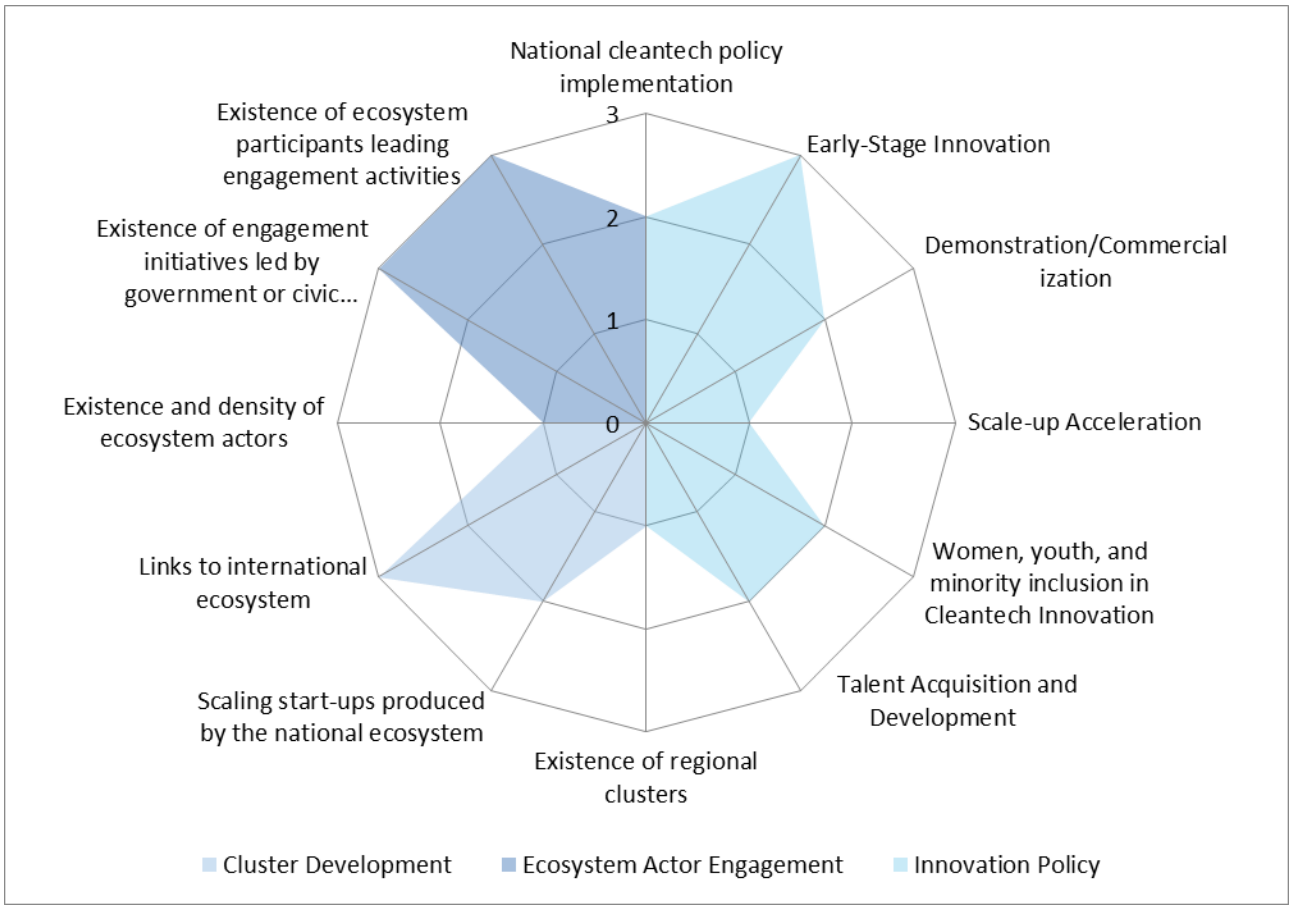
GCIP Partner Countries Not Included in the 2023 Evaluation

This section presents evaluations for countries having recently joined GCIP. It focuses exclusively on their most recent assessment as these countries were not participants in the earlier evaluation which took place in 2023.

LESOTHO

The country shows **developing levels of ecosystem actor engagement and emerging innovation policy and clustering**.

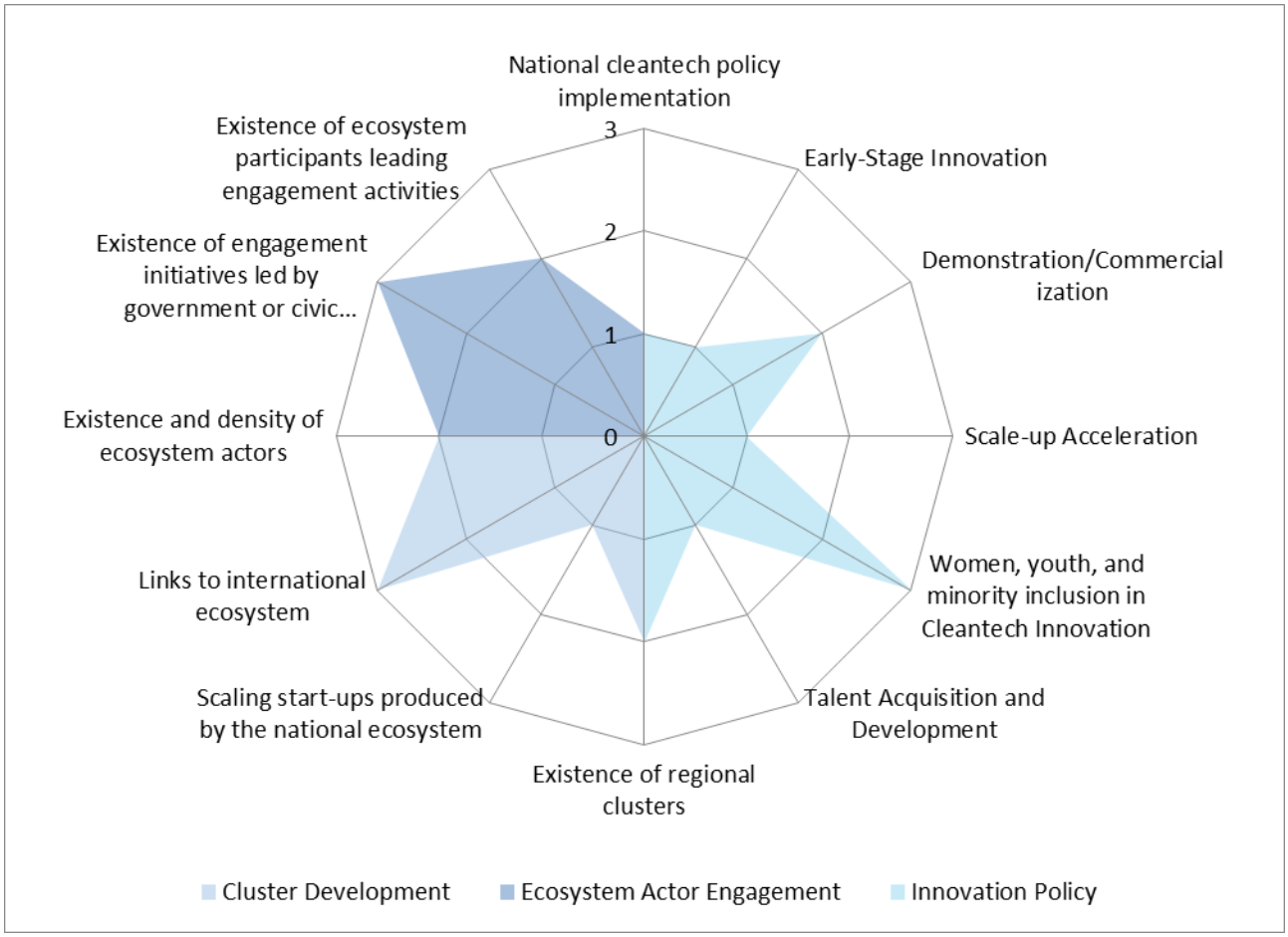
Lesotho exhibits a developing CIEE with significant early-stage innovation support mechanisms and strong international links, particularly through GCIP networks. The country demonstrates maturity in stakeholder engagement, including active government and civil society initiatives. However, there is a noticeable need for improved infrastructure, targeted policy development, a more enabling legal framework, and enhanced regional cluster development outside the capital city of Maseru. Strengthening risk capital and corporate sector involvement could further boost the ecosystem.



