HAFSA RESEARCH AND ANALYSIS COMPANY

FLAGSHIP WHITE PAPER

From Voluntary Disclosure to Assurance

Implementing IFRS S1 and S2

A practical guide for finance, sustainability and audit leaders: scoping the standards, building a controlled emissions inventory, analysing climate risk, and getting ready for assurance.

Edition 1.0 · November 2026

For CFOs, heads of sustainability, financial controllers, internal auditors and audit committees, with a focus on Pakistan

11	58,700	5	Year 2
exhibits, charts and flow charts	tonnes CO2e in the worked inventory	worked examples with real arithmetic	when assurance starts for Phase I (see text)

Contents

Table 1. *What each section covers and who should read it first*

Section	What it covers	Read first if you are
Executive briefing	The argument, six decisions and the next 30 days	Everyone
1 From voluntary to assured	What changes when disclosure is mandated and then assured	CFO, audit committee
2 What IFRS S1 and S2 require	Four pillars, key requirements, materiality	Sustainability and reporting leads
3 Implementing in Pakistan	Phases, scoping, first-year relief, worked timeline	Company secretary, CFO
4 Building the emissions inventory	Scopes 1, 2 and 3, boundary, data flow, worked example	Sustainability, controllers
5 Climate risk, scenarios and financial effects	Carbon price and flood scenarios, bridge, targets	CFO, risk, strategy
6 Controls and assurance readiness	Assurance ladder, ISSA 5000, controls, evidence test	Internal audit, controllers
7 Solutions and roadmap	Tools by company size, build or buy, roadmap, RACI	CFO, CIO, programme lead
8 Risks, briefings, appendices	Risk register, role briefings, assumptions, sources	Each role

How to use this paper

Read the executive briefing, then the sections for your role. The worked examples follow one invented listed manufacturer so the numbers agree from the inventory through the scenarios to the assurance test. The company, its emissions and its financials are for teaching only; the emission factors are illustrative and must be replaced with your own sourced factors.

The paper summarises the standards and the Pakistan rules as published by the ISSB, the IFRS Foundation and the SECP, as available when it was written (Appendix C). It does not reproduce the standards. Regulatory details change, so confirm dates, thresholds and assurance requirements against the current SECP order and ICAP guidance before relying on them.

Executive briefing

EXECUTIVE BRIEFING

The 60-second version

- **Sustainability reporting in Pakistan is now a compliance matter.** The SECP's order of 31 December 2024 requires IFRS S1 and S2 for listed companies and SECP-licensed public interest companies, in three phases starting with periods beginning on or after 1 July 2025. The IFRS Foundation's profile of Pakistan (as at July 2025) also records that assurance is required from the second year of reporting.
- **The moving part is the data, not the narrative.** The hardest numbers are greenhouse gas emissions, especially Scope 3, and the financial effects of climate risk. Both need the discipline of the financial close: owners, cut-off, reconciliation and review.
- **Assurance changes how you prepare.** Auditors and other practitioners will need evidence for every number. The IAASB's new ISSA 5000 applies to sustainability assurance for periods beginning on or after 15 December 2026, and replaces ISAE 3000 and ISAE 3410 for that work.
- **In our illustrative company, 75% of emissions are Scope 3.** Of 58,700 tonnes CO2e, Scope 1 is 7,500, Scope 2 is 7,200 and Scope 3 is 44,000. A carbon price of USD 50 a tonne on Scopes 1 and 2 costs 3.5% of EBITDA, and a 30% reduction target leaves a gap of 390 tonnes.
- **Start with scoping, materiality and controls, not with software.** A single owner per data source and a tested control environment shorten the path to a clean assurance conclusion.

Decisions this paper helps you make

Table 2. *Six decisions, the exhibit that informs each and the rule we recommend*

Decision	Exhibit	Recommended rule
Which phase and which dates apply to us?	Figures 1 and 3	Test against the three-of-three thresholds each year; plan to the earlier phase if close
Which sustainability topics are material?	Figure 4	Score likelihood and effect; document the threshold and revisit annually
What is our reporting boundary and method?	Figures 5 and 6	Use the same entity as the financial statements; record every method choice
How do we quantify climate financial effects?	Figures 7 and 8	Run a small set of scenarios; report ranges and say where estimates are uncertain
Are our targets credible?	Figure 9	Fund every lever on the path; disclose the gap rather than hiding it
When are we ready for assurance?	Figures 10 and 11	Test controls in a dry run before the first published report

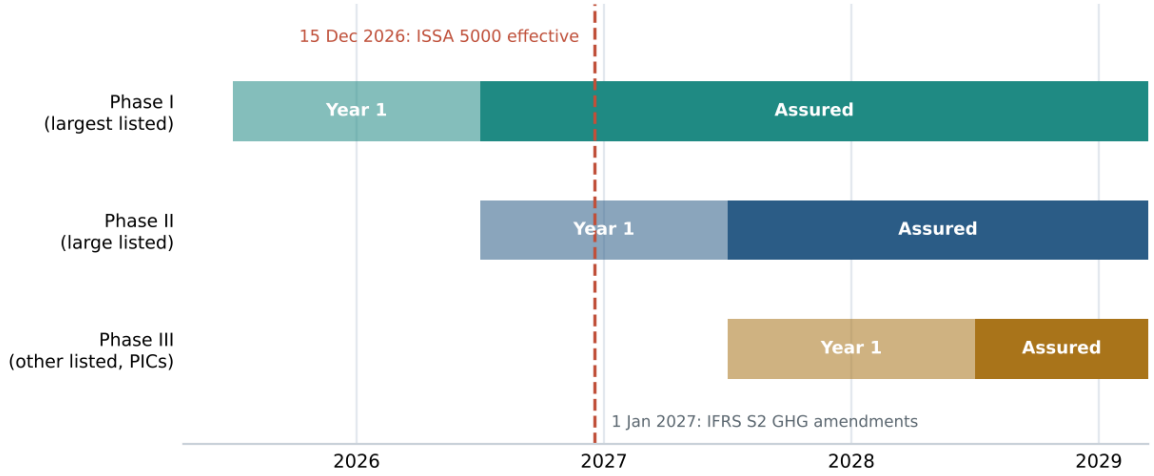
What to do in the next 30 days

- Test the company against the SECP phase thresholds and record the conclusion and first reporting period.
- Name one accountable owner for each data source: fuel, electricity, refrigerants, travel, purchases and logistics.

- Agree the organisational boundary with the financial reporting team and write it down.
- Draw the data flow from source to disclosure and mark where a control is missing.
- Ask your auditor or assurance provider what evidence and timetable they will expect.

