

Analysing the skills continuum in a global education perspective

**Sustainability competence as a test
case — comparative findings
across Ireland, Moldova and Tunisia**



Comparative characterisation across the three cases

Strong design (D1, D2). Weaker delivery (D3, D4). Same pattern in three different systems.

	Dimension	Pre-school	Primary	Lower sec.	Upper sec.	HE / VET
Ireland	D1 Policy & governance	Est	Est	Est	Est	Em
	D2 Curriculum & assessment	Est	Est	Est	Est	—
	D3 Teacher education	Em	Em	Em	Em	—
	D4 Learning environments	Em	Est	Est	Est	—
	D5 Partnerships	Em	Est	Est	Est	—
Moldova	D1 Policy & governance	Est	Est	Est	Est	Est
	D2 Curriculum & assessment	Em	Em	Em	Est	Est
	D3 Teacher education	Em	Em	Em	Em	Em
	D4 Learning environments	Em	Em	Em	Em	Em
	D5 Partnerships	Est	Est	Est	Est	Est
Tunisia	D1 Policy & governance	Est	Est	Est	Est	Em
	D2 Curriculum & assessment	Em	Est	Est	Em	Em
	D3 Teacher education	Em	Est	Est	Em	Em
	D4 Learning environments	Em	Em	Em	Em	Em
	D5 Partnerships	Em	Est	Est	Est	Em
Em — Emerging		Est — Established		Int — Integrated		— Out of scope

Consistent strengths

Strength 1: Policy density at the top of the system

Dimension 1 is Established at compulsory levels in all three cases.

Ireland — ESD to 2030 Strategy and the dedicated CASD Leaving Certificate subject.

Moldova — 2025 FNC names GreenComp explicitly as its reference framework.

Tunisia — 2022 Constitution (Articles 47, 48) and Vision 2035.

Strength 2: Partnership ecosystems

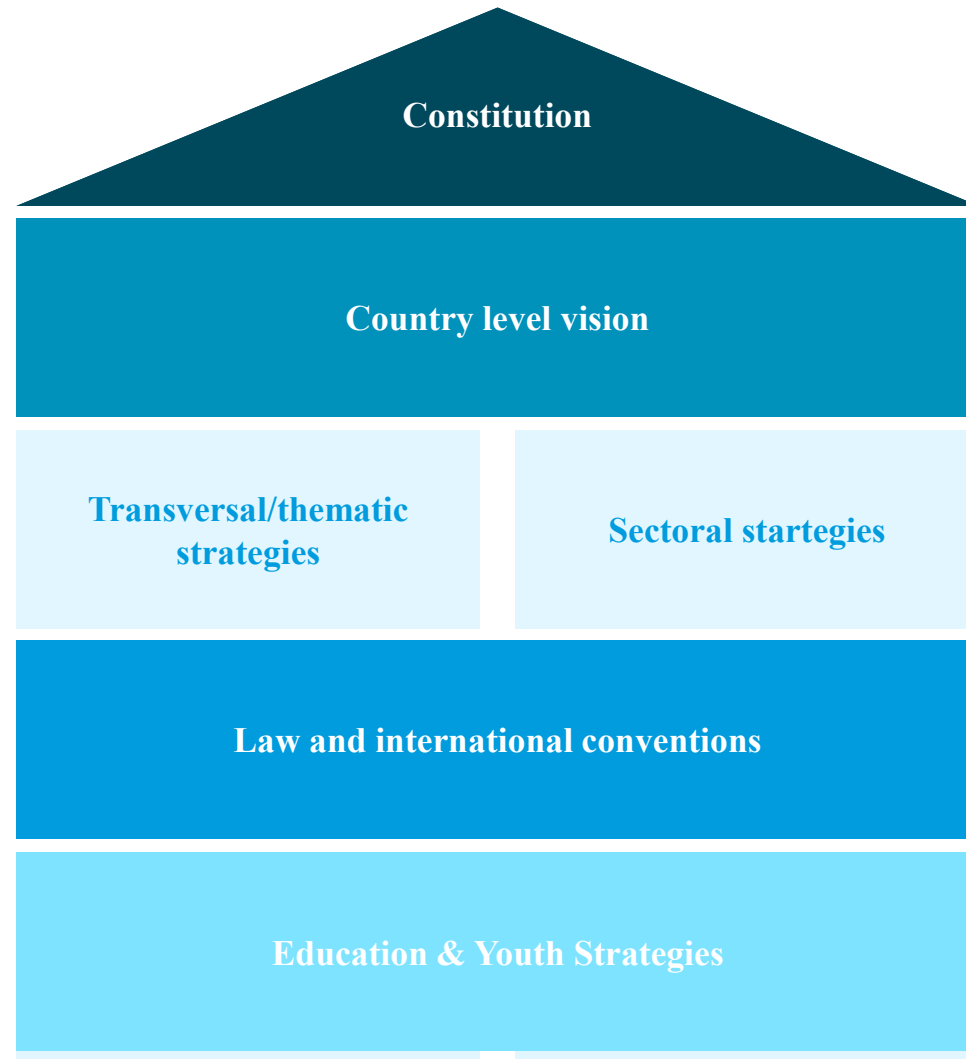
Dimension 5 is Established across Moldova and at compulsory levels in Ireland and Tunisia.