NAMIBIA

The country shows **developing levels of innovation policy, ecosystem actor engagement and clustering with targeting strengths in each**.

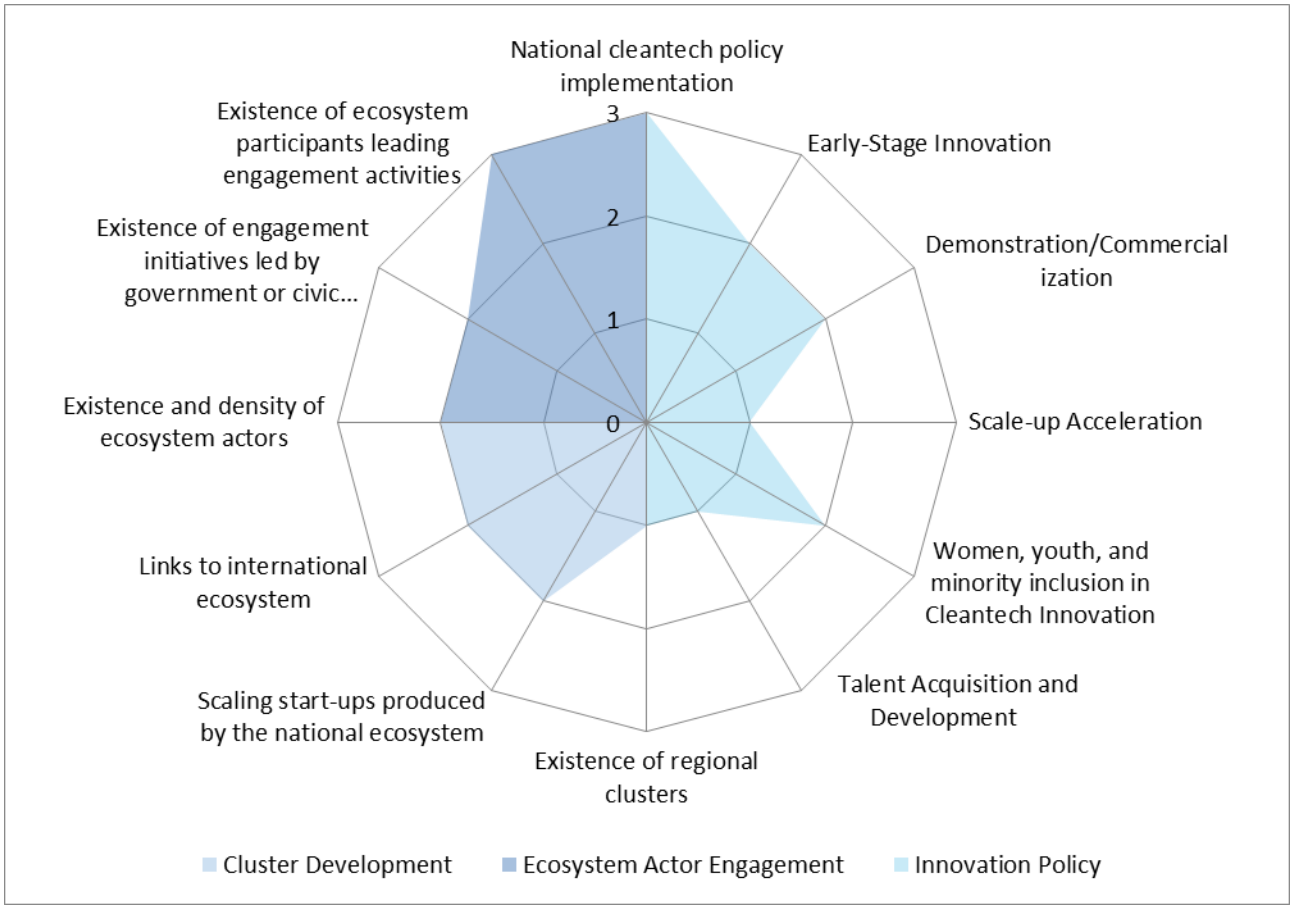
Namibia shows promising potential in cleantech innovation, particularly in inclusivity and international partnerships. Key strengths include robust initiatives supporting women and youth in cleantech and established global connectivity, notably through significant foreign investments like the Hyphen Hydrogen Energy Project. However, Namibia faces challenges due to fragmented policy frameworks, limited sector-specific financial support, and nascent regional innovation clusters. Strategic coordination, targeted cleantech policies, and increased infrastructure and funding support are essential for Namibia to transition from emerging to mature stages of ecosystem development.



SENEGAL

The country shows **high ecosystem actor engagement with emerging cluster development and innovation policy**.