1 From voluntary to assured

For most companies sustainability reporting has meant a voluntary report: selected metrics, a narrative, no external test. IFRS S1 and S2 change the standing of that information. It is reported with the financial statements, for the same period, to help investors and lenders judge enterprise value. Once a regulator mandates it and assurance follows, it is treated like financial information: errors become reportable, and weak data becomes a governance problem.



Each bar starts with the first reporting period (relief available) and moves to assurance in the second. Check your year-end and the current SECP order.

Figure 1. *Pakistan's three phases: a first reporting period with relief, then assured reporting. ISSA 5000 and the IFRS S2 GHG amendments mark the global timetable.*

1.1 What changes at each step

Table 3. *Voluntary report, mandated disclosure and assured disclosure compared*

Feature	Voluntary report	Mandated disclosure	Assured disclosure
Purpose	Stakeholder communication	Investor and lender decisions	Investor decisions, with confidence in the numbers
Basis	Own framework or selected topics	IFRS S1 and S2 with a compliance statement	Same, tested against criteria
Timing	Any time	With the financial statements (first-year relief available)	As mandated, with time for assurance work
Evidence	Often spreadsheets and emails	Documented method and owners	Evidence pack, controls, audit trail
Who is accountable	Sustainability team	Directors, with CFO involvement	Directors, plus a practitioner's conclusion
Failure risk	Reputation	Regulatory and investor challenge	Qualified conclusion; correction; liability exposure

WORKED EXAMPLE

Example 1: One company's timetable

A listed manufacturer has a 30 June year-end, turnover of about Rs 39bn, 900 employees and total assets of Rs 22bn. It exceeds the Phase I turnover and assets thresholds, so it meets two of the three tests and is in Phase I, with periods beginning on or after 1 July 2025.

Step	Period or date	What happens
First reporting period	1 Jul 2025 to 30 Jun 2026	First S1 and S2 disclosures. The first-year relief lets them be published separately, within nine months of year-end, so by 31 Mar 2027
Second reporting period	1 Jul 2026 to 30 Jun 2027	Disclosures published with the annual report; assurance applies from this year, per the IFRS Foundation profile
Assurance standard	Periods from 15 Dec 2026	ISSA 5000 applies to practitioners following IAASB standards

Reading the result. The company has less time than it seems. The assurance year starts on 1 July 2026, so controls over the second year's data must operate from the first day of that year, before the first report is even published.

KEY TAKEAWAYS

Key takeaways

- Treat the first reporting period as a dry run for assurance, not a free pass.
- Controls must operate through the whole assured period, so build them early.
- Confirm your phase, year-end and assurance timing against the current SECP order.

2 What IFRS S1 and S2 require

IFRS S1 sets general requirements for disclosing sustainability-related risks and opportunities that could reasonably be expected to affect an entity's prospects. IFRS S2 applies those requirements to climate. Both follow the structure used in climate reporting for years: governance, strategy, risk management, and metrics and targets.

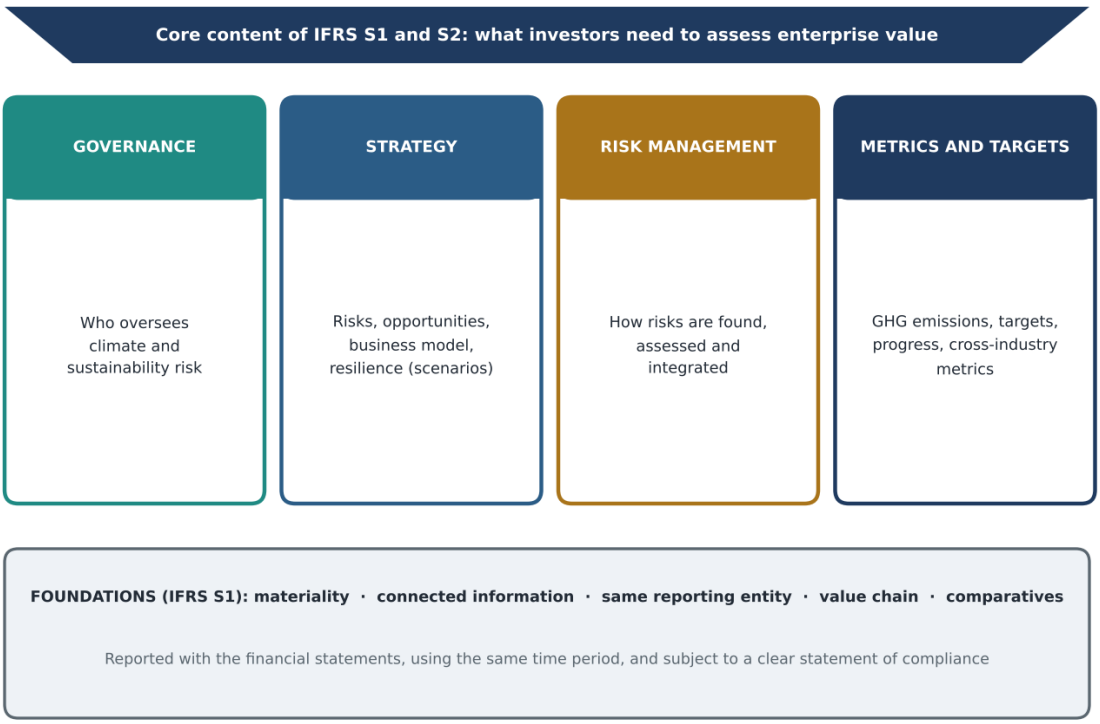


Figure 2. *The four content pillars of IFRS S1 and S2, with the foundations that S1 sets for all sustainability reporting.*

2.1 Key requirements and what they mean in practice

Table 4. *Summary of requirements and the practical implication*

Topic	What the standards require (summary)	Implication for you
Materiality	Disclose information that could reasonably be expected to influence investors' decisions about providing resources to the entity	Document the assessment; link it to cash flows, access to finance and cost of capital
Reporting entity and period	Same entity and period as the financial statements; connected information	Align boundary, cut-off and assumptions with the finance team
Governance	Oversight bodies, skills, management's role	Board paper, terms of reference, named executive
Strategy	Risks and opportunities, effects on business model and value chain, financial effects, transition plan, climate resilience	Scenario analysis commensurate with your skills and resources
Risk management	Processes to identify, assess, prioritise and monitor; integration with overall risk management	Add climate to the enterprise risk register
Metrics: emissions	Gross Scope 1, 2 and 3 emissions in CO2e, measured under the GHG Protocol; Scope 2 on a location basis, with information on contractual instruments	Inventory with documented method and factors
Metrics: cross-industry	Climate-related transition and physical risk exposure, opportunities, capital deployment, internal carbon price, remuneration	Define each metric and its data source
Targets	Quantitative and qualitative targets, how progress is measured, use of offsets	Link to the transition plan and funding
Relief	Phased reliefs in the first year, for example on Scope 3 and timing, as set by S2 and the jurisdiction	Use them knowingly and disclose that you did

2.2 Materiality, step by step

Materiality under IFRS S1 is investor-focused. It asks whether leaving a topic out could reasonably be expected to affect investors' decisions, so the test is anchored in financial effects, not general importance to society. In practice, most teams score each candidate topic for likelihood and potential effect and set a documented threshold.

