

2025 ANNUAL REPORT

The Solar Stewardship Initiative

2025



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Foreword From the CEO

In October 2022, the Solar Stewardship Initiative was created with a clear conviction: that the rapid growth of solar power to deliver the clean transition must go hand-in-hand with responsibility, transparency, and trust across the entire value chain. Today, as solar is set to become one of the largest electricity sources globally by the 2030s, that conviction feels more relevant than ever.

Amid a backdrop of geopolitical uncertainty, heightened supply chain scrutiny and shifting policy signals, the SSI has built something that did not previously exist. At rapid pace, the SSI has delivered a credible, independent, multi-stakeholder initiative that brings industry, civil society, finance and other stakeholders together to raise standards, mitigate risks, and support responsible practices across the solar supply chain.

Over the past year, we have moved decisively from concept to implementation. In 2025, we saw the first manufacturing sites independently certified against the SSI Environmental, Social and Governance (ESG) Standard, the rollout of our Supply Chain Traceability Standard and the steady growth of a global membership committed to continuous improvement of the sector.

The year also marked a defining moment for the Initiative's governance. With the establishment of a fully operational multi-stakeholder Board, the SSI became what it set out to be: an initiative reflecting the views of multiple stakeholders, with equal power for non-industry voices, and grounded in internationally recognised frameworks for responsible business conduct.

None of this would be possible without the commitment of our members and partners. We are grateful to the companies that are making changes from board to site level and that have chosen to lead by example, to the civil society organisations, experts and financial institutions who ensure rigour, accountability and credibility, and to the assurance bodies and their auditors who bring the system to life on the ground.

Looking ahead, the SSI must continue to evolve. Similar initiatives have taken a decade to reach SSI milestones, but we know there is no room for complacency. We will strengthen our Standards, expand coverage further up the supply chain, and deepen engagement with governments, buyers, investors, civil society and upstream manufacturers to ensure the sector is empowered to meet growing buyers' demand for responsible solar. We will learn from every step we take, and we remain committed to sharing those lessons with industry and partners along the way. The energy transition requires scale, but its success depends on trust. The SSI exists to help deliver both.

We hope you find this report an insightful reflection on our work so far, and we look forward to continuing the journey with you.

Rachel Owens, CEO, Solar Stewardship Initiative

The SSI Story

The Solar Stewardship Initiative (SSI) is a global, multi-stakeholder assurance scheme dedicated to making the rapid growth of solar energy responsible, transparent and sustainable. As solar becomes a cornerstone of the energy transition, the SSI exists to ensure that this growth respects human and labour rights, protects the environment and strengthens governance across the solar value chain.

Our vision is a solar sector where responsible production, traceability and accountability are embedded as standard business practice. By translating internationally recognised principles into a practical, solar-specific system, the SSI helps companies, policymakers and markets build confidence that solar energy is not only clean, but also produced and sourced responsibly.

The SSI also contributes to a growing ecosystem of responsible sourcing initiatives working to strengthen transparency and accountability across global supply chains.

What the SSI does

The Solar Stewardship Initiative provides a credible, solar-specific framework to support responsible practices and greater transparency across the solar value chain. It does this through two complementary Standards.

The SSI ESG Standard sets site level expectations on governance, environmental management, human and labour rights. The SSI Supply Chain Traceability Standard strengthens visibility over where materials and products come from and how they move through the supply chain. Together, they enable companies to demonstrate responsible production and sourcing through independent, third-party verification, supporting continuous improvement and building trust with markets, policymakers- and other stakeholders.