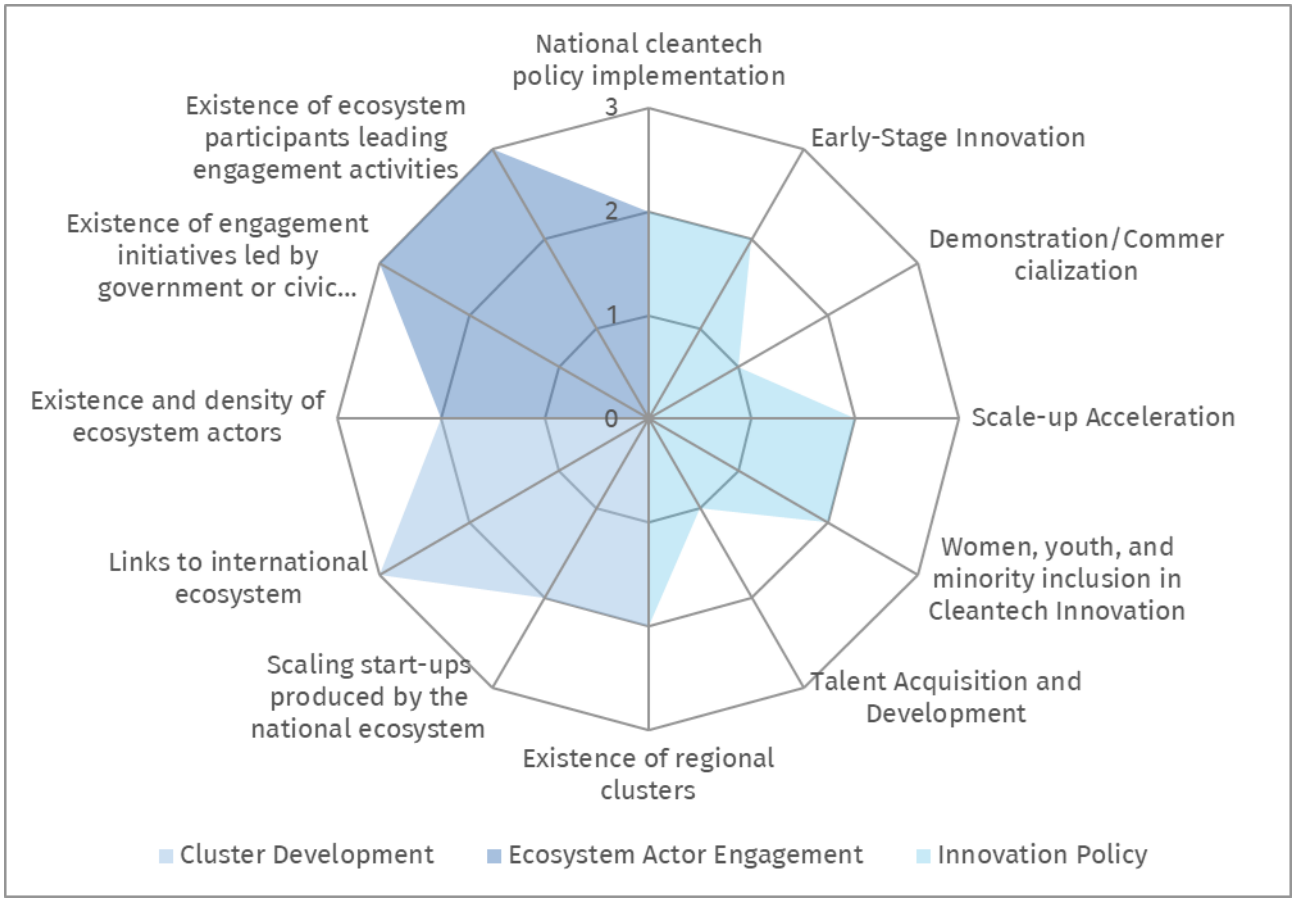
Senegal is steadily building a strong foundation for cleantech innovation, driven by supportive policies and active stakeholders, including the government, financial institutions and international partners. While the number of innovators and MSMEs in the sector remains modest, successful cases demonstrate the viability of cleantech ventures in the country. Despite these advancements, the ecosystem's activities are predominantly concentrated in Dakar, with limited coordination among stakeholders, underrepresentation of women, and a need to attract more talent to achieve broader, inclusive growth.



UKRAINE

The country shows **an emerging level of innovation policy with more developed ecosystem actor engagement and clustering**.

Ukraine demonstrates moderate engagement in cleantech innovation, hampered significantly by ongoing war-related challenges, limited governmental support, and emerging regulatory frameworks. Despite these setbacks, the country exhibits strengths in robust international linkages and active civil society involvement. The innovation ecosystem shows substantial room for growth, with most indicators scored as developing or emerging.



Section 3: Global Trends in Ecosystem Building and Measurement

Success cases

Countries highlighted as success cases were carefully selected based on notable performance in cleantech innovation and investment, demonstrating impactful results and global leadership in the cleantech domain. These countries provide valuable, transferable insights due to their distinctive strategies in engaging stakeholders, mobilizing capital, fostering corporate involvement, and creating enabling policy environments. Brazil and India were specifically included as global benchmarks to provide a broader perspective beyond the traditional Global North examples and to demonstrate how countries in the Global South are effectively developing their CIEEs. Each country's case offers practical lessons and replicable actions that other ecosystems can adapt to strengthen their own cleantech innovation capabilities.

BRAZIL

Brazil secured one of the largest Latin American cleantech deals of 2024 — a $550 million investment in digital infrastructure — and signed a $1.5 billion agreement for a green ammonia plant at the Port of Pecém. These moves underscore Brazil's emerging leadership in low-carbon industrial deployment and renewable energy export capacity. As geopolitical tailwinds push for diversified supply chains, Brazil's innovation in biofuels and green hydrogen offers a unique model of cleantech ecosystem development in the Global South.

INDIA

India's cleantech sector grew by 47% quarter-over-quarter in early-stage deal volume between Q4 2024 and Q1 2025, with 18 transactions recorded in Q1 2025 — making it the second most active startup ecosystem in APAC after China. It also saw standout deals in electric mobility, including Ati Motors and PMI Electric, and is attracting global funds such as the $177M India Climate Opportunities Fund focused on early-stage climate tech. India now leads Asia in cleantech investment growth, driven by domestic manufacturing incentives, digital integration, and export ambitions in Electric Vehicles (EVs), green hydrogen, and sustainable agriculture.

SWITZERLAND

Switzerland consistently ranks among the highest in cleantech investment per capita and is rapidly expanding its renewable energy infrastructure. By 2024, it reached over 8,150 MW of installed solar capacity, up from 6,379 MW in 2023. Supported by the Swiss Cleantech Masterplan and a high degree of institutional investment in clean technologies, the country continues to demonstrate how targeted national policy, stable finance, and advanced R&D can yield world-leading innovation outcomes despite modest population size.

UNITED KINGDOM

The United Kingdom (UK) ranks third globally for total dollars invested in cleantech between 2017-2022 at $14.2 billion. The UK is also among the top five countries with the highest cleantech deal

volume as of 2022. While there are more early-stage deals happening in the UK, the country ranks second highest for both early and late-stage deals in cleantech.

UNITED STATES

The United States continues to dominate global cleantech investment with over $15.3 billion raised in 2024, leading in both volume and size of deals. It hosted the world's largest early-stage deal — a $900 million Series A into Pacific Fusion — and five additional megadeals in Q4 alone, many involving nuclear fusion, energy-efficient computing, and small modular reactors. With consistent policy backing and a surge in commercialization support for grid tech, carbon capture, and long-duration energy storage, the U.S. exemplifies how capital scale, public-sector alignment, and deep-tech innovation converge to push frontier climate technologies.

Factors defining CIEE success

The following case studies from entrepreneurs in the successful ecosystems listed in the previous section reveal elements and actions that may be replicated for cleantech ecosystem development.

Circlua, Brazil
Turning Mining Waste into Low-Carbon Cement Ingredients

Circlua, a Brazil-based cleantech venture, is pioneering circularity between the mining and construction industries by converting mining tailings into supplementary cementitious materials (SCMs) with significantly reduced CO_2 emissions. Rather than competing with cement producers, Circlua positions itself as a supplier of high-performance cement ingredients to major global incumbents, including leading Western cement companies. Backed by Vale as its primary investor and technology partner, Circlua has raised over USD$35 million and is building the world's largest calcined clay SCM factory near Carajás, with a projected capacity of up to 5 million tons annually.