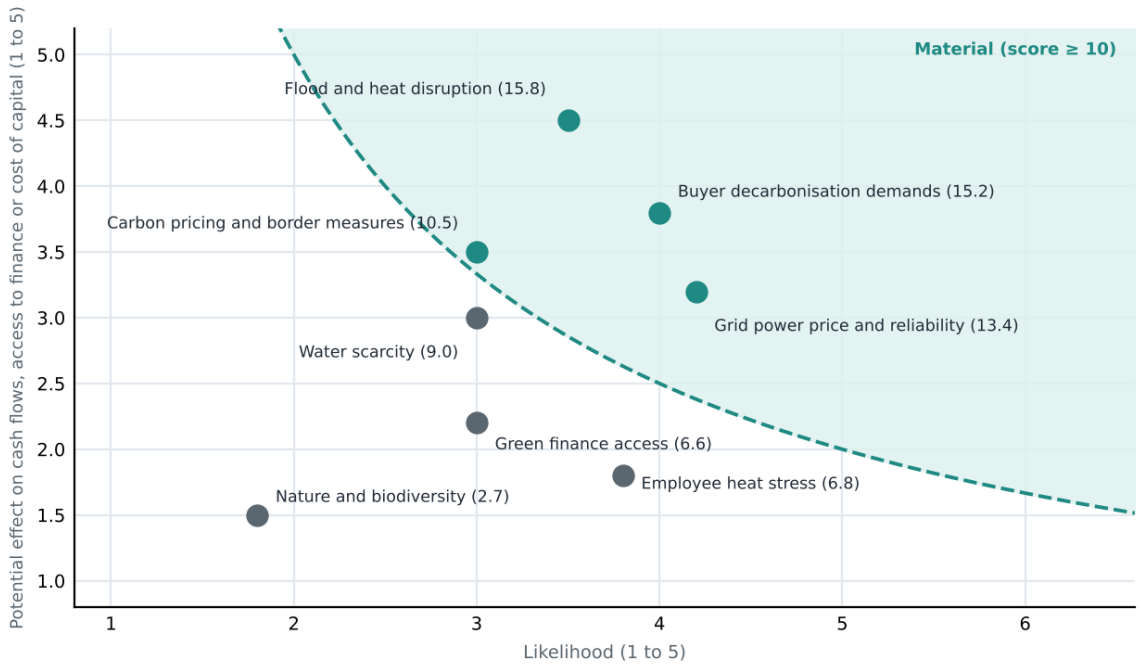


Figure 3. *Illustrative materiality matrix: likelihood against potential financial effect. Topics scoring 10 or more (likelihood × effect) are treated as material.*

WORKED EXAMPLE

Example 2: Reading the matrix

The matrix scores eight topics on a 1 to 5 scale. Flood and heat disruption (3.5 × 4.5 = 15.8), buyer decarbonisation demands (4.0 × 3.8 = 15.2), grid power price and reliability (4.2 × 3.2 = 13.4) and carbon pricing and border measures (3.0 × 3.5 = 10.5) clear the threshold of 10.

Water scarcity scores 9.0, just below it. The decision for the reporting committee is whether to treat it as material anyway. A prudent answer is to include it in the risk register, track it, and record why it was excluded. The threshold is a judgement, so the file should show the reasoning, who approved it and when it will be revisited.

KEY TAKEAWAYS

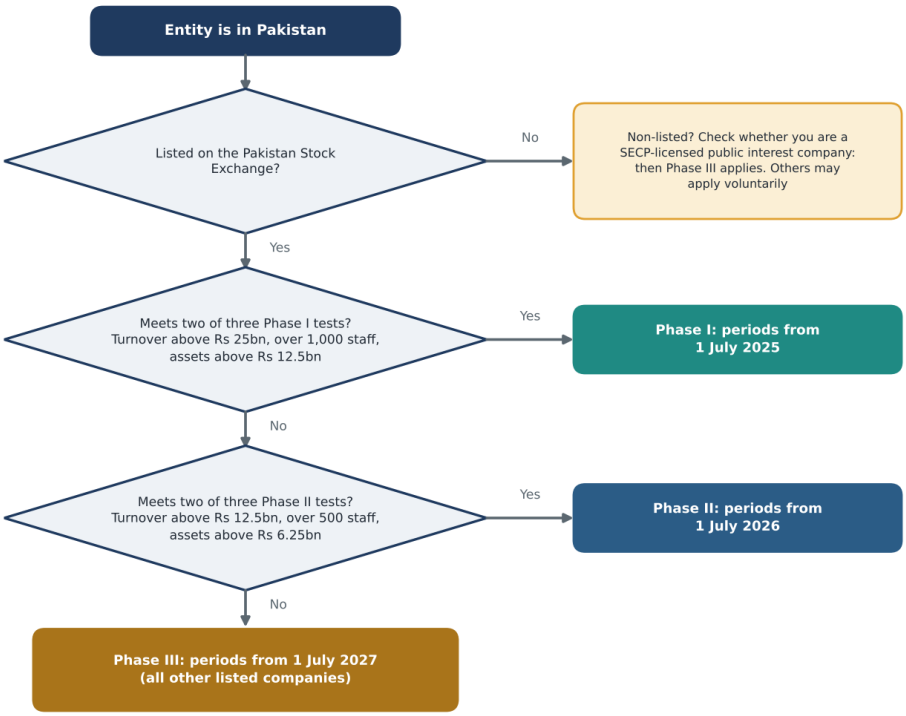
Key takeaways

- Materiality is about enterprise value, so link every topic to cash flows, finance access or cost of capital.
- Document the threshold and the borderline cases; auditors will ask for both.
- Keep the structure of governance, strategy, risk and metrics in mind from the first draft.