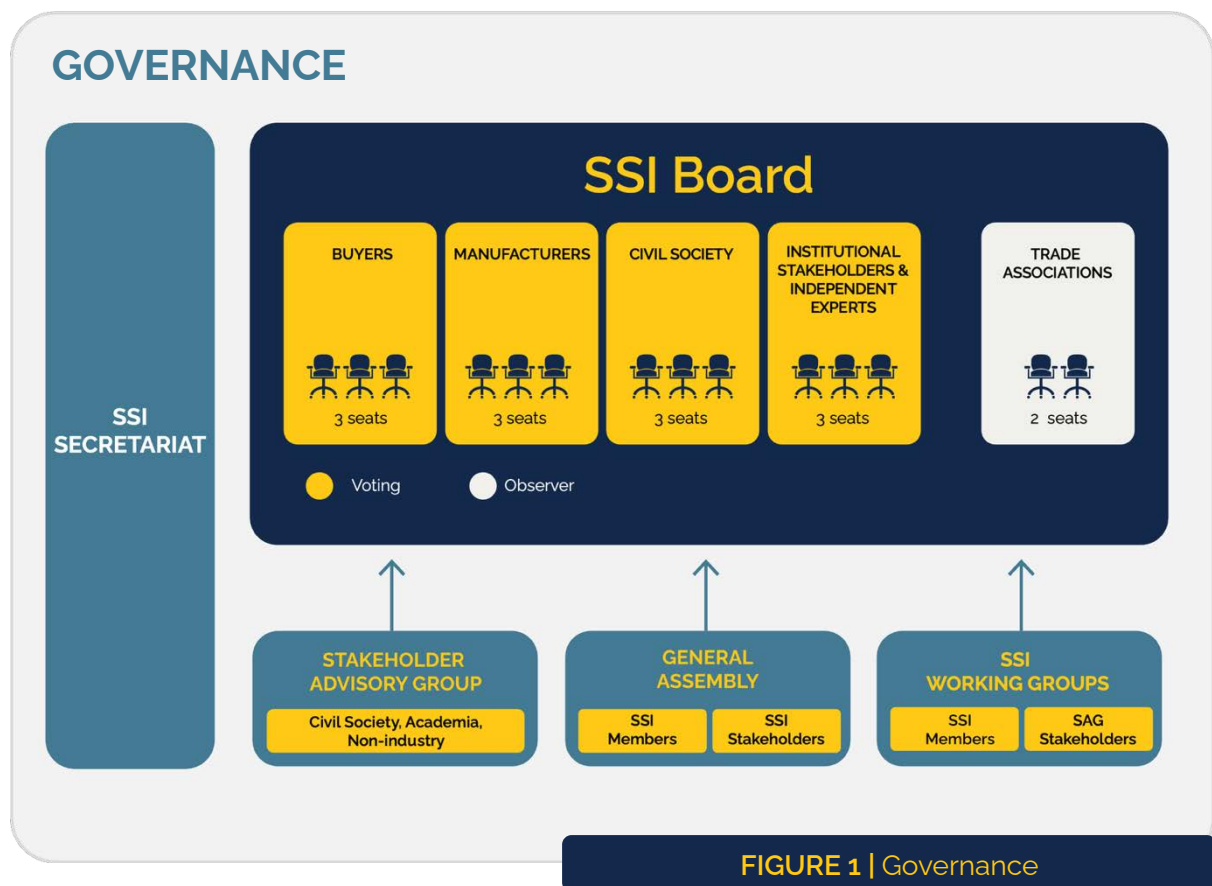
The SSI system is designed in alignment with internationally recognised good practice for sustainability systems, including the ISEAL Codes of Good Practice.



The Structure

The SSI operates through a balanced, multi-stakeholder governance structure designed to ensure independence, credibility and inclusive decision-making. Strategic oversight and financial responsibility are ensured by the Board, which brings together industry and non-industry representatives in equal measure.

