



FIRST EDITION

IAF AUTOMOTIVE SUSTAINABILITY STANDARD

Integrated requirements across
the automotive value chain

Lifecycle carbon, circularity and due diligence
Environmental, social, governance and economic sustainability

DRAFT FOR TECHNICAL REVIEW

Technical validation and formal adoption are required before operational use.
Release conditions are set out in Clause 40 and Annex H.

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Scope of this publication

This document proposes a comprehensive voluntary automotive sustainability standard for organizations, facilities, vehicles, components, mobility services and recovery operations. Its requirements cover environmental performance, lifecycle carbon, circularity, human rights, decent work, occupational health and safety, communities, product and technology responsibility, ethical governance, sustainable procurement and economic resilience.

Status and operational use

This Working Draft 0.3 retains the integrated sustainability requirements developed in Working Draft 0.2. Emissions remain a technical part of the broader standard. The document establishes proposed auditable requirements and evidence rules; it has not yet been adopted as a final IAF standard or validated as an operating conformity programme.

Complete standard conformity requires all common requirements and all activity requirements applicable to the declared scope. A lifecycle carbon calculation or another partial study may receive a specifically bounded verification statement, but does not establish complete automotive sustainability conformity. No statement guarantees the absence of every possible impact or replaces statutory approvals and specialized technical assessments.

Structure and control

Clauses 1 to 40 and Annexes A to F and I to K contain proposed normative requirements. Annexes G and H are informative. Numerical rules identified as IAF draft choices are proposed programme requirements for technical review and pilot validation, not existing universal legal or scientific limits.

Integrated environmental controls are addressed through a controlled register and the requirements in Annex K. Selected methods, versions, system boundaries, differences and evidence shall be identified and linked to the applicable IAF requirements. A recorded policy or commitment shall not substitute for evidence that the required control is implemented.

Document control: IAF Automotive Sustainability Standard First Edition, Working Draft 0.3. Intended scheme owner: International Automotive Federation. Working language: English. Approval and effective dates are not assigned. This draft includes 40 main clauses and 11 annexes. The text is intended for technical consultation and development of the IAF programme.

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1 Purpose and scope

1.1 The organization shall establish evidence of the environmental, social, governance and economic sustainability impacts associated with the activities and products included in its assessment scope. It shall measure relevant impacts, prevent harm to people and ecosystems, fulfil its obligations, control significant risks and implement a documented improvement programme.

1.2 This document applies to vehicle manufacturers; suppliers of raw materials, components, batteries, software and energy systems; manufacturing and assembly facilities; logistics and fleet operators; repairers; remanufacturers; and dismantling or recycling operations. Dealerships, charging and refuelling providers, automotive infrastructure and industry related professional services are included to the extent of their activities and impacts. Laboratories and assessors apply the competence and decision requirements relevant to their roles.

1.3 Passenger cars, commercial vehicles, buses, motorcycles, trailers and special purpose road vehicles may be assessed. Product comparisons shall be restricted to an approved vehicle or product category profile. Annex C supplies a provisional passenger car profile for piloting; other categories require a separately approved profile before comparative conclusions.

1.4 The environmental boundary shall address raw material extraction and processing, component production, vehicle assembly, distribution, energy supply, use, maintenance, replacement, collection and final treatment where relevant. A partial boundary shall be clearly named and shall not be described as a complete life cycle result.

1.5 The standard shall be applied without assigning an automatic advantage to a propulsion technology. Battery electric, hybrid, combustion and fuel cell vehicles shall be assessed using their actual relevant energy chains, emissions and material burdens. A technology name is not evidence of environmental performance.

1.6 The scope includes environmental stewardship, human rights, decent work, health and safety, communities, responsible products and technology, ethical governance, sustainable procurement, economic resilience and transparent performance reporting. The organization shall apply the common requirements and evaluate emerging topics through Clause 20; a topic not named explicitly shall not be omitted if it creates a significant sustainability impact.

1.7 This standard provides an integrated requirements framework for automotive sustainability. It does not replace every specialized technical standard, statutory approval or professional assessment that a particular activity requires. Those instruments shall be identified and applied through the controlled method and legal registers.

2 Normative conventions and method control

2.1 “Shall” indicates a requirement, “should” a recommendation and “may” a permitted option. Notes and informative annexes do not create requirements. A requirement is applicable unless its stated condition is absent and the exclusion is accepted under Clause 4.