3 Implementing in Pakistan

According to the IFRS Foundation's jurisdictional profile (position at 1 July 2025), the SECP mandated IFRS S1 and S2 by an order of 31 December 2024 under section 238 of the Companies Act, 2017, on the

recommendation of ICAP. Pakistan is fully adopting the ISSB Standards, with no jurisdictional modifications and with dual reporting not permitted. The ISSB's own implementation update lists Pakistan among the jurisdictions whose companies report for financial years beginning in 2025.



Simplified from the SECP order as summarised in the IFRS Foundation jurisdictional profile (July 2025). Confirm against the order and any updates.

Figure 4. *Scoping flow chart: which phase applies. Phase tests need two of three thresholds to be met.*

3.1 The phases

Table 5. *Phase-in under the SECP order, as summarised in the IFRS Foundation profile*

Phase	Who	Two of three tests	Applies to periods beginning on or after
I	Listed companies	Turnover above Rs 25bn (two consecutive years); more than 1,000 employees; total assets above Rs 12.5bn	1 July 2025
II	Listed companies	Turnover above Rs 12.5bn (two consecutive years); more than 500 employees; total assets above Rs 6.25bn	1 July 2026
III	All other listed companies; SECP-licensed non-listed public interest companies	None	1 July 2027

Early application is permitted and encouraged. Non-listed entities without public accountability are not explicitly addressed in the order, though they may apply the standards voluntarily.

3.2 First-year relief and compliance statement

Table 6. *Key features of the Pakistan regime to plan around*

Feature	What the profile records	What to do
Transition relief	Only the IFRS S1 relief applies: first-period sustainability disclosures may be published separately, within nine months of year-end. No extensions to other S1 and S2 reliefs	Decide whether to use the nine months; most should still prepare in parallel with the accounts
Compliance statement	Explicit and unreserved statement of compliance with ISSB Standards	Do not claim compliance until every requirement is met or relieved

Feature	What the profile records	What to do
Placement	In the annual report, after the directors' report (subject to first-year relief)	Agree the layout with the annual report team
Assurance	Required from the second year of reporting; assurance standards not yet confirmed in the profile	Ask SECP and ICAP guidance sources which standard will apply; plan for ISSA 5000
Digital reporting	Not required	Keep data structured anyway; it saves time

Two cautions. The profile reflects the position at 1 July 2025, and details, including assurance, may have been updated since. And the first-year relief concerns timing of publication; it does not remove the need to measure data across the first period.

KEY TAKEAWAYS

Key takeaways

- Test the phase thresholds every year. A company close to a threshold should plan for the earlier phase.
- The nine-month relief helps timing, not data quality; the data must still cover the full first year.
- Verify current SECP and ICAP guidance before committing to an assurance standard and date.

4 Building the emissions inventory

IFRS S2 requires gross greenhouse gas emissions in tonnes of CO2 equivalent, measured using the GHG Protocol Corporate Standard. Scope 1 covers direct emissions from owned or controlled sources. Scope 2 covers indirect emissions from purchased electricity, steam, heating and cooling. Scope 3 covers all other indirect emissions across the value chain, in up to 15 categories. S2 also provides first-year relief on Scope 3, so a first-time reporter may omit it in the first reporting period, subject to the jurisdiction's rules.

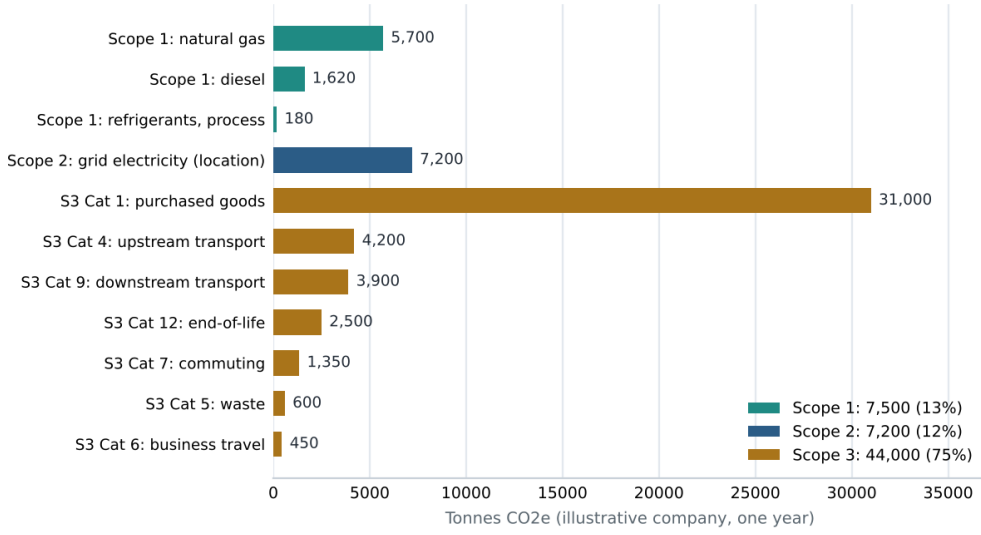


Figure 5. *Illustrative inventory: Scope 1 is 7,500 tonnes, Scope 2 is 7,200 tonnes (location-based) and Scope 3 is 44,000 tonnes, dominated by purchased goods.*

4.1 Worked calculation

WORKED EXAMPLE

Example 3: Scope 1 and 2 from activity data

Emissions equal activity data multiplied by an emission factor. The factors below are illustrative; use factors from a recognised published source and record the source and year.

Source	Activity data	Factor	Tonnes CO2e
Natural gas (boilers)	3,000,000 m3	1.9 kg per m3	5,700
Diesel (generators, fleet)	600,000 litres	2.7 kg per litre	1,620
Refrigerants and process	Leakage records	Given by gas type	180
Scope 1 total			7,500
Grid electricity (location-based)	18,000 MWh	0.40 t per MWh	7,200
Scope 2 (market-based)	16,000 MWh grid + 2,000 MWh solar certificates	0.40 t per MWh on grid power; 0 on certificates	6,400

Reading the result. Scope 1 plus location-based Scope 2 is 14,700 tonnes. Scope 3 adds 44,000, giving gross emissions of **58,700 tonnes**; Scope 3 is 75% of the total. S2 asks for location-based Scope 2 with information on contractual instruments, so the market-based figure of 6,400 is supporting information and does not replace it. Purchased goods alone is 31,000 tonnes, more than Scope 1 and 2 combined, so the supplier data programme matters more than the boiler.