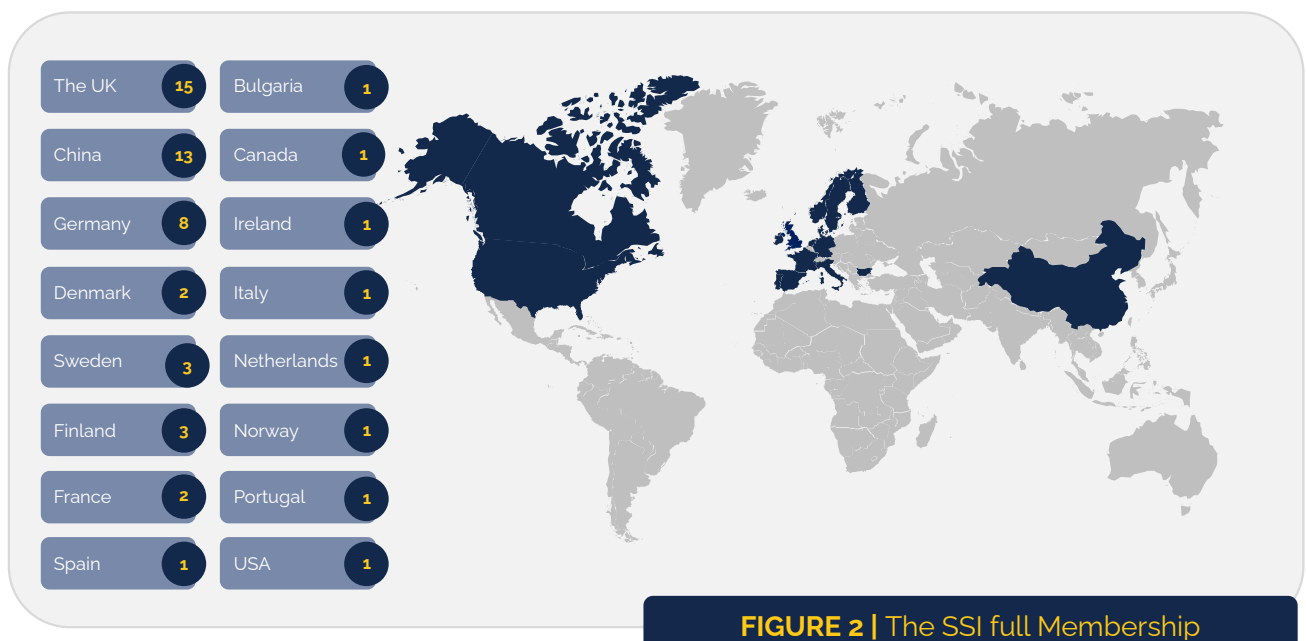
The SSI Secretariat, led by the CEO, manages day-to-day operations, including system development, implementation support and stakeholder engagement. The Stakeholder Advisory Group (SAG) provides independent perspectives stemming from civil society, finance and other expert communities, while technical and working groups support the development and implementation of the SSI Standards, practical tools and guidance across the solar value chain.



SSI Membership

SSI membership brings together a growing community of solar manufacturers, buyers and other stakeholders committed to strengthening responsible practices and transparency across the solar value chain. Members play a central role in implementing the SSI Standards, contributing to system learning, and translating shared commitments into concrete action.

The SSI's global membership reflects the international nature of the solar sector and provides a foundation for collaboration, continuous improvement and credible assurance as the initiative continues to scale.



“Membership growth is important, but what matters most is engagement. In 2025, we supported members through clearer guidance, structured timelines, and ongoing communication to ensure that commitments translate into concrete action at site level.

Margaux Plurien | Membership Lead



MEMBERSHIP TYPE	MEMBER NAME	COUNTRY
MANUFACTURER	1. Aiko	China
	2. Astronergy	China
	3. Canadian Solar	Canada
	4. DAS Solar	China
	5. DMEGC Solar	China
	6. GB-Sol	United Kingdom
	7. Gokin Solar	China
	8. Huasun	China
	9. JA Solar	China
	10. JTPV (Jietai Solar)	China
	11. Jinko Solar	China
	12. LONGi	China
	13. Lihao Clean Energy	China
	14. SOLARWATT	Germany
	15. TCL Sunpower	United States
	16. Tongwei Co. Ltd	China
	17. Trina Solar	China
	18. Viridian Solar	United Kingdom
BUYER (DEVELOPER/ UTILITY/ IPP)	19. Akuo	France
	20. Alight	Sweden
	21. Atrato Roof UK	United Kingdom
	22. BayWa r.e.	Germany
	23. Belectric	Germany
	24. British Solar Renewables	United Kingdom
	25. Centrica	United Kingdom
	26. Copenhagen Infrastructure Partners (CIP)	Denmark
	27. Enerparc	Germany
	28. ENGIE	France
	29. ESB	Ireland
	30. European Energy	Denmark
	31. Fortum	Finland
	32. Greencoat Solar Assets (Schroders)	United Kingdom
	33. Greentech Energy	Germany
	34. Greenvolt	Portugal
	35. ib vogt	Germany
	36. Iberdrola	Spain
	37. Innovo Renewables	Italy
	38. Island Green Power	United Kingdom
	39. Lightsource bp	United Kingdom
	40. Low Carbon	United Kingdom
	41. NextEnergy Group	United Kindgom
	42. Octopus Energy Generation	United Kindgom
	43. OX2	Sweden
	44. Peridot Solar	United Kingdom
	45. RWE	Germany
	46. Segen	United Kindgom
	47. Solnet	Finland
	48. Sonnedix	Spain
	49. SSE Renewables	United Kingdom
	50. Statkraft	Norway
	51. Sunotec	Bulgaria
	52. Sunrock	The Netherlands
	53. Taaleri Energia	Finland
	54. UK Sol	United Kingdom
	55. Vattenfall	Germany