The company's success is rooted in five "non-negotiable" principles: circular feedstock, competitive performance without disrupting existing supply chains, social benefits in impacted regions, a global export-oriented model, and a low-carbon footprint. Its pilot plants, including the first 100% electrified clinker-free cement line, have already secured offtake agreements with leading concrete firms.

Circlua's strategy offers insightful lessons for CIEE development:

- **Incumbent incentives are shifting**: The ecosystem is enabling adoption as global cement majors are actively seeking low-carbon SCM solutions due to rising international carbon regulations, ESG pressures, and evolving procurement standards. This incentivizes partnerships over resistance, accelerating scale-up for ventures like Circlua.

- **Corporate-backed venture-building unlocks scale**: Vale's role goes beyond investment—providing industrial infrastructure, technical validation, and credibility that traditional VC models often cannot match. This demonstrates how emerging-market ecosystems can catalyze cleantech by embedding ventures within established industrial platforms.

- **Ecosystem integration over standalone innovation**: Circlua's success illustrates that cleantech solutions are more scalable when ecosystems support integration into existing supply chains and infrastructure, rather than requiring systemic overhaul.

- **Industrial ecosystems as cleantech accelerators**: In hard-to-abate sectors like cement, access to industrial-scale pilots, offtake partners, and large-scale contracts, enabled by the ecosystem, can be more valuable than early-stage grants or fragmented fundraising.

For GCIP ecosystems, Circlua exemplifies how an enabling ecosystem, comprised of aligned incumbents, industrial capital, export-friendly regulation, and circular economy principles, can drive resource-efficient, low-carbon innovation with global relevance.

Recykal, India

Engaging the Government to Become the Standard-Setter

recykal

Recykal, a Hyderabad-based startup, has emerged as a standout example of how cleantech can grow in emerging markets by combining regulatory alignment, digital infrastructure, and multistakeholder ecosystems. Operating across two closely connected business areas (digital marketplace and sustainability services), Recykal enables traceable, scalable waste circularity. Its platform handles ~25,000 metric tons monthly, connecting more than 220 recyclers with used consumer materials and helping over 300 brands (including Coca-Cola and Unilever) meet their Extended Producer Responsibility (EPR) mandates.

The company's trajectory shows the key role government regulations can play in driving innovation. India's evolving EPR policies (2016–2025) and digital compliance systems served as key drivers, accelerating Recykal's model. While governments are crucial to kick-start change through strong policy frameworks, it is private capital and corporate actors that ultimately bridge the infrastructure gap and enable adoption at scale. Recykal's digital tracking, now supported by Google's AI to sort waste before it is contaminated, helped solve trust issues around whether recyclers were actually processing the materials they claimed.

Recykal's ecosystem strategy also sets a benchmark. It actively engaged government (e.g., MoHUA, UNDP), NGOs, and informal recyclers—providing training, incentives, and ways to bring them into the formal system. Its Deposit Refund System (DRS) pilot programs aim to influence people's habits, encouraging them to return clean packaging, and preparing the company to expand into a third area of business.

Recykal's trajectory highlights the following key takeaways for building a cleantech ecosystem:

- **Policy first**: Regulation shaped how the market developed and helped attract investment (e.g., EPR rules, Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) subsidies for electric vehicles).

- **Use technology to build trust**: Digital tools helped connect informal and formal recycling sectors, attracted global investors, and helped fill gaps in recycling infrastructure.

- **Strong but unevenly accessible R&D capacity**: Top 15 leading institutes (e.g., IIT Kanpur, IISc and Bangalore Bioinnovation Centre) offer lab space and mentoring, but access remains limited.

Metafuels, Switzerland

Scaling SAF via R&D Partnerships and Policy Alignment

Metafuels, a sustainable aviation fuel (SAF) startup based in Switzerland, exemplifies the challenges and strategies required for hard-to-abate sectors like aviation. Founded during the COVID-19 pandemic by three experienced engineers, the founders leveraged the unexpected downtime to turn long-standing SAF technology development interests into a commercially viable venture. An important early step was its strategic partnership with the Paul Scherrer Institute (PSI), Switzerland's leading research institution. PSI's catalysis expertise, their experience developing and scaling technologies and their infrastructure to host large-scale pilot and demonstration plants made them an ideal partner.

Although Switzerland is strong in innovation, including the availability of R&D infrastructure and support programs, limitations on the potential for additional renewable energy generation made it clear that deployment would need to occur elsewhere, powered by technology developed and exported from Switzerland.

Metafuels has selected the Port of Rotterdam as one of its commercialization hubs due to the supportive SAF mandate, regulatory clarity, and access to world-class industrial infrastructure. Metafuels' early funding journey has been driven by venture capital, a mix of US and European investors, complemented by grant funding from the Swiss Federal Office of Energy. While first commercial installations or 'first-of-a-kind' projects remain challenging to finance, the company plans to strategically combine VC backing with public support alongside upfront technology de-risking at its demonstration project.

Key ecosystem lessons from Metafuels:

- **R&D Partnerships Accelerate Innovation**: Collaborating with institutions like PSI enables startups to leverage specialized expertise and infrastructure, bridging the gap from concept to pilot.

- **Policy Certainty Drives Market Entry**: The EU's phased SAF blending mandates provided a clear, stable regulatory environment, making it an attractive early market for SAF startups globally.

- **Grants Complement VC Capital for First-Of-A-Kind Projects**: Targeted public funding, combined with venture capital, can de-risk technology demonstration and unlock further private investment.

Barocal, United Kingdom

Leveraging Cambridge's Cleantech Cluster to Scale

Barocal, a spin-out from Cambridge University, is pioneering a solid-state cooling technology aimed at decarbonizing heating and cooling, which together account for around 53% of global emissions. Since its founding in 2019, Barocal has focused on replacing the environmentally harmful gases commonly used in refrigeration and air conditioning with novel solid materials.

Cambridge's cleantech ecosystem provided a strong foundation for Barocal's early progress. The city's proximity to a world-class university ensured access to high-calibre talent and technical expertise. This ecosystem also enabled the formation of key partnerships and facilitated recruitment. In terms of funding, early-stage support included international recognition through the Global Cooling Prize, an award backed by Mission Innovation and the Rocky Mountain Institute in the United States, and additional catalytic funding through the Breakthrough Energy Fellowship from the Bill and Melinda Gates Foundation.

In terms of funding, early-stage support included international recognition through the Global Cooling Prize, backed by Mission Innovation and the Rocky Mountain Institute in the United States, and catalytic funding through the Breakthrough Energy Fellowship. More recently Barocal was awarded €2.45m Accelerator grant from European Innovation Council (EIC) and also secured £1 million as one of two winners selected from over 2,100 teams globally. All of these recognitions, helped Barocal gain early visibility, unlock networks, and accelerate technical development.

Participation in Deep Tech Labs, a Cambridge-based accelerator, allowed the founding team to sharpen their commercial strategy, refine business planning, and build momentum toward market deployment.