4.2 Boundary and method choices

Table 7. *Choices that must be made and recorded once*

Choice	Options	Guidance
Organisational boundary	Operational control, financial control or equity share, as set in the GHG Protocol	Follow the approach S2 requires and disclose it; align with the entity in the financial statements
Scope 2 method	Location-based and market-based	Report location-based as required; add contractual instrument information
Emission factors	National, supplier-specific or international databases	Use a recognised published source; version and date every factor
Scope 3 categories	Up to 15; relevance screening	Screen all 15, document exclusions, start with the largest
Estimation	Spend-based, average-data, supplier-specific	Start spend-based; move to supplier data for the largest categories
Base year	Year used for targets	Choose once, explain it, and set a recalculation policy

4.3 Data flow with controls

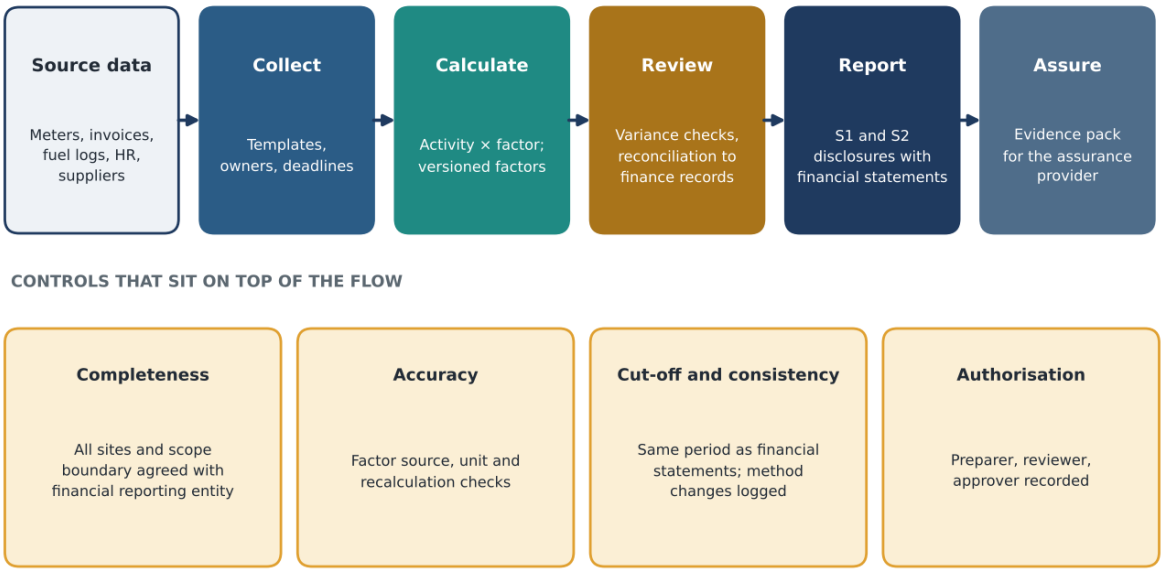


Figure 6. *Data flow from source to assurance, with four control families sitting across the flow.*

A good inventory is built like a financial close. Each source has an owner and a deadline, calculations are repeatable, a reviewer who did not prepare the figures checks variances and reconciles them to the finance records, and the final numbers are authorised and filed with their evidence.

KEY TAKEAWAYS

Key takeaways

- Scope 3 will usually dominate; start the supplier data work early.
- Record every boundary and method choice once; consistency is what assurance tests.
- Build the inventory like a financial close, with owners, deadlines and reviewers.

5 Climate risk, scenarios and financial effects

IFRS S2 asks for the effects of climate-related risks and opportunities on financial position, performance and cash flows, both current and anticipated, and for an assessment of climate resilience using scenario analysis. The approach should be proportionate to the entity's circumstances; S2 allows qualitative information where quantification is not separately identifiable or the uncertainty is too high, or where skills and resources are lacking. Our illustrative company has revenue of USD 140m (about Rs 39bn at an assumed Rs 280 per dollar) and EBITDA of USD 21.0m, a 15% margin.

5.1 Transition risk: a carbon price

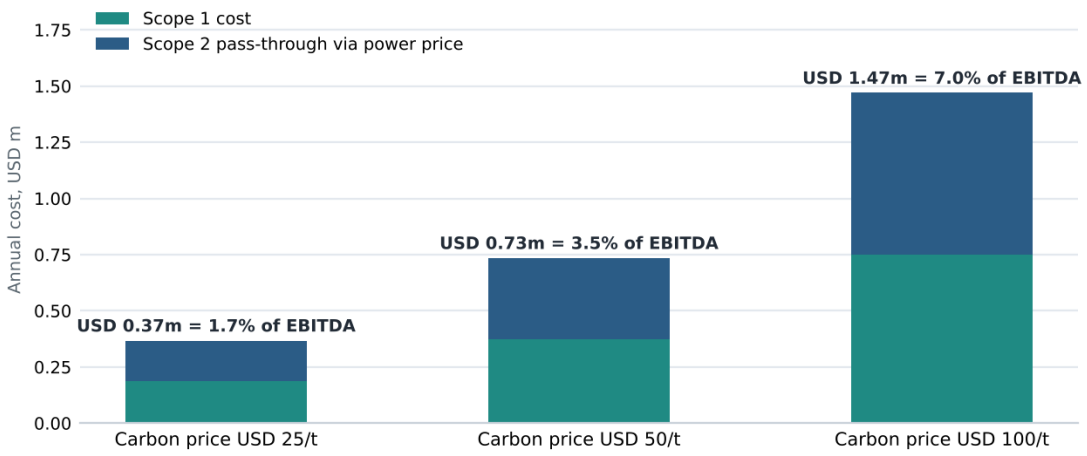


Figure 7. *Annual cost of a carbon price applied to Scope 1 directly and to Scope 2 through higher power prices, at three price levels.*

WORKED EXAMPLE

Example 4: Carbon price sensitivity

Scenario: a carbon price is applied to Scope 1 directly, and Scope 2 costs rise because the electricity supplier passes the price through at the grid factor. Scope 1 is 7,500 tonnes and location-based Scope 2 is 7,200 tonnes.

Carbon price	Scope 1 cost	Scope 2 cost	Total	Share of EBITDA (21.0)
USD 25 per tonne	0.19	0.18	0.37	1.7%
USD 50 per tonne	0.38	0.36	0.74	3.5%
USD 100 per tonne	0.75	0.72	1.47	7.0%

Reading the result. The exposure is modest at USD 25 but doubles with each doubling of price. This direct view leaves out indirect costs from suppliers and buyers' carbon requirements, which is where the Scope 3 footprint matters. The disclosure should state the assumptions, say what is excluded and give a range, not a point estimate.