Two Complementary Standards

The Solar Stewardship Initiative is built around two complementary Standards designed to address the key risks and responsibilities associated with the rapid growth of the solar sector. Together, they provide a coherent assurance framework that links how solar products are made with where their materials come from.

By combining site-level ESG requirements with supply chain traceability, the SSI enables independently verified demonstration of responsible production and sourcing across the solar value chain. This dual approach supports transparency, accountability and continuous improvement, while responding to growing regulatory, market and stakeholder expectations.

The Environmental, Social and Governance (ESG) Standard

The SSI ESG Standard sets clear, verifiable expectations for responsible conduct across the solar value chain. It reflects the SSI's core values: respect for human rights, including labour rights, environmental protection, and sound governance as foundations for a just and inclusive clean-energy transition. These principles underpin long-term business resilience and public confidence in the solar sector.

The SSI ESG Standard evaluates site-level performance across:

- Governance & Business Ethics
- Environmental Management
- Human & Labour Rights

The Supply Chain Traceability Standard

The SSI Supply Chain Traceability Standard assesses whether SSI solar manufacturer members have robust systems in place to trace materials through their operations. It represents a major step in strengthening confidence in how, where, and by whom solar products are manufactured, responding to growing expectations for transparency and accountability across global supply chains.

The SSI Supply Chain Traceability Standard establishes requirements for:

- Traceability system management
- Segregated material flows
- Documented chain-of-custody
- Progressive maturity levels

Together, these Standards link responsible production with verifiable material flows. While the SSI ESG Standard certifies responsible practices including responsible sourcing, at individual production sites, the Supply Chain Traceability Standard addresses a critical additional question: where materials come from and how they move through the solar value chain. Together, the two Standards provide assurance that solar materials are produced responsibly and traced through verified supply chains.



FIGURE 3 | The SSI Standards

The SSI Assurance Model

The credibility of the Solar Stewardship Initiative (SSI) rests not only on the strength of its Standards, but on the rigour of its assurance system. Certification under the SSI is based on independent third-party assessments at the manufacturing site level, multi-stakeholder governance, structured oversight, grievance mechanism and quality control.



The Model

SSI certification is granted following **independent third-party assessments conducted by SSI-approved Assessment Bodies (ABs)**. Mandatory assessments are performed at **site-level** and evaluate conformity against the SSI ESG Standard and the SSI Supply Chain Traceability (SCT) Standard.

The assurance model includes:

- Independent on-site assessments
- Document review, on-site observation, and unsupervised worker interviews, and stakeholder meetings
- Evidence-based reporting
- Secretariat quality control and review
- Secretariat certification decisions
- Ongoing surveillance and recertification cycles

Certification decisions are taken by the SSI Secretariat following quality control review of the assessment reports, ensuring consistency and independence from commercial interests.

Certification is:

- Independent
- Evidence-based
- Subject to corrective actions
- Supported by surveillance cycles
- Progressive: Bronze, Silver, and Gold.

Continuous improvement: Sites which do not pass certification move quickly to a follow up assessment within a specified time scale. The SSI assurance architecture reflects established good practice in sustainability certification systems, including with ISEAL, combining independent third-party verification with structured oversight and quality control.

Assurance in Action

Independent Verification

All assessments are conducted by SSI-approved Assessment Bodies selected through a formal tender process.