One of the most significant barriers identified by Barocal was the high cost of infrastructure in Cambridge. The lack of affordable lab and office space posed real constraints on growth for hardware-driven startups. Barocal was able to mitigate some of these challenges by securing sublet access to prototyping and testing facilities through a local connection with a former university spin-out focused on refrigeration technology. This proved instrumental in enabling their early prototyping efforts.

Barocal's experience highlights three core ecosystem lessons:

- **Talent and Networks Enable Growth**: Cambridge's dense concentration of scientific expertise and innovation networks supported Barocal's early-stage development and accelerated access to resources.

- **Commercial Accelerators Bridge the Gap**: Programs like Deep Tech Labs filled a critical gap by helping technical teams build their business acumen and shape investable scale-up pathways.

- **Cost Remains a Growth Constraint**: Premium rents and limited access to shared lab infrastructure made tech de-risking more difficult. Affordable, purpose-built facilities for cleantech innovation remain in short supply.

Mitico, United States

Navigating a Global Scale-up from a University Lab

Mitico, a carbon capture startup spun out of Caltech, illustrates the real-world complexities cleantech innovators face transitioning from lab to global deployment. Originating from PhD research and supported by Caltech's Resnick Sustainability Institute, Mitico's early momentum came not from local funding, but from Miracle Plus, a China-based accelerator. Despite the strength of U.S. innovation infrastructure, the company faced significant barriers in accessing federal funds like Small Business Innovation Research (SBIR) due to ownership rules and lacked the personal investor networks that many founders rely on.

A major turning point was participation in the National Science Foundation Innovation-Corps program, which enabled rapid market validation through 200 customer interviews, sharpening the company's commercialization focus. While U.S. clean energy programs such as ENERGYWERX provided flexible, non-dilutive support, Mitico chose to pilot its first project in Thailand, where costs, permitting, and industrial buy-in aligned more easily than in the U.S. or Europe. Global partnerships, engineering in the UK, and manufacturing in China allowed the company to stay agile and cost-effective.

Mitico's journey underscores critical ecosystem lessons:

- **Flexible, non-equity pilot funding** (like WERX) is vital in bridging the valley of death.

- **Permitting reform** can prove essential for high-regulation markets to enable pilots. Additionally, some cleantech sectors that may not have the requisite regulation needed.

- **University Intellectual Property (IP) policies** that support founders without burdening cap tables can catalyze spinout success.

- **Global South markets** can be ideal testbeds, offering cost-effective, faster routes to validation.

Mitico's case demonstrates the importance of aligning funding, regulatory flexibility, and global partnerships to support cleantech startups beyond ideation, toward scalable, real-world climate impact. The case studies in this report point to several factors that consistently underpin strong cleantech innovation ecosystems:

- **Clear and consistent policy signals**: Whether through long-term incentives (United States), strong regulatory engagement (United Kingdom), or government-backed programmes (India), reliable policy frameworks build investor confidence and stimulate demand.

- **Mobilization of finance at scale**: Sustained venture capital flows (United States), high per-capita investment (Switzerland), and targeted support for emerging sectors (Brazil) demonstrate the central role of finance in enabling startups to move from pilot to scale.

- **Demand-driven innovation**: Large domestic markets with pressing sustainability needs (India's energy access, Brazil's bio-based solutions) show how local challenges can catalyze cleantech entrepreneurship with global relevance.

- **International connectivity**: Open ecosystems that link entrepreneurs to global partners and capital (Switzerland, US, UK) are better positioned to attract talent, scale solutions and create export opportunities.

Together, these lessons suggest that effective cleantech ecosystems rest on a combination of policy certainty, financial depth, market demand, and international links, which GCIP partner countries can adapt to their local contexts.

Practical Actions to Increase the Participation of Women and Youth

Increasing the participation of women and youth in cleantech innovation is both a development priority and a boost to ecosystem vitality. Yet these groups remain underrepresented due to persistent barriers: From limited access to finance and mentorship to restrictive social norms and underrepresentation in STEM education. In many contexts, women still account for under a fifth of cleantech entrepreneurs. Insights from ESOs in India, Kenya, and Brazil highlight several practical steps to overcome these challenges and ensure women and young innovators can fully contribute as cleantech entrepreneurs.

ACCESS TO CAPITAL

- **Inclusive Finance Mechanisms:** Establish gender- and youth-responsive financing instruments (e.g. dedicated grant windows, seed funds, or concessional loans) to lower entry barriers for women- and youth-led startups. For example, Kenya's AgriBiz programme waives formal business registration requirements for women and youth agripreneurs, recognizing many operate informally. Adapting eligibility criteria and right-

sizing loan products (smaller tickets with flexible terms) enables more equitable access to startup capital.

- **Investor Sensitization and Incentives:** Tackle biases in investment decision-making by engaging the investor community. Women founders often struggle to secure funding even with high-potential ventures, in part because most financiers are male and may undervalue diverse entrepreneurs. GCIP stakeholders can provide investor education on gender bias and the business case for diverse teams and create incentives (such as challenge funds or co-investment guarantees) for investing in women- and youth-led firms. This dual approach – preparing entrepreneurs and equipping investors – helps unlock capital for underrepresented innovators.

CAPACITY BUILDING

- **Tailored Skills Development:** Design capacity-building programs to address specific skill gaps and needs of women and young entrepreneurs. Training curricula should blend technical knowledge (climate science, clean technology, STEM applications) with business and soft skills. Notably, women-focused accelerators have identified networking, financial literacy, and personal branding as critical areas where female entrepreneurs can benefit from support. Long-term fellowship and incubator programs can target these groups early – for instance, a 9-month fellowship in India has successfully guided women STEM graduates (0–4 years post-graduation) into climate entrepreneurship by building climate knowledge, entrepreneurial skills, and founder confidence. Likewise, university-linked climate innovation bootcamps and hackathons help engage youth talent before they enter the job market.

- **Mentorship and Coaching Networks:** Strengthen mentorship and peer support, with an emphasis on inclusion and representation. Connecting aspiring women and youth with experienced mentors (especially female mentors for women entrepreneurs) provides guidance, encouragement, and role models. Climate Collective (India) found that thriving communities of practice and women mentors are vital, as many female founders are more comfortable learning from women trainers in conservative settings. National GCIP programmes should cultivate mentor pools that include women leaders, youth alumni, and even pair up peers for mutual learning. Providing one-on-one coaching – on both business challenges and personal development – can also help entrepreneurs navigate work-life balance issues (for example, offering coaching or counselling to women balancing startup duties with family responsibilities). Such capacity support builds the confidence and competencies needed for women and young innovators to launch and sustain their ventures.

ECOSYSTEM ENGAGEMENT

- **Targeted Outreach and Pipeline Development:** Proactive outreach is essential to bring more women and youth into cleantech programs. General calls for applications tend to be

dominated by men (often over 70% male applicants), so incubators and competitions should create dedicated tracks, or intake rounds for women and youth. This includes disseminating programme information through channels that reach these groups – for example, partnering with women's business associations, youth clubs, universities, and grassroots organizations (including those supporting people with disabilities) to publicize opportunities. In Kenya, KCIC found that working with county governments and local hubs greatly expanded participation beyond major cities. The EU-supported AgriBiz initiative illustrates this holistic approach: It partners with county authorities to set up local incubation hubs and delivers training plus results-based finance to women- and youth-led agri-businesses, with dozens of new enterprises receiving funding and support. Such targeted, community-level engagement builds a strong pipeline of diverse entrepreneurs.