2.2 The organization shall maintain a controlled method register giving the method title, responsible owner, version, amendments, system boundary and permitted use of each calculation or testing method. The complete approved method shall be available to the competent personnel applying it.

2.3 The assessment plan shall fix the applicable method editions before evidence is evaluated. Recognized public or licensed methods may be used where technically appropriate. An alternative method shall demonstrate equivalence of measurand, sampling, conditions, uncertainty and decision outcome before it is accepted. Similar titles or units alone do not establish equivalence.

2.4 The order of precedence shall be applicable law, this standard for voluntary requirements that do not conflict with law, the approved category profile, and the agreed test plan. A legal conflict shall be recorded and referred to the scheme owner. The assessor shall not issue a positive conclusion for a conflicting requirement by silently omitting it.

2.5 A draft method shall be used only for explicitly identified research or pilot evidence. It shall not be represented as a final approved method. Changes to methods or legal instruments shall be evaluated through controlled impact review rather than automatic incorporation.

3 Terms and definitions

For this document, the following meanings apply.

Assessment object: the specifically identified organization, facility, product family, vehicle configuration, component, batch or service to which a conclusion applies.

Corporate inventory: emissions attributed to an organization within a stated consolidation boundary and reporting period. It is distinct from the footprint of an individual product.

Product carbon footprint: greenhouse gas emissions and removals associated with a defined product boundary and reference flow, expressed as carbon dioxide equivalent using a declared characterization basis.

Functional unit: a quantified service used as the basis for comparing product systems. A declared unit describes a quantity of product without necessarily specifying the same delivered service.

Primary data: measured or calculated activity information from the actual process or supply chain under study. A supplier name on an estimate does not by itself make all underlying data primary.

Secondary data: information obtained from representative databases, published factors, proxies or other processes. Its geography, technology and age shall be disclosed.

Critical requirement: an obligation whose failure prevents a positive conformity decision for the affected scope, regardless of performance elsewhere.

Gross emissions: emissions before subtraction of offsets, avoided emissions or separately reported out of boundary benefits. Biogenic flows and removals shall remain separately identifiable.

Recycled content: material recovered from waste and incorporated into a product under the definitions and boundary of Clause 15. Reuse, remanufacturing and energy recovery are reported separately.

Non exhaust emissions: particles or material released through processes such as brake wear and tyre abrasion. Tyre mass loss is not interchangeable with airborne particulate emissions.

Sustainability record: a versioned collection of product or organizational indicators, scope information, methods, evidence references and assessment status. It does not itself constitute a statutory product passport.

Significant change: a change that could alter an applicable requirement, declared value, environmental claim, uncertainty range or validity of the assessment evidence.

Verified improvement: a demonstrated reduction in a named impact compared with an identified baseline under compatible boundaries and methods, after considering uncertainty and adverse changes in other significant impacts.

Sustainability assessment: evaluation of the applicable environmental, social, governance and economic resilience requirements for a defined automotive object and scope. It is not a declaration that all impacts are positive or that future performance is guaranteed.

Due diligence: an ongoing process to identify, prevent and mitigate adverse impacts, track action, communicate relevant results and support appropriate remedy according to the organization's relationship to the harm.

Circularity: retaining the function and value of products and materials while reducing resource demand and waste through durability, repair, reuse, remanufacture and appropriate recycling. Energy recovery is reported separately from material circulation.

Living wage: an assessed level of normal working time earnings supporting a decent standard of living for workers and their families in a defined locality, using a stated credible method and assumptions. It is distinct from a statutory minimum wage.

Material topic: an issue significant because of the organization's effects on people or the environment, or because of sustainability related risks or opportunities for its continued operation. One perspective does not erase the other.

Just transition: management of technological, environmental and business changes with attention to workers' rights, skills, livelihoods and affected communities.

4 Assessment objects and applicability

4.1 The applicant shall specify legal entities, sites, product identifiers, production years or batches, technologies, markets and reporting periods. The scope shall identify outsourced processes and the activities over which the applicant has control or influence.

4.2 Four assessment routes shall be distinguished: organization and facility; vehicle and component; mobility and logistics service; and recovery and recycling operation. Each route shall apply the common requirements and relevant technical modules in Annex A.