Assessor examination outcomes¹:

- 66 ESG assessors passed (2024 examination cycle)
- 50 Traceability assessors passed (2025)
- Responsible sourcing training: 48 passed

Shadow assessments² in 2025:

- ESG: 5
- Traceability: 2



Building a credible system requires strong institutions and competent assessors. In 2025, we focused on training, calibration workshops, and shadow assessments to strengthen consistency across Assessment Bodies. Alignment in interpretation is essential for fairness and reliability.

Yetta Lin | Assessment Bodies & Assessors Programme



¹ "Passed" figures include assessors who are approved as well as those pending completion of the SSI's review and approval process.

² A shadow assessment is a quality assurance activity where the SSI Secretariat (or an appointed independent expert) observes an assessment conducted by an approved Assessment Body. The purpose is to monitor assessor performance, verify that the assessment methodology is applied consistently, and ensure alignment with the SSI Standards and assurance requirements.

2025 in NUMBERS

2025 marked the first full year of implementation for the Solar Stewardship Initiative moving from development into a fully operational system.

55
MEMBERS

MEMBERSHIP AND PARTICIPATION

37

BUYERS

18

MANUFACTURERS

ASSESSMENTS AND CERTIFICATIONS

22

ESG
ASSESSMENTS

14

ESG CERTIFICATIONS
AWARDED

6

TRACEABILITY
ASSESSMENTS



12

SILVER



2

BRONZE

ASSURANCE CAPACITY



7

APPROVED ASSESSMENT BODIES

- DNV
- Intertek CEA
- Kiwa
- SGS
- Sinovoltaics
- TÜV Rheinland
- TÜV SÜD

64

ESG ASSESSORS

35

TRACEABILITY
ASSESSORS

SYSTEM ENGAGEMENT

6

ESG ASSESSORS' TRAINING
SESSIONS DELIVERED

90%

PARTICIPATION IN QUARTERLY
ASSESSMENT BODY MEETINGS

CAPACITY CERTIFIED

114GW

OF SOLAR MODULE

22.5GW

OF CELL PRODUCTION

11GW

OF INGOT AND WAFER

Lessons From Year One of Full Implementation

2025 marked the first full year of SSI implementation. The SSI system is designed to support continuous improvement and learning, using evidence from independent assessments to strengthen standards, guidance and consistency over time. This learning-based approach is aligned with the ISEAL Code of Good Practice for Sustainability Systems. The lessons below reflect insights from year one of implementation, drawing on experience from both the ESG Standard and the Supply Chain Traceability Standard.

2025 reinforced several key insights:

- Strong pre-assessment preparation by manufacturers significantly improves audit efficiency. For example, through strong and early engagement in the preparation and response to the SSI Self-Assessment Questionnaire (SAQ)
- Early engagement with risks and concerns between members and Assessment Bodies (ABs) reduces clarification cycles
- Digital traceability tools enhance data integrity when aligned with SSI requirements
- Responsible sourcing documentation must demonstrate evidence of how the site has operationalised the policy, not only policy development or commitments
- Continuous assessor calibration is essential for consistency

Certification represents verified performance, not aspirational commitments.



Independent assurance is where principles meet practice. In 2025, our priority was consistency; ensuring that grading, evidence expectations, and corrective action processes were applied rigorously across regions and assessors. Credibility is built through discipline in implementation.

Clara Segón | Assurance Lead



The ESG Standard – From requirements to application

In 2025, the SSI-approved Assessment Bodies conducted 22 ESG assessments across manufacturing sites.

Frequent findings included:

- Insufficient supplier due diligence (Chapter 5)
- Gaps in risk mapping in high-risk sourcing contexts
- Excessive working hours and overtime
- Limited documentation of stakeholder engagement processes.

In response, the SSI:

- Refined the ESG Self-Assessment Questionnaire
- Published the ESG Guidance (May 2025)
- Held targeted assessor calibration workshops.

Supply Chain Traceability Standard

The SSI conducted 6 Traceability assessments in 2025.

Frequent findings included:

- Incomplete definition of traceability system boundaries, particularly regarding scope, upstream tiers, and material coverage
- Weak data controls in segregated systems, limiting data consistency, integrity, and reconciliation
- Limited visibility of traceability records between supply chain tiers, making it difficult to follow materials and transactions from one tier to the next (e.g. inconsistent or missing links between supplier inputs, production records, and sales outputs).