- **Inclusive Programme Design:** Ensure that programme selection and support processes are intentionally inclusive. This means evaluating applications with a lens to equity – for instance, not penalizing early-stage or informal enterprises (common among youth and women entrepreneurs) for lack of formal structure or extensive track record. Some successful accelerators have introduced preferential entry criteria or reserved slots for women and youth, which helps counteract structural disadvantages. Once onboard, entrepreneurs should receive tailored support that recognizes their contexts. In practice, this could involve offering childcare support or scheduling sessions at convenient hours. Quintessa (Brazil), for example, schedules training meetings at times that accommodate women founders' family and work obligations (e.g. early morning or evening sessions so mothers and those holding day jobs can attend). By designing with these considerations in mind, programmes can improve retention and success rates for women and young participants.

- **Network Building and Partnerships:** Integrate women and youth into the broader cleantech ecosystem through networking and strategic partnerships. Cleantech innovation clusters should actively link women- and youth-led startups with corporates, research institutions, and government initiatives to open market and learning opportunities. Climate Collective has taken this approach in India by working with corporate partners on cleantech challenges and showcase events, ensuring diverse founders get visibility and a chance to pilot solutions with industry. Similarly, engaging policymakers (for example, inviting government or city leaders to support youth and women innovation challenges) can signal high-level commitment and create role-model champions in the public sphere. Regular forums, pitch events and innovation labs that spotlight women and young innovators foster networking and peer learning. Building these connectivity platforms – including online communities and regional events – helps overcome the "poor ecosystem connectivity" barrier by making sure underrepresented founders are not isolated but instead plugged into a supportive community.

REPRESENTATION AND LEADERSHIP

- **Role Models and Champions:** Elevate the visibility of women and youth successes in cleantech to inspire others and shift cultural perceptions. A common hurdle is the lack of prominent role models; addressing this requires intentionally showcasing successful women and young founders through media, case studies and events. GCIP country teams can organize "women in cleantech" spotlight sessions or youth innovation awards that celebrate their achievements. Publicizing these stories not only provides relatable examples to aspiring entrepreneurs but also challenges social norms by demonstrating that women and youth can thrive as innovators. In contexts where societal bias casts entrepreneurship as an unsuitable path for women such visibility is key to normalizing their leadership.

- **Diverse Leadership and Governance:** Promote diversity within the leadership of ESOs and networks. When programme managers, mentors, and investor panels include women and young professionals, it brings new perspectives and signals inclusion. Companies with gender-diverse executive teams are 25% more likely to outperform peers and generate 45% of revenue from innovation. In Brazil, Quintessa's women-led management (with two female CEOs and 70% of leadership positions held by women) has ingrained a strong gender and diversity lens in its programmes. GCIP initiatives should similarly strive to involve women and youth in decision-making roles – for example, as judges in startup competitions, as coaches in accelerator curricula, or on advisory boards. This not only creates more inclusive programme environments but also ensures policies and services are designed with first-hand understanding of the challenges facing these groups.

- **Early Pipeline and Education:** Address the upstream factors of underrepresentation by encouraging more girls and young people to enter STEM and cleantech fields. Collaboration with educational institutions and ministries can help integrate climate entrepreneurship into school and university curricula, offering innovation clubs, challenges, or internships for students. Bridging programmes that specifically support women STEM graduates and young innovators to transition into entrepreneurship have proven effective – for instance, national fellowships in India support women scientists for 2–3 years to commercialize innovations. By strengthening early mentorship, career counselling, and internship opportunities, stakeholders can widen the funnel of women and youth considering cleantech entrepreneurship. Over time, this builds a self-reinforcing talent pipeline and more role models in technical and leadership roles.

Collectively, these practical actions can help GCIP members and partners create more inclusive CIEEs. By intentionally channeling capital, capacity building, networks and visibility to women and youth, programs will not only overcome current barriers – they will also unlock a wealth of talent and creativity for sustainable industrial development. The result will be a more dynamic, equitable ecosystem where the contributions of women and young innovators drive climate solutions and green growth.

Conclusion

The Cleantech Innovation Capacity Building Framework, alongside the complementary frameworks for Cleantech Innovation Policy Strategy, Cluster Development, and Ecosystem Actor Engagement, provides a powerful and actionable toolkit for countries to effectively strengthen their CIEEs. By adopting these strategic frameworks and utilizing data-driven evaluation methods, countries can accelerate their progress towards robust cleantech ecosystems, significantly advancing climate mitigation, promoting low-carbon economic growth, and stimulating inclusive job creation.

This report highlights the substantial progress made by GCIP countries, identifies ongoing challenges, and illustrates global best practices and transferable insights from leading cleantech ecosystems. To build upon this momentum, it is essential that countries continue to invest strategically in targeted interventions, foster greater inclusivity, and strengthen international collaborations. Now is the time for stakeholders—including governments, the private sector, academia, and civil society—to commit collectively and decisively to scaling cleantech innovation. Together, we can drive transformative environmental, social, and economic impacts, positioning cleantech at the forefront of a sustainable future.

Appendix A. Cleantech Innovation Ecosystem Evaluation System

This assessment is designed for ecosystem actors from government, risk capital providers, corporates, universities, incubators and accelerators, startups and MSMEs, and other key ESOs working within a CIEE. It is designed to be used as a collaborative tool for ecosystem actors to discuss maturity of each indicator and provide rationale for answers in a workshop setting.

Instructions for using the assessment

1. **Refer to the Cleantech Innovation Policy Strategy Framework Baseline report as well as Section 3 of this document.** Note national cleantech innovation priorities, ecosystem actors, engagement initiatives, and activities stated in the country profiles.
2. **Record the current policy environment at the time of the assessment.** An example from the United States is "as of December 2022 the 45V 10-year Production Tax Credit (PTC) for clean H2 from the Inflation Reduction Act is in effect but is scheduled to expire after January 1, 2033."[2]
3. **Assess the cleantech innovation ecosystem** based on each dimension of the rubric (Emerging, Developing, or Mature) and record the rationale notes.
4. **Display the results** as a spider diagram showing each metric measured individually. The cleantech innovation ecosystem maturity level is based on innovation policy and ecosystem support, existence and engagement of ecosystem actors, and measurement of cleantech innovation clusters.
5. **Use the results** to identify the ecosystem's strengths as well as areas for improvement.

[2] Lucia Tian, Jacob Mees, Vanessa Chan, William Dean. (2023). Commercial Adoption Readiness Assessment Tool (CARAT). Washington, D.C.: U.S. Department of Energy.

A. Innovation policy and ecosystem support

1. National cleantech policy implementation

National cleantech policy implementation is dependent on three criteria:

1. A specific cleantech, climate, and/or innovation policy that places cleantech as a domestic policy priority.
2. Dedicated climate protection agency and/or innovation agency.
3. A roadmap to implement and enforce cleantech development.