4.3 A vehicle application shall identify powertrain, battery chemistry and capacity, mass, body configuration, tyres, emissions controls and software versions that affect results. A family grouping shall identify all variants and explain how selected configurations represent both expected use and the highest relevant burdens.

4.4 Exclusions shall state the absent activity or impact, evidence supporting absence and effect on the conclusion. Missing measurements, unavailable suppliers, cost or poor performance shall not justify “not applicable.” Missing information shall be identified as a data gap and treated under Clause 8.

4.5 A positive facility assessment shall not extend to all products made at that facility. A component statement shall not imply a whole vehicle statement. An organizational assessment covering selected subsidiaries shall not use language implying group wide coverage.

4.6 A statement of conformity to this complete standard shall cover every common requirement and all applicable activity requirements. An assessment limited to lifecycle carbon, circularity or another module may issue a clearly identified partial verification statement, but shall not claim conformity to the complete standard. Materiality shall not be used to exclude fundamental safeguards.

4.7 For a product route, social and governance controls shall cover the applicant and the operations and relationships relevant to that product. The assessor shall identify the sites and supplier due diligence evaluated and limitations in upstream visibility. A product statement shall not imply that every remote supplier has received a full site audit.

5 Governance and safeguards

5.1 Top management shall appoint an accountable owner with authority to obtain data, commission tests, investigate deviations and fund corrective action across environmental, social, governance and resilience topics. Responsibilities for measurements, calculations, purchasing controls and public claims shall be documented.

5.2 Personnel shall demonstrate competence for assigned tasks. Competence records shall include relevant training, practical experience and evaluation of work. Financial incentives shall not depend on obtaining a favourable test result or conformity decision.

5.3 The organization shall prohibit falsification, selective suppression of results, undeclared test specific vehicle behaviour, deliberate pollution bypass and fraudulent environmental attributes. Credible allegations shall be investigated independently of personnel implicated in the allegation.

5.4 Environmental improvements shall not rely on forced labour, unlawful child labour, deliberate concealment of serious worker hazards or unlawful disposal. Confirmed severe abuses linked to the assessed scope shall trigger containment and remedy. Relevant critical failures shall prevent a positive conclusion until corrective measures and their effectiveness have been verified.

5.5 Workers, suppliers and affected communities shall have an accessible reporting route. Retaliation shall be prohibited. Confidentiality and lawful data protection shall be maintained, while assessors shall retain access to evidence necessary for their conclusions.

6 Legal obligations and market profiles

6.1 The organization shall maintain a register of environmental, employment, human rights, product, governance and reporting obligations applicable to its sites, activities and intended markets. Each entry shall identify jurisdiction, vehicle or product category, legal instrument, current amendment, effective date, relevant limit or obligation, required method and evidence of fulfilment.

6.2 The register shall cover applicable exhaust and evaporative emissions, energy or carbon requirements, battery obligations, chemical restrictions, waste, water discharges, air permits, noise, end of life responsibilities and environmental marketing requirements. Applicability shall be checked against the actual regulated object.

6.3 Regional market profiles shall be maintained separately for every intended country, region and relevant subnational jurisdiction. A profile shall be created for each intended market; limits, obligations and implementation conditions shall not be assumed to be identical across markets.

6.4 A limit shall be taken from an effective authoritative legal text together with its vehicle class, fuel, unit, procedure and implementation conditions. Values from different test cycles or vehicle categories shall not be combined into a single global limit. Proposed laws shall be labelled as proposals.

6.5 Evidence of material unresolved legal noncompliance affecting the scope shall block a positive conformity statement. Corrective action plans do not substitute for required permits or product approvals. Where an authority is investigating a credible issue, the assessor shall assess whether sufficient evidence exists to support any conclusion and shall restrict or suspend claims if it does not.

6.6 The legal register shall also cover applicable employment, working time, occupational safety, equal treatment, community and land rights, privacy, cybersecurity, anti corruption, competition, tax and reporting obligations. The organization shall apply stricter voluntary IAF protections where lawful. A conflict with mandatory law shall be escalated, documented and reflected in the assessment conclusion; a generic legal compliance declaration shall not conceal that conflict.

7 Environmental significance and objectives

7.1 The organization shall identify significant impacts using magnitude, severity, likelihood, affected communities, ecological sensitivity, legal exposure and life cycle contribution. A low carbon contribution shall not remove a toxic, persistent or unlawful release from consideration.