5.2 Physical risk and the financial bridge

Physical risk is shown through a single plausible event. Flooding has caused serious disruption to Pakistani operations and supply chains in recent years, so we test a 1-in-20-year flood that closes the main plant for three weeks. The plant produces 40% of revenue, or USD 56m a year; the contribution margin on lost sales is 35%, and 60% of the loss is insured.

Revenue lost is 56 × 3 ÷ 52 = USD 3.23m. Lost contribution is 3.23 × 35% = USD 1.13m. The insurer covers 60%, leaving an uninsured loss of **USD 0.45m**.

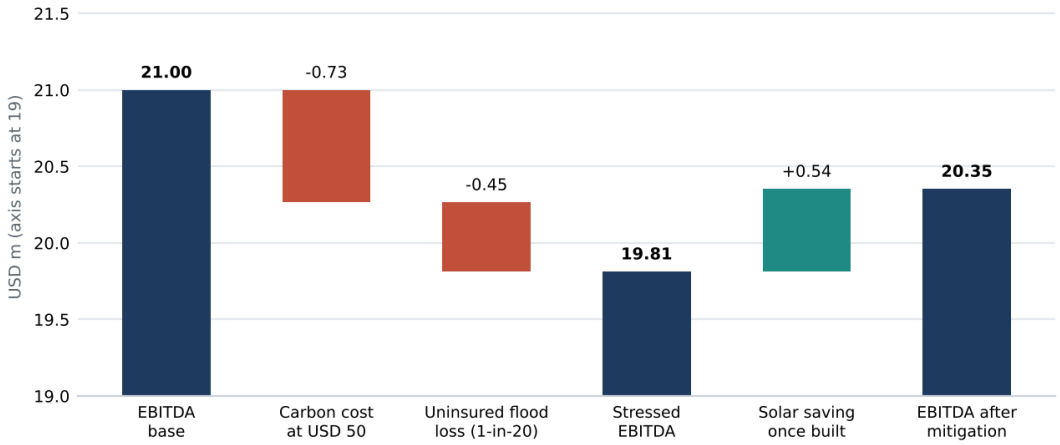


Figure 8. *Illustrative EBITDA bridge in a stress year: carbon cost at USD 50 and an uninsured flood loss, then the effect of a solar investment (USD m).*

The bridge combines two scenarios for illustration. It shows that the stress year costs 1.19 (5.7% of EBITDA), and that a mitigation project recovers about half of it. A real disclosure should explain how the scenarios were chosen and whether they are consistent with each other.

5.3 Targets and the transition plan

Suppose the company sets a target to cut Scope 1 and 2 emissions by 30% by 2030 from a 14,700-tonne baseline, which means reaching 10,290 tonnes. The path below funds four levers.

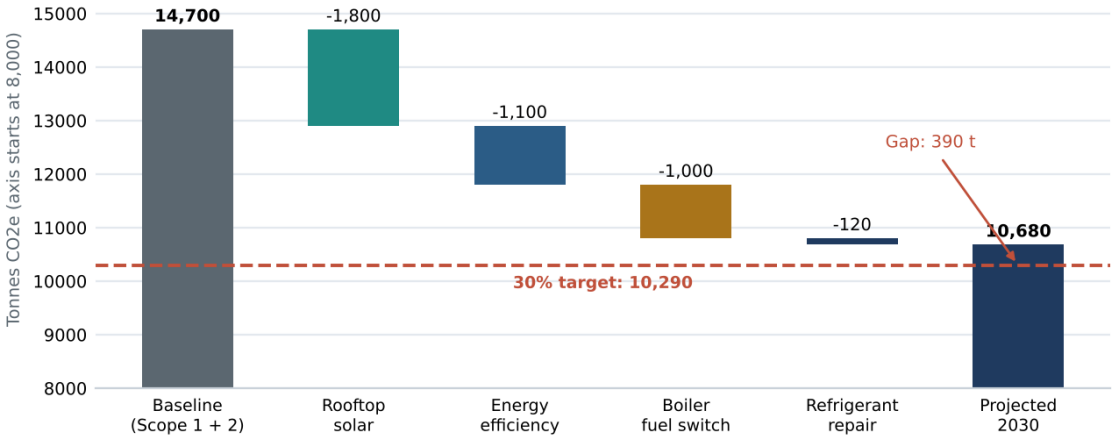


Figure 9. *Emissions pathway: four levers reduce Scope 1 and 2 emissions from 14,700 to 10,680 tonnes, leaving a 390-tonne gap to the 30% target.*

Table 8. *Levers on the path to the 2030 target*

Lever	Reduction (t CO2e)	Funding and evidence	Status
Rooftop solar, 3 MW	1,800	Capex USD 2.7m; 4,500 MWh a year at USD 0.12 a kWh saves USD 0.54m; payback 5.0 years	Approved in budget
Energy efficiency	1,100	Audit identified measures; business cases in progress	Partly funded

Lever	Reduction (t CO2e)	Funding and evidence	Status
Boiler fuel switch	1,000	Technology options paper; decision due next year	Unfunded
Refrigerant leakage repair	120	Maintenance budget	Funded
Total	4,020 (27.3%)	Gap to target: 4,410 − 4,020 = 390 tonnes	

The honest disclosure states the 390-tonne gap and the unfunded lever. Offsets, if used, must be disclosed separately from gross reductions. A credible transition plan names who owns each lever and where the money comes from.

KEY TAKEAWAYS

Key takeaways

- Use a few clear scenarios and show ranges. Say what is excluded.
- Quantify financial effects where you can, in EBITDA or cash flow terms, and be explicit where you cannot.
- A target is credible only if every lever has an owner and funding. Disclose the gap.

6 Controls and assurance readiness

The word assurance covers a range of rigour. The step from a mandated disclosure to an assured one means evidence, repeatable controls and an audit trail for every number.