EMERGING	DEVELOPING	MATURE
There is at least 1 of the following: • Cleantech, climate, or innovation policies • Climate or innovation agency • Cleantech roadmap	The country has at least 2 of the following: • Cleantech, climate, or innovation policies • Climate or innovation agency • Cleantech roadmap	The country has all 3 of the following: • Cleantech, climate, or innovation policies • Climate or innovation agency • Cleantech roadmap
☐	☐	☐

Rationale / Notes:

A. Innovation policy and ecosystem support

2. Early-Stage Innovation

Early-Stage Innovation is dependent on three criteria:

1. Percent of total government funding for R&D across all industries.
2. R&D mechanisms, which may include R&D grants, international R&D collaboration, public research priorities, R&D tax incentives across all industries.
3. Early-stage business grants are available to cleantech innovators to pilot technologies which have been proven in a theoretical or laboratory setting.

EMERGING	DEVELOPING	MATURE
There is <u>none</u> of the following: • ≥ 1.5% government funding for R&D • R&D mechanisms • Early-stage business grants for cleantech innovation	There is <u>at least 1</u> of the following: • ≥ 2% government funding for R&D • R&D mechanisms • Early-stage business grants for cleantech innovation	There are all 3 of the following: • ≥ 2.7% government funding for R&D • R&D mechanisms • Early-stage business grants for cleantech innovation
☐	☐	☐

Rationale / Notes:

A. Innovation policy and ecosystem support

3. Demonstration/Commercialization

Demonstration/Commercialization policy tools can be analyzed through 4 categories:

1. **Catalytic capital tools**: to de-risk and incentivize cleantech investment/innovation – includes loan guarantees, performance guarantees, government loans, insurance, contract for differences, and related tools.
2. **Infrastructure development**: cleantech solutions require upgrades and changes in infrastructure around the country, ranging from grid networks to airports and shipping ports. Support can be given through grants, public cleantech infrastructure projects, etc.
3. **Public Procurement to create lead markets**: Green public procurement, especially as a first customer, can fuel demand, reduce green premiums, and unblock investment in cleantech, as seen with the government of Germany's role purchasing renewable electricity and driving down photovoltaic prices.
4. **Responsive regulation**: a regulatory framework which promotes cleantech solutions (and at minimum, does not hinder its development) is vital to ensure wide-spread adoption. Countries must make sure their regulatory framework is responsive to innovative and novel solutions that are not covered under existing regulatory regimes.

EMERGING	**DEVELOPING**	**MATURE**
There are none of the following policies or programs which support: • Catalytic capital tools • Cleantech infrastructure development • Public procurement/market creation mechanisms • Cleantech regulation	There is at least 1 of the following policies or programs which support: • Catalytic capital tools • Cleantech infrastructure development • Public procurement/market creation mechanisms • Cleantech regulation	All 4 criteria are addressed through government policy/tools.
☐	☐	☐

Rationale / Notes:

A. Innovation policy and ecosystem support

4. Scale-up Acceleration

Scale-up acceleration benefits from 3 criteria:

1. **Demand stimulation**: once a cleantech innovator has proven its technology and has acquired its first customers/lead market, policies and tools should be used to further stimulate demand both at home and abroad. Tools like tax incentives to attract both local and foreign companies and export promotion can be used to scale domestic success stories to the international market and attract other countries' successful cleantech innovators to the local market.
2. **Transition Existing Assets**: existing assets can be transitioned and utilized by cleantech innovators to reach a country's climate and innovation objectives. Examples can include transitioning former oil and gas storage, pipelines, and infrastructure to utilize low carbon hydrogen/carbon capture, as in the United Kingdom.
3. **Level-Playing Activities**: Cleantech acceleration is a global endeavor and will require activities to ensure a level–playing field at the international level. An example is how China learned how to develop a successful Emissions Trading System (ETS) from the European Union, which has the world's oldest ETS, to put a price on carbon and create a more even playing field for companies to compete in the global market.

EMERGING	DEVELOPING	MATURE
There is <u>none</u> of the following: • Policies/programs which support demand stimulation • Transitioning of existing assets • Tools/programs to support a level playing field internationally exist ☐	There is <u>at least 1</u> of the following: • Policies/programs which support demand stimulation • Transitioning of existing assets • Tools/programs to support a level playing field internationally exist ☐	<u>All 3 criteria are addressed</u> through government policy/tools. ☐

Rationale / Notes:

A. Innovation policy and ecosystem support

5. Women, youth, and minority inclusion in Cleantech Innovation

1. Percent of students in tertiary STEM education.
2. Female to male total entrepreneurship ratio.
3. Cleantech programs within universities, accelerators and incubators specifically designed for cohorts of women, youth, or minorities.
4. Law mandating non-discrimination based on gender.

EMERGING	DEVELOPING	MATURE
There is none of the following: • Less than 18% of students in tertiary STEM education • <10:90 female to male entrepreneurship ratio • Cleantech programs for women and/or youth inclusion in cleantech • Law against gender discrimination ☐	There is at least 1 of the following: • Between 18% and 27% of students in tertiary STEM education • ≥10:90 female to male entrepreneurship ratio • Cleantech programs for women and/or youth inclusion in cleantech • Law against gender discrimination ☐	All criteria met with many programs and high level of participation of women and youth in cleantech entrepreneurship and: • 27% of students in tertiary STEM education >10:90 female to male entrepreneurship ratio ☐

Rationale / Notes:

A. Innovation policy and ecosystem support

6. Talent Acquisition and Development

National policy creates incentives to attract international cleantech researchers and/or entrepreneurs, and establishes government run or funded cleantech incubator(s) and accelerator(s).

EMERGING	DEVELOPING	MATURE
There are no policy incentives to attract international talent, or establish government run or funded cleantech incubators and accelerators.	There are either national policy incentives to attract international talent, OR government run or funded cleantech incubators and accelerators.	There are both policy incentives to attract international talent, AND government run or funded cleantech incubators and accelerators.
☐	☐	☐

Rationale / Notes:

B. Measuring cleantech innovation clusters

1. **Existence of regional clusters**
   Clusters of cleantech innovation have startups and SMEs, key ecosystem actors and ecosystem participants working together to develop cleantech solutions within a city. A cluster is defined as 'a concentration of cleantech innovation activity in a geographic area, for example one or more adjacent zip codes.'

EMERGING	DEVELOPING	MATURE
The country only has a maximum 1 cleantech innovation cluster	Maximum 2 cluster cultivating cleantech innovation in the country	More than 2 clusters cultivating cleantech innovation in the country
☐	☐	☐

Rationale / Notes:

B. Measuring cleantech innovation clusters

2. Scaling start-ups produced by the national ecosystem

An early-stage startup is a company that has only raised funds during Pre-seed, Seed & Series A rounds, or has not raised funds yet.

A growth stage scale-up is a company that has reached Series B onward funding rounds.