Ireland — Green Schools (An Taisce) and WorldWise Global Schools.

Moldova — INEL mentor network and VET-business partnerships.

Tunisia — Wallah We Can Sustainable School Model, STEEIR and Blue Skills.

Strong country-level commitment to sustainability should translate into integrated competency-based continuum within the education system



- Sustainability is strongly anchored at the constitutional level, with environmental protection and human rights framed as state obligations.
- Implicit mandate for education, positioning it as a vehicle for sustainability awareness, but without operational guidance.
- **The supreme council for schooling and Education is an opportunity**
- Sustainability is positioned as a core driver of human capital development, combining social inclusion with environmental awareness.
- However, it remains high-level and aspirational, with no clear translation into structured competencies or implementation mechanisms.
- **Policy density** : Transversal strategies (e.g., ecological transition plans) clearly position education as a key lever for **sustainability transformation**.
- Sectoral strategies mobilize education in an **instrumental way**, focusing on skills and awareness (e.g., energy, industry, waste), rather than systemic competence development --> **Integration is the next horizon**
- Strong alignment with international sustainability frameworks (e.g., climate agreements), reinforcing formal commitment to sustainability education.
- National education law remains socially advanced but environmentally outdated, with limited integration of climate and ecological transition. → **“legislative lag”**
- Strong emphasis on social cohesion, inclusion, reflecting continuity with the legal framework.
- Environmental sustainability remains secondary and weakly structured, limiting alignment with evolving sustainability education standards.

An integrated sustainability competency-based framework could foster improved continuum across all dimensions

Component	Main challenges	Preliminary Recommendation
Public policies	Policy density is not necessarily translating into skills continuum Sustainability competence integration remains fragmented, with no overarching framework guiding action across sectors. Sectors/themes silos see education systems instrumentally	Establish a unified national strategy to align and coordinate sustainability efforts across all education policies. The Supreme council for schooling and education is an opportunity for the continuum
	Sustainability is mainly treated as a transversal theme, rather than a structured competence area. Theoretical continuum (Values/Knowledge) is a first layer	Develop a system-wide competency framework with clear learning outcomes, progression pathways, and integration mechanisms.
Curriculum	Futures and anticipatory skills related to sustainability are not explicitly embedded in curricula.	Introduce structured foresight approaches (e.g., scenario-building, long-term planning) across disciplines.
	Action and Complexity -related skills are taught in a transversal way, without links to sustainability challenges.	Promote cross-disciplinary, problem-based learning that applies these skills to real sustainability issues.
	Strategies emphasize social sustainability, while the environmental dimension remains underdeveloped.	Integrate environmental sustainability and green skills as core elements across strategies, curricula, and training standards.
Teacher trainings	Sustainability is not systematically embedded in teacher training.	Make it a core, cross-cutting component of both initial and continuous teacher education.
Partnerships	Partnerships are fragmented and largely project-based, limiting their systemic impact.	Establish a national coordination framework to structure, scale, and institutionalize partnerships.

Consistent gaps — three gaps run across all three systems

01

Teacher preparation infrastructure (D3) is the weakest dimension everywhere

Ireland: Emerging across all levels.
Moldova: Emerging across all levels.
Tunisia: track-dependent (ISSED weak, ISEFC strong, ENS weak). Different mechanisms — identical finding.

02

Assessment lags curriculum expectation

All three systems set sustainability learning expectations without correspondingly developed assessment criteria. Ireland's Junior Cycle SOL 10 has no framework-level assessment. Moldova's competency-based curriculum has the same pattern. Tunisia's curriculum remains theoretical rather than action-assessable.

03

Pre-school is consistently the weakest education level

The skills continuum begins later than the methodology imagines. Sustainability competence is treated as a primary-level question, not a continuum from early years.

Context-specific innovations — three innovations worth lifting into international debate

IRELAND

CASD: Climate Action and Sustainable Development

A dedicated examinable Leaving Certificate subject covering all 12 GreenComp competences. Unusual internationally as a state-administered examinable senior cycle subject.

Caveat: optional, so the mandatory pathway peaks at age 15.

MOLDOVA

Explicit GreenComp adoption in the 2025 Framework for the National Curriculum

Rare among countries. Most systems reference sustainability or ESD generically; Moldova names a specific competence framework as its analytical anchor.

Conditions: EU Association Agreement, donor engagement, fortunate timing of curriculum revision.