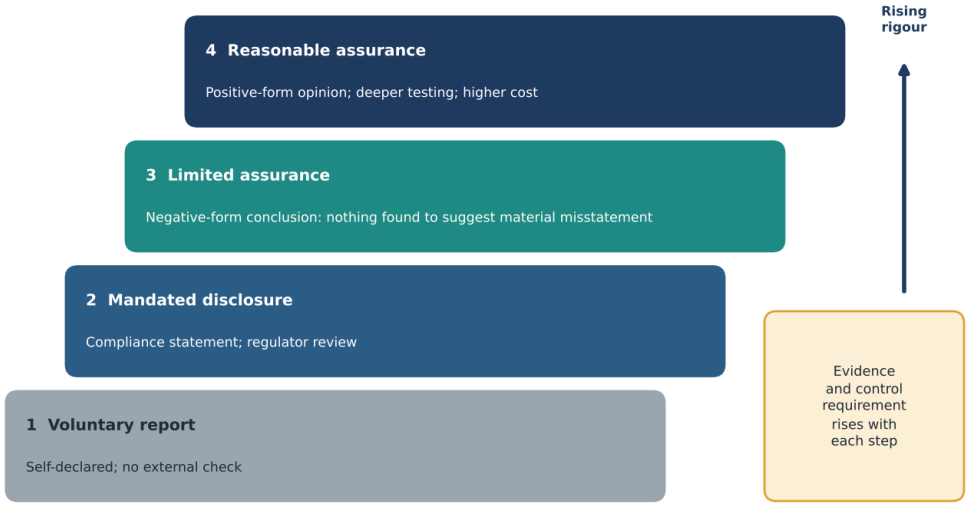


Figure 10. *The assurance ladder: from voluntary reporting to reasonable assurance, with evidence and control requirements rising at each step.*

6.1 Limited and reasonable assurance

Table 9. *Limited and reasonable assurance compared*

Feature	Limited assurance	Reasonable assurance
Conclusion	Negative form: nothing has come to attention to indicate material misstatement	Positive opinion that the information is fairly stated in all material respects
Procedures	Inquiry, analytical procedures, limited testing	Detailed testing, walkthroughs, sampling, controls testing

Feature	Limited assurance	Reasonable assurance
Evidence	Sufficient to support a meaningful level of confidence	Sufficient to reduce risk to an acceptably low level
Preparer impact	Documentation, reconciliations, review evidence	As limited, plus tested controls and deeper audit trail
Cost and time	Lower	Higher

The IAASB's ISSA 5000 is a general-purpose standard for sustainability assurance, applying to engagements on periods beginning on or after 15 December 2026, and replacing ISAE 3000 (Revised) and ISAE 3410 for sustainability engagements. Practitioners are updating their quality management and engagement templates, and preparers should expect more rigorous evidence requests. Which assurance level and standard apply in Pakistan should be confirmed with the SECP and ICAP, because the IFRS Foundation profile records that this had not yet been settled.

6.2 The control environment

Table 10. *A minimum set of controls over sustainability data*

Control	Risk addressed	Evidence	Frequency
Boundary and scope sign-off	Sites or entities missing or double counted	Signed boundary memo matched to the consolidation	Annual
Data owner confirmation	Unowned or late data	Owner sign-off by deadline	Each period
Source-to-ledger reconciliation	Activity data differs from finance records	Reconciliation with explained differences	Each period
Factor register	Wrong or outdated emission factor	Versioned register with source and year	Annual and on change
Variance review	Unusual movements undetected	Reviewer notes on changes above a threshold	Each period
Independent recalculation	Formula or unit errors	Re-performance by a second person	Each period
Disclosure checklist	Missing S1 or S2 requirement	Completed, reviewed checklist	Each report
Change log	Unrecorded method changes	Log with approval	Continuous

WORKED EXAMPLE

Example 5: An evidence test on electricity

An assurance provider tests the Scope 2 activity data. The inventory records 18,000 MWh of grid electricity. The provider agrees the twelve monthly utility invoices to the inventory and to the financial ledger.

Test	Inventory	Source evidence	Difference	Result
Sum of 12 invoices	18,000 MWh	17,940 MWh	60 MWh (0.33%)	Within 2% tolerance
Emission factor	0.40 t per MWh	Factor register entry for the year	None	Agrees
Scope 2 calculation	7,200 t	17,940 × 0.40 = 7,176 t	24 t (0.33%)	Immaterial; correct and note
Cut-off	Twelve months to year-end	Last invoice covers June	None	Agrees

Reading the result. The 60 MWh difference is small, and the tolerance is the practitioner's judgement of materiality, not a fixed rule. The control that would have prevented the question is a monthly reconciliation of the inventory to invoices, with the 60 MWh explained, for example by an estimated bill. Without it, the preparer cannot answer quickly and the assurance work expands.

6.3 Readiness scorecard

Table 11. *Eight readiness questions. Answer yes or no; each no is an action*

Area	Ready when
Scope	Phase, first period and assurance year confirmed in writing
Materiality	Documented threshold; borderline topics explained; approved by the board or committee
Boundary	Aligned with the financial statements; signed off
Data ownership	Every source has a named owner and a deadline
Calculations	Factor register, version control and independent recalculation in place
Scenario analysis	Assumptions, scenarios and limitations documented
Controls	Operated through a dry-run period with evidence retained
Assurance provider	Engaged, timetable agreed, evidence expectations known

KEY TAKEAWAYS

Key takeaways

- Assurance asks whether you can prove each number, so design evidence into the process.
- Run a dry-run assurance on one period before the first published report.
- Confirm the assurance level and standard that apply in Pakistan; plan for ISSA 5000 in any case.

7 Solutions and roadmap

The aim is a reporting process that is repeatable and testable without being heavy. The right set of tools depends on the number of sites, the complexity of the value chain and the resources available.

7.1 Tooling by company size

Table 12. *Solution options by company profile (indicative; effort is illustrative)*

Profile	Data and calculation	Controls and evidence	Reporting	Set-up effort
Smaller listed company, few sites	Controlled workbook with locked templates and a factor register	Manual reconciliations; reviewer sign-off; shared evidence folder	Word or reporting template aligned with the annual report	2 to 4 months
Mid-sized, several sites and a supplier base	Carbon accounting tool or structured database fed from ERP and utility data	Workflow approvals; automated reconciliations; change log	Disclosure management tool tied to the financial statements	4 to 8 months
Large or multi-entity group	Enterprise data platform with ERP and metering feeds; supplier portal	Integrated control framework with the financial close; internal audit testing	Integrated reporting platform; tagging-ready data	8 to 12 months

7.2 Build or buy

Table 13. *Choosing between spreadsheets, bought tools and a combination*

Criterion	Controlled spreadsheets	Bought carbon accounting tool	Combined
Speed to first report	Fast	Medium; needs setup	Fast start, tool later
Audit trail	Weak unless locked down	Strong, if configured	Strong where it matters
Scope 3 support	Manual	Better, with factor libraries	Targeted
Cost	Low licence, high labour	Licence plus implementation	Balanced
Key-person risk	High	Lower	Moderate
Best for	Phase III, simple footprints	Phase I and II, complex value chains	Most listed companies

Whatever you choose, treat the tool as part of the control environment: restrict access, version the factors, log changes, and test the calculations independently. A tool that cannot show who changed a number and when is a risk, not a solution.