7.2 Objectives shall include an absolute gross greenhouse gas objective for controlled operations and objectives for significant value chain impacts. Intensity metrics shall be reported alongside absolute totals where relevant. Growth, acquisitions, outsourcing and product mix changes shall be explained.

7.3 Each objective shall identify its baseline, boundary, quantitative endpoint, milestone dates, responsible owner, funded measures and method of tracking progress. Objectives described as science based or aligned with a temperature pathway shall identify the pathway, model version, coverage and evidence supporting that description.

7.4 At least annually, management shall evaluate measured results, missed milestones, adverse tradeoffs, customer feedback and emerging technologies. Any target revision shall preserve the original target history and explain the change. A weaker target shall not be presented as achieved improvement.

7.5 The standard does not prescribe an unvalidated universal reduction percentage for all automotive activities. Demonstrated achievement of an applicant's target shall not be called best in class without an independently substantiated comparison.

7.6 The sustainability programme shall also establish objectives and actions for material social and governance impacts and economic resilience. Fundamental rights and critical safeguards shall be

implemented regardless of whether management has selected a numerical target for them. Climate targets and charitable activity shall not substitute for required action in these areas.

8 Data quality and traceability

8.1 Every reported indicator shall have a named owner, source, unit, measurement or calculation method, period, geography, boundary and evidence reference. Changes shall record author, time, reason and previous value.

8.2 The organization shall prioritize measured process data and traceable supplier information for significant contributors. Proxy selection shall document technical and geographic relevance. Missing data shall not be entered as zero.

8.3 The minimum data controls in Annex B shall apply. The assessor shall distinguish completeness of the inventory, coverage by primary data and certainty of the result. A high primary data percentage does not by itself establish accuracy or absence of bias.

8.4 Mass, energy, purchasing, production and waste records shall be reconciled. Differences shall be investigated rather than allocated to an unexplained residual. Units and reference conditions shall be harmonized before aggregation.

8.5 Uncertainty assessment shall address instrument performance, sampling variation, model parameters, allocation and representativeness. Results shall state an interval or justified range. A modelled scenario range shall not be described as a statistical confidence interval.

8.6 Records supporting a claim shall be retained for the entire period of the claim and at least five years after its last use, or longer where law requires. Confidential supplier data may be held in a controlled repository if the independent assessor can inspect sufficient underlying evidence.

8.7 Social and governance data shall be supported by the evidence and sampling controls in Annexes I and J. Statistical uncertainty, incomplete records and limits of interview or site coverage shall be stated in a form appropriate to the evidence. Confidentiality shall not be used to conceal material findings, but public disclosure shall protect personal data and affected people.

8.8 Retention under 8.6 shall be applied with the personal data controls in Annex J. The organization shall retain sufficient evidence of decisions and outcomes without retaining unnecessary identifiable worker or community information.

9 Organizational greenhouse gas inventory

9.1 The organization shall define a consistent consolidation approach and identify direct emissions, purchased energy emissions and relevant other value chain emissions. Inventory categories shall remain separately visible; product footprints shall not be added to corporate totals without boundary reconciliation.

9.2 The inventory shall address relevant greenhouse gases, process emissions, refrigerants, purchased materials, energy supply, transport, capital goods, waste and the use and treatment of sold products. All value chain categories in the selected accounting method shall be screened and every exclusion justified.

9.3 Greenhouse gas results shall identify the global warming potential source, assessment version and time horizon. Different characterization versions shall not be mixed within a reported total without reconciliation. Biogenic carbon, land use effects and removals shall be separately disclosed where relevant.

9.4 Purchased electricity shall be reported with a location based result. Where contractual electricity attributes are used, a separate market based result shall be provided with evidence of ownership, cancellation, geographic and temporal eligibility and treatment of residual electricity. A contractual factor shall not silently replace the location based result.

9.5 Gross inventory totals shall be stated before offsets and avoided emissions. Carbon credits and external contributions may be disclosed separately with project and registry identifiers, but shall not be used to conceal failure to reduce or to satisfy a pollutant limit.

9.6 Baseline recalculation shall follow a documented policy. Structural or methodological changes affecting at least five percent of the relevant baseline total, individually or cumulatively, shall trigger restatement under this draft. Smaller changes shall be corrected when necessary for a claim or a material decision. Genuine operational changes shall remain visible as performance changes.