In response, the SSI:

- Published Traceability Guidance (October 2025)
- Strengthened training on system boundaries
- Enhanced alignment between ESG due diligence and traceability verification.

“Traceability is not only about tracking materials, it is about strengthening confidence in how and where they are produced. The first year of implementation confirmed that defining clear system boundaries and data controls is essential. The Traceability Standard is designed to be progressive, but uncompromising in its integrity.

Julija Menise | Lead – Supply Chain Traceability Standard



Driving Impact: From Assurance to System Change

By translating internationally recognised responsible business principles into a sector-specific system for solar manufacturing and sourcing, the SSI contributes to building the institutional infrastructure required for a responsible energy transition. While long-term impact requires sustained measurement over time, early implementation has generated observable system-level changes.

The SSI distinguishes clearly between:

- Outputs (assessments conducted, certifications granted)
- Early outcomes (improvements in management systems and documentation)
- Long-term impact (reduced risk of human rights abuses, strengthened traceability integrity, improved environmental performance)

This structured approach aligns with the ISEAL Code's emphasis on measurable progress and adaptive management.

“ Certification decisions are based on documented evidence and structured quality control. Our role is to ensure that each decision is traceable, justified, and consistent with the Assurance Manual. The robustness of this process is fundamental to stakeholder confidence.

Rajalakshmi Gopalakrishnan | Assurance Project Officer



Observable System Improvements in 2025

Strengthening Responsible Sourcing Systems

Initial ESG assessments identified recurring weaknesses of supplier due diligence under Chapter 5 of the SSI ESG Standard.

In response:

- Members formalised risk mapping procedures
- Alignment of member Responsible Supply Chain policies with the OECD Due Diligence Guidance requirements
- Development and improvements of the CAHRA identification processes
- More structured and comprehensive approach to supplier selection and monitoring
- Evidence linking policy to operational practice increased

The improvement cycle was triggered by findings, not external pressure, demonstrating that the assurance system is functioning as intended.

Improved Labour Documentation Controls

Assessments revealed inconsistent tracking of working hours and overtime premiums in several cases.

Corrective actions required:

- Improved timekeeping systems
- Clear documentation of premium wage payments
- Enhanced payroll transparency

This reflects movement from policy compliance to operational traceability in labour practices.

Traceability System Maturation

Traceability assessments in 2025 highlighted:

- Ambiguities in system boundaries
- Incomplete traceability records between supply chain tiers, limiting the ability to consistently track materials from inputs through production to final transactions

Following corrective actions:

- System boundary definitions were formalised
- Documentation protocols were strengthened
- Internal controls were clarified

This demonstrates incremental progress toward unbroken chain-of-custody integrity.

Impact Measurement Framework

The SSI recognises that credible impact reporting requires structured indicators and baselines.

In 2025, the Secretariat initiated development of an impact framework aligned with the ISEAL Code, focussing on:

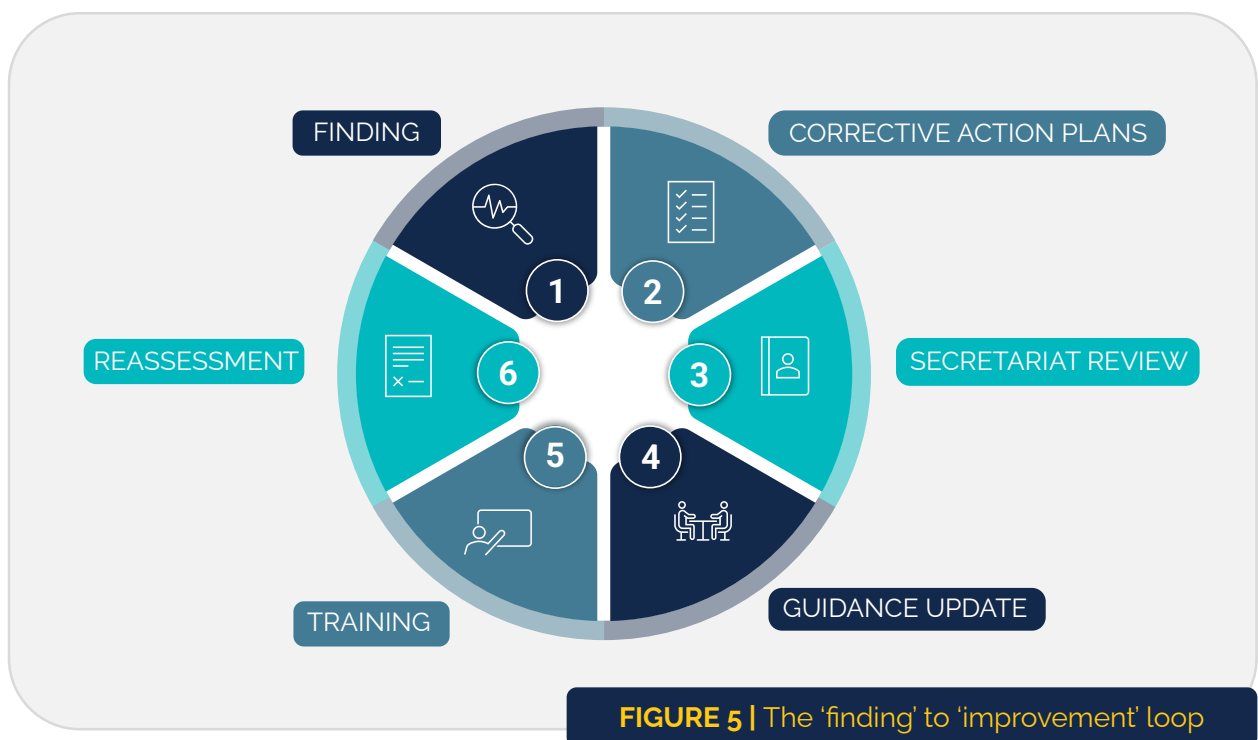
- Certification coverage across member production
- Depth of traceability to polysilicon tier and further upstream
- Corrective Action Plan (CAP) closure rates
- Maturity of supplier due diligence systems
- Recurrence rates of specific non-conformance categories

Adaptive Management in Practice

The 2025 cycle illustrates SSI's theory of change in action:

1. Standard requirements applied
1. Independent assessment identifies gaps
2. Corrective actions required
3. Guidance refined
4. Training strengthened
5. Reassessment confirms improvement

This closed-loop approach reflects core ISEAL principles of measurable progress and system learning.



Transparency and Accountability

The SSI maintains:

- Public summary reporting of certifications, published on the SSI website to ensure transparency regarding certified facilities and certification outcomes
- A formal Complaints & Appeals Mechanism
- Independent multi-stakeholder governance
- Third-party verification with conflict-of-interest safeguards

In 2025:

- Complaints received: 0
- Appeals received: 0

Transparency around both strengths and weaknesses is fundamental to long-term trust.

Limitations and Forward Focus

As 2025 represents the first full year of implementation, the SSI does not yet claim sector-wide impact.

However, the year provides:

- A defensible baseline
- Evidence of operational change at site level
- Clear identification of recurring risk areas
- Structured system refinements based on real audit data

In 2026 and beyond, the SSI will expand quantitative measurement while preserving rigorous assurance standards.

Impact in sustainability systems is cumulative. 2025 represents the year the SSI moved from architecture to application.



Engagement & Partnerships

In 2025, the SSI engaged with:

- The European Commission
- The OECD
- The UN Business & Human Rights Forum
- The UK Government & Great British Energy
- Multi-Lateral Development Banks and Development Finance Institutions: EBRD, IFC, EIB, AIIB, ADB, AfDB, BII, FMO,
- Key solar industry events in China, Europe and at a national level i.e. UK

The SSI deepened collaboration with:

- [The Global Wind Energy Council \(GWEC\)](#)
- [The Copper Mark](#)
- [The Initiative for Responsible Mining Assurance \(IRMA\)](#)

These engagements support regulatory alignment and cross-sector responsible sourcing.



Engagement with policymakers, financial institutions, and civil society ensures that the SSI remains aligned with evolving regulatory expectations. Our outreach in 2025 focused on honest dialogue, sharing lessons from implementation while reinforcing the importance of independent verification.

Karolina Markusson | Policy and Outreach



Governance & Institutional Strengthening

Key milestones in 2025:

- Transition to fully multi-stakeholder Board
- Adoption of manufacturer targets
- Establishment of CEO role
- Development of key partnerships across diverse stakeholders
- Establishment of structured processes for future Standards revisions, including stakeholder consultation and technical working group input.