TUNISIA

ISEFC institutional model — ESD as a core pillar of teacher education

One of two parallel teacher education pathways treats ESD as a core pillar of initial teacher preparation, not a peripheral theme.

Demonstrates that ESD-integrated teacher preparation is achievable at scale within an institution.

Cross-country recommendations (1 of 3) — addressing system design

Specify minimum sustainability content in initial teacher education accreditation

Move from naming ESD as mandatory to specifying minimum credit allocation and learning outcomes. Addresses the Dimension 3 fault line that runs across all three cases.

Level: teacher education policy and accreditation.

Evidence base: Ireland Céim has no minimum hours; Moldova CPD volume insufficient; Tunisia ENS pathway treats sustainability as incidental.

MEDIUM-TERM — REQUIRES ACCREDITATION REVIEW CYCLES

Move sustainability from cross-cutting permission to defined progression

National curriculum frameworks should articulate stated learner outcomes for sustainability competence at each transition point, not treat sustainability as a cross-cutting theme to be addressed where designers choose.

Level: curriculum framework design.

Evidence base: Ireland's frameworks developed in separate reform cycles; Moldova's FNC integration uneven across levels; Tunisia's 'Theoretical Continuum' finding.

MEDIUM-TERM — NEXT-CYCLE CURRICULUM REVISION

Cross-country recommendations (2 of 3) — addressing system design

Close the assessment gap

National curriculum agencies should publish sustainability-specific assessment guidance for primary and lower secondary, where curriculum expectations exist but assessment criteria do not.

Level: curriculum and assessment.

Evidence base: Ireland's Primary and Junior Cycle frameworks lack framework-level assessment; Moldova has the same pattern; Tunisia's curriculum is theoretical rather than action-assessable.

ACTIONABLE WITHIN EXISTING STRUCTURES

Institutionalise civil society partnerships through national registries

National education ministries should establish coordinated frameworks for NGO sustainability programmes — registries, quality criteria, equitable geographical reach — rather than leaving partnerships to school discretion and donor cycles.

Level: partnerships and system connectivity (D5).

Evidence base: Green Schools/WorldWise (Ireland); VET-business uneven distribution (Moldova); Wallah We Can/YouthCARE4Planet project-based (Tunisia).

MEDIUM-TERM — CROSS-MINISTERIAL COORDINATION

Cross-country recommendations (3 of 3) — addressing the early years gap

Establish pre-school as the explicit starting point of the continuum

National early childhood curriculum frameworks should include sustainability competence as a named developmental strand, with age-appropriate indicators that articulate how pre-school provision feeds into primary curriculum expectations.

Level: early childhood curriculum framework design.

Evidence base: Ireland's Aistear is a foundation rather than a structured progression; Moldova's pre-school provision shows the same pattern; Tunisia's pre-primary is value-driven but lacks structured competency progression.

MEDIUM-TERM — NEXT EARLY CHILDHOOD CURRICULUM CYCLE

Methodology revision recommendations — for v11

WHAT WORKED

- Five dimension framework

Robust across very different system architectures.
Competence-agnostic.

- Four level characterisation

Interpretable and comparable across three researchers. Annex B descriptors give a shared anchor.

- Synthesis matrix

The single most analytically productive element. The cross-country findings would not have been visible without it.

WHAT NEEDS REVISION

- Phase 2 trigger criteria

Add clearer triggers distinct from time/resource constraints. Addresses Step 8 and Annex C.

- Documentary case study format

Add an explicit format for cases where no Phase 2 fieldwork is undertaken. Addresses Annex I.

- Cross-document consistency check

Add a protocol for verifying claims in country reports against Templates 1 and 2.

- Comparative matrix as deliverable

Add explicit guidance on the comparative matrix as a synthesis-stage product. Addresses Annex J.

- Desk-review-only guidance

Add explicit guidance in Annex I for cases where no Phase 2 fieldwork is undertaken. Moldova and Tunisia drafts had to reconstruct this independently.

Sustainability is the test case. The skills continuum is the contribution.

THREE FINDINGS ABOUT THE CONTINUUM

- No system in this study currently treats sustainability competence as a coherent developmental progression. All three treat it as a series of level-specific interventions.
- Structural obstacles are universal — governance fragmentation, time-horizon mismatch between policy and teacher preparation, and dependence on civil society to deliver what the formal system does not.
- The skills continuum lens surfaces what indicator-based analysis misses. SDG 4.7.1 measures whether components are present; this methodology measures whether they cohere.



FOUR KEY MESSAGES FOR INTERNATIONAL ADVOCACY

- Coherence, not coverage, is the binding constraint.
- Teacher preparation is the universal bottleneck.
- Civil society partnerships need institutionalising.
- The continuum lens is competence-agnostic — citizenship competence is the natural next case.