7.3 Roadmap

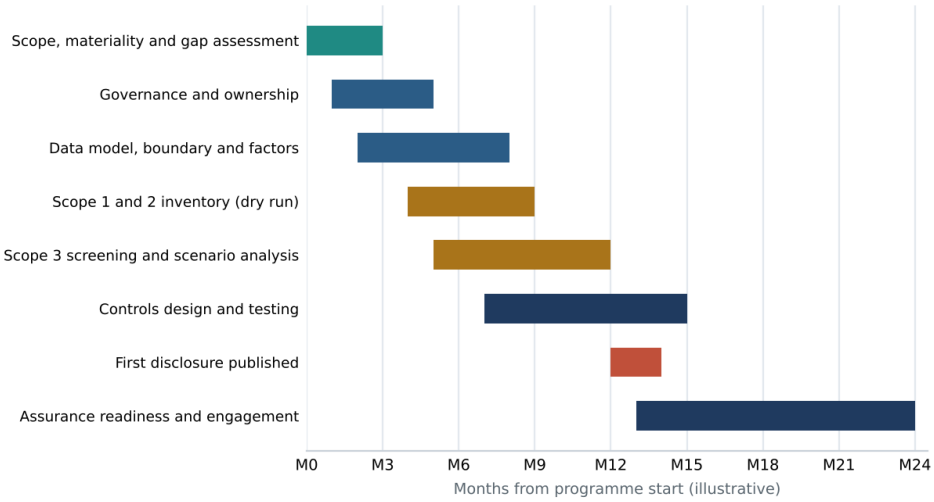


Figure 11. *Illustrative 24-month programme from scoping to assurance readiness.*

7.4 Who does what

Table 14. *RACI for the IFRS S1 and S2 programme*

Activity	CFO	Sustainability	Controller	Internal audit	Audit committee
Scoping and materiality	A	R	C	C	I
Boundary and method policy	A	R	R	C	I
Data collection	I	A	R	I	I
Calculation and review	C	A / R	R	I	I
Scenarios and financial effects	A	R	R	I	C
Controls design	A	R	R	C	I
Independent testing	I	C	C	A / R	I
Approval of disclosures	R	C	C	I	A

R = responsible, A = accountable, C = consulted, I = informed.

8 Risks, role briefings and appendices

8.1 Risk register

Table 15. *Principal risks to an IFRS S1 and S2 programme and how to manage them*

Risk	Effect	Mitigation
Treating it as a reporting task	Late data, weak controls, assurance surprises	Run it as a finance-led programme with the financial close discipline
Scope 3 data gaps	Estimates with wide error	Start spend-based; improve the largest categories; disclose methods
Inconsistent boundary	Numbers do not tie to the financial statements	Sign off the boundary; reconcile to the consolidation
Overstated claims	Compliance statement or targets not supportable	Disclose gaps; legal and audit committee review

Risk	Effect	Mitigation
Changing rules	Wrong phase or assurance assumptions	Track SECP, ICAP and ISSB updates; recheck annually
Key-person dependency	Process stops if one person leaves	Documented procedures; second preparer

8.2 Role briefings

BRIEFING

CFO

- Own the programme and tie it to the financial close calendar and the annual report.
- Approve the boundary and method policy once; insist on consistency.
- Ask early for the assurance provider's evidence expectations.

BRIEFING

Head of sustainability

- Name data owners, set deadlines and keep an evidence file for every number.
- Screen all 15 Scope 3 categories and start with the largest.
- Document estimates and their limits; do not hide them.

BRIEFING

Internal audit

- Test the controls before the assurance provider does, using the control table in Section 6.
- Review the compliance statement and the scenario assumptions for support.
- Report readiness to the audit committee against the scorecard.

BRIEFING

Audit committee

- Approve the materiality threshold and the first-year relief decisions.
- Ask for a dry-run assurance result before the first report is published.
- Challenge targets: who owns each lever and where is the funding?

Appendix A Assumptions for the illustrative company

Table 16. *Inputs used in the worked examples (invented; not data about any real company)*

Item	Value
Business and listing	Listed manufacturer, 30 June year-end, about 900 employees
Turnover, assets	About Rs 39bn (USD 140m at an assumed Rs 280 per dollar); total assets Rs 22bn

Item	Value
EBITDA	USD 21.0m (15% margin)
Scope 1	Gas 3,000,000 m3 × 1.9 kg; diesel 600,000 litres × 2.7 kg; refrigerants and process 180 t
Scope 2	18,000 MWh × 0.40 t per MWh (location-based); 2,000 MWh covered by certificates for market-based
Scope 3	Categories 1, 4, 5, 6, 7, 9 and 12: 31,000; 4,200; 600; 450; 1,350; 3,900; 2,500 t
Carbon price scenario	USD 25, 50 and 100 per tonne on Scope 1 and on Scope 2 via the power price
Flood scenario	1-in-20 event; 3 weeks closed; plant 40% of revenue; 35% contribution margin; 60% insured
Solar and target	3 MW; 4,500 MWh a year; USD 0.12 per kWh; capex USD 2.7m. Target: 30% cut in Scope 1 and 2 by 2030 from 14,700 t

Appendix B Limitations and points to verify

- The company, emission factors, scenarios and scores are illustrative. Replace them with your own sourced data.
- Pakistan details come from the IFRS Foundation jurisdictional profile (position at 1 July 2025) and the SECP's announcement. Confirm thresholds, dates and assurance requirements against the current SECP order and ICAP guidance.
- The ISSB's December 2025 amendments to IFRS S2 on greenhouse gas emissions apply to periods beginning on or after 1 January 2027, with earlier application permitted. This paper does not summarise their content; read the amendments before building your inventory method.
- The paper summarises the standards and does not replace them, and is research, not legal, tax or assurance advice. The ISSB's proposed nature-related Practice Statement (comments to 19 February 2027) is not covered.

Appendix C Sources and further reading

- IFRS Foundation: Pakistan jurisdictional profile SECP order, phases, reliefs, assurance (position at 1 July 2025).
- SECP: notification of adoption of IFRS Sustainability Disclosure Standards Announcement of staged adoption of IFRS S1 and S2.
- IFRS Foundation: Amendments to Greenhouse Gas Emissions Disclosures (S2) December 2025 amendments, effective for periods from 1 January 2027.
- ISSB update, November 2026 Jurisdictional adoption and work plan.
- ICAEW: ISSA 5000, the IAASB sustainability assurance standard Background on ISSA 5000 (listed for further reading).
- ACTS: IAASB FAQs on ISAE 3000 and ISSA 5000 transition Effective date and replacement of ISAE 3000 and ISAE 3410 for sustainability.

Sources read in November 2026, except ICAEW (further reading only). Check each before citing.