The SSI maintained an operational Complaints & Appeals Mechanism throughout 2025. Governance reforms reinforce independence, transparency, and long-term institutional stability.



Looking Ahead | 2026 Priorities

As expectations for responsible solar supply chains continue to rise, the SSI enters 2026 focused on strengthening institutional maturity while scaling responsibly. The year ahead is about consolidation as much as growth: sharpening the system where experience shows it matters most, while expanding certified capacity in a way that preserves credibility, independence and trust.

Strengthening the Standards

In 2026, the SSI will focus on targeted improvements to its Standards, informed directly by implementation experience. A focused revision of the ESG Standard will address areas where assessments have shown the greatest need for clarity and consistency, including responsible sourcing requirements under Chapter 5, labour documentation practices and evidence expectations.

To support this work, the SSI will establish a dedicated ESG Working Group, bringing together technical expertise from across stakeholder groups. Alongside this, guidance documents for both the ESG and Supply Chain Traceability Standards will be refined and expanded, translating requirements into clearer, more practical expectations for sites and assessors alike.

These efforts are designed to ensure that SSI Standards remain rigorous, applicable and responsive to real-world conditions.

Deepening assurance and system oversight

Maintaining trust in certifications depends on the strength of the assurance system behind it. In 2026, the SSI will further deepen assessor calibration through targeted training and closer engagement with approved Assessment Bodies, building on lessons from the first full year of implementation.

Quality control systems will continue to be reinforced, with improvements to report review processes, corrective action tracking and internal oversight. At the same time, the SSI will invest in digital oversight tools to support consistency, transparency and efficiency as assessment volumes increase.

Expanding certification with confidence

2026 will mark a significant milestone for SSI certification. For the first time, Supply Chain Traceability certifications will be completed and publicly communicated, demonstrating verified traceability systems in practice.

The SSI will also support the continued expansion of certified sites under both Standards, while maintaining strict independence and evidence requirements.

This growth is anchored in clear, time-bound commitments from manufacturer members, designed to create a predictable pathway for scaling certified capacity.

Manufacturer member targets

Commitment	Timeline
At least 80% of solar modules supplied to the European Economic Area (EEA), Switzerland and the UK from SSI members originate from sites certified against both the SSI Standards	By January 2027
100% of modules supplied to the EEA, Switzerland and the UK from SSI members originate from sites certified against both Standards	By January 2028

These targets demonstrate a shared commitment to embedding robust ESG and traceability practices at scale, moving responsible solar from aspiration to market norm.

Consolidating governance and institutional foundations

Alongside system growth, 2026 will be a year of institutional consolidation. A key priority will be the formal incorporation of the SSI as an association under Belgian law, strengthening legal clarity, accountability and long-term stability.

Working Groups will be reformed through the introduction of formal terms of reference and a Chair and Co-chair system, improving transparency, leadership and continuity. In parallel, the SSI will prepare for the next Board elections, scheduled for mid-2027, when the full multi-stakeholder Board, representing both industry and civil-society representatives, will be elected.

These steps reflect the SSI's transition from a startup phase to a mature, durable institution.

Expanding partnerships and strengthening collaboration

Strong partnerships are essential to advancing responsible practices across the solar value chain. In 2026, the SSI will focus on both expanding new strategic partnerships and deepening collaboration with existing ones, ensuring alignment with shared objectives on responsible sourcing, traceability and due diligence.

Building on established partnerships with the Copper Mark and the Global Wind Energy Council, the SSI will continue to strengthen collaboration with stakeholders to promote shared learning and mutual reinforcement of responsible business practices in the renewable energy sector.

Scaling responsibly

Across all areas of work, the guiding principle for 2026 is clear: scale must never come at the expense of credibility. By strengthening Standards, deepening assurance, expanding certification and consolidating governance, the SSI aims to support a solar sector that grows not only faster, but better.

“

The energy transition requires both ambition and trust. In 2026, the SSI will continue working to ensure that responsible production, traceable and transparent supply chains become standard practice across the global solar industry.

Máté Heisz | Chair of the SSI Board