EMERGING	DEVELOPING	MATURE
The national ecosystem has only early-stage startups	The national ecosystem has produced many early-stage startups and at least 1 growth stage scale-up	The national ecosystem has produced many growth stage scale-ups
☐	☐	☐

Rationale / Notes:

B. Measuring cleantech innovation clusters

3. Links to international ecosystem

This can take the form of increasing cleantech imports and exports, attracting FDI to the ecosystem, close collaboration between government and innovators, joining international cluster networks, championing the global push for cleantech innovation, expanding talent search globally to overcome local and national shortages of skilled labor, adhering to internationally aligned targets for climate impact, advertising international events online and networks, and promoting international funding opportunities.

EMERGING	DEVELOPING	MATURE
There are no links to international ecosystems	Links exist with nearby countries in the same region Ecosystem actors collaborate with nearby countries and startups can access resources for growth within the region	Trans-continental links are facilitating national ecosystem startup growth and creating opportunities for startups to commercialize in export markets beyond the region
☐	☐	☐

Rationale / Notes:

C. Existence and engagement of ecosystem actors

1. **Existence and density of ecosystem actors**[3]
   Actors in a Cleantech Innovation and Entrepreneurship Ecosystem (CIEE) can be categorized as 1) corporates, 2) incubators and accelerators, 3) government, 4) universities, and 5) risk capital providers, with 6) startups and MSMEs at the center of the ecosystem.

EMERGING	DEVELOPING	MATURE
1 or more ecosystem actor categories active in cleantech innovation	All 6 ecosystem actor categories have at least 1 representative active in cleantech innovation	At least 5 representatives of each category are active in cleantech innovation
☐	☐	☐

Rationale / Notes:

2. **Existence of engagement initiatives led by governments or civic organizations**
   Government includes ministries or entities established or controlled by the government, such as innovation agencies and economic development agencies. Civic society organizations facilitate the transfer of knowledge and skills for ecosystem actor engagement to public officials who will conduct such initiatives in subsequent iterations.

EMERGING	DEVELOPING	MATURE
There are no government or civic organization engagement initiatives	At least 1 government or civic organization engagement initiative	Government or civic organizations have run several engagement initiatives
☐	☐	☐

Rationale / Notes:

[3] Reference the Global Framework for Cleantech Ecosystem Actor Engagement for full definitions which distinguish ecosystem actors from participants.

C. Existence and engagement of ecosystem actors

3. Existence of ecosystem participants leading engagement activities

This question refers to engagement activities led by ecosystem participants which are not government or civil society. These activities could include networking events for VCs, curated events from cluster facilitators or accelerators, or startup competitions among others.

EMERGING	DEVELOPING	MATURE
There are no ecosystem participants leading engagement activities	At least 1 other ecosystem participants are running engagement activities	Various other ecosystem participants involved in running engagement activities
☐	☐	☐

Rationale / Notes:

Appendix B. Spider Diagram Scoring

The results of the Cleantech Innovation Ecosystem Evaluation System are intended to show which drivers of an ecosystem require further support and resources. Below is an example of displaying the results of a CIEE as a spider diagram based on the metrics measured in the evaluation system. This diagram is recommended for a holistic approach to analyzing an ecosystem based on each component relative to the others. The evaluation survey does not produce a cumulative score so as to not dilute the focus on individual drivers. Figure 7 below shows an example of a spider diagram displaying hypothetical results of the Cleantech Innovation Ecosystem Evaluation System with maturity level denoted as **1** – Emerging, **2** – Developing, and **3** – Mature.

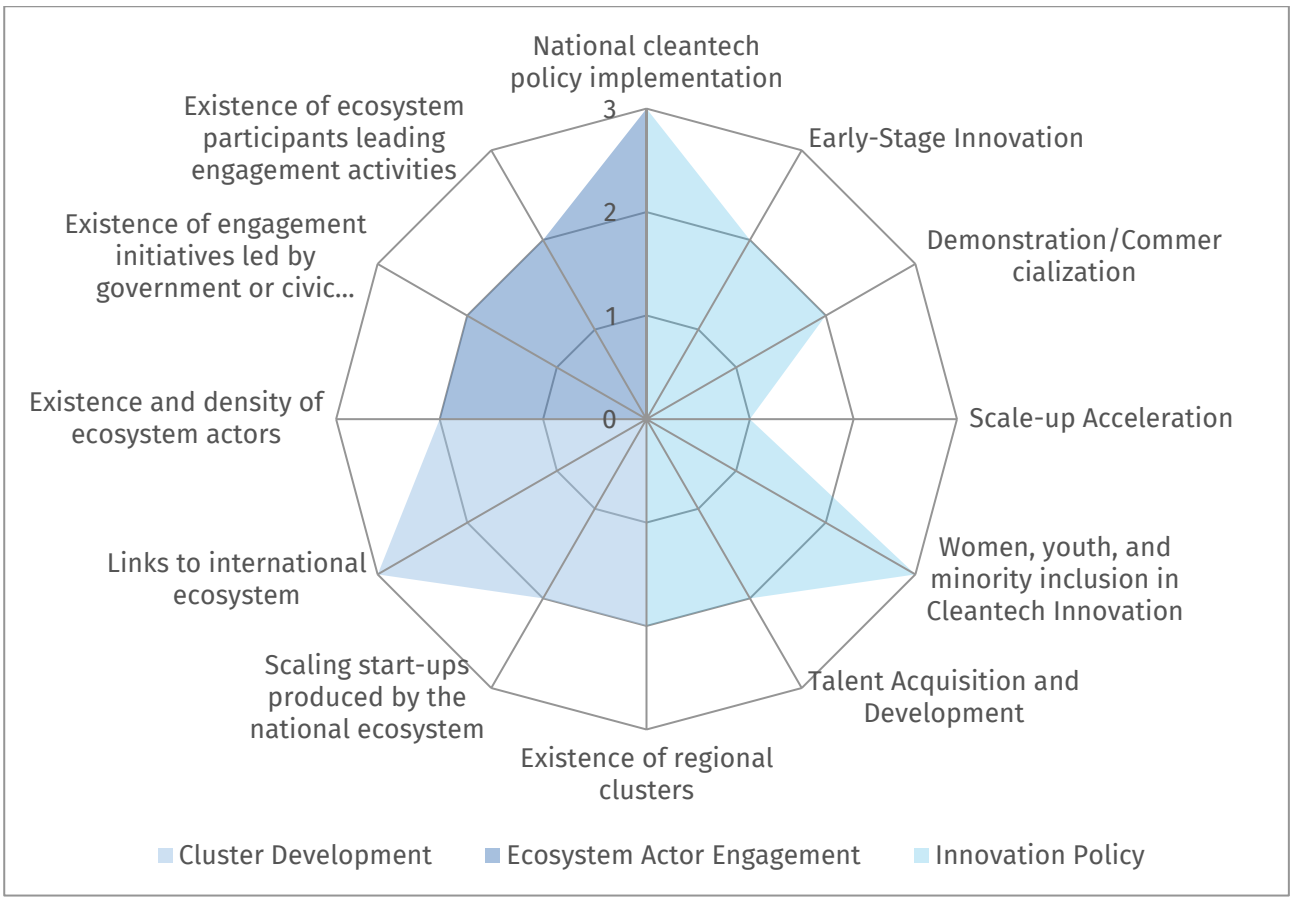


Figure 7. Spider diagram example for displaying and analyzing evaluation system results.

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