10 Lifecycle carbon and environmental assessment

10.1 A full vehicle declaration shall report both cradle to gate production impacts and cradle to grave life cycle impacts. Component declarations shall identify whether they are cradle to gate or include a specified use and end of life model. The assessed configuration and reference quantity shall be explicit.

10.2 The life cycle model shall include significant materials, manufacturing, battery production, logistics, fuel and electricity supply, vehicle use, maintenance, foreseeable replacements and end of life treatment. Charging losses shall be included once and at a defined measurement point.

10.3 Comparisons shall use the same functional unit, category profile, service life, geography, energy scenario, allocation approach, system boundary and impact method. Whole life totals and impact per unit of service shall both be published for complete vehicles. A favourable result under one scenario shall not be generalized to all markets.

10.4 Shared processes shall first be disaggregated where practicable. Remaining allocation shall use a justified physical relationship. Economic allocation shall require an explanation of why a physical basis is unsuitable and a sensitivity analysis using an alternative basis. Allocation coefficients shall sum to the allocated total.

10.5 The main circularity calculation shall use the recycling allocation rules in Annex B. Credits for possible future displacement of virgin material or exported energy shall be disclosed separately. Benefits shall not be claimed by two parties within the same comparison model.

10.6 A product sustainability declaration shall assess climate change, energy demand, water scarcity, resource use and material relevant pollution impacts. The selected impact method, limitations and categories shall be named. A carbon footprint alone shall be described as a carbon footprint, not a complete environmental life cycle assessment.

10.7 Public comparative assertions shall undergo an independent critical review by competent reviewers who were not responsible for the model. The review shall address comparability, omitted impacts,

uncertainty and whether the stated conclusion is supported. Where uncertainty does not support a clear ordering, the comparison shall state that no clear advantage is demonstrated.

10.8 Lifecycle carbon controls shall reconcile each stage subtotal to the total, check upstream and downstream boundary continuity and prevent double counting of supplier processes. The model shall preserve the method version, characterization factors and scenario inputs needed for an independent person to reproduce the result. Annex K governs the integration and verification of environmental controls.

11 Manufacturing energy and process emissions

11.1 Each facility shall maintain an energy balance covering electricity, fuels, heat, steam and relevant self generation. Metered consumption shall be reconciled with invoices, production and storage changes. Major energy uses shall be identified and assigned efficiency actions.

11.2 Casting, forging, machining, coating, curing, welding, plastics processing, electronics and battery operations shall identify their significant energy and pollution sources. The organization shall control startup, shutdown, maintenance and abnormal operating conditions as well as steady operation.

11.3 Facilities shall record applicable stack and fugitive pollutants, solvents, dust, refrigerants and greenhouse gas process releases. The sampling plan shall specify operating conditions and permit based decision rules. A compliant spot measurement shall not substitute for required continuous or periodic monitoring.

11.4 Purchased low carbon materials or energy shall have traceable attribute records and a compatible calculation boundary. Changes due only to different databases or energy certificates shall be separated from measured process efficiency improvements.

11.5 Production scrap, rework, rejects and yield losses shall be included in the environmental burden of accepted output. Internal scrap circulation shall not repeatedly create recycled content claims. Energy recovery shall be identified separately from material recycling.

12 Vehicle energy and exhaust emissions

12.1 Vehicle evidence shall include relevant laboratory testing and representative real operation. The plan shall identify the declared market procedure, fuel or electricity properties, payload, ambient conditions, road or dynamometer settings, tyres, conditioning, auxiliaries and software version.

12.2 Where applicable, measured pollutants shall include carbon monoxide, nitrogen oxides, hydrocarbons, particulate mass and particle number. Additional species, such as ammonia, nitrous oxide, methane or aldehydes, shall be included when required by law or identified as significant for the technology. Particle size thresholds and gas reporting conventions shall be stated.

12.3 Cold starts, short trips, urban driving, higher speed operation, grade or load and hot or cold conditions shall be addressed through the agreed duty profile. Legal cycle results shall remain separate from supplementary IAF scenario results. A conversion between cycles shall require a validated model and disclosed uncertainty.

12.4 Hybrid and plug in hybrid evidence shall identify charge sustaining and charge depleting operation, initial and final battery energy and the treatment of the energy balance. A combined plug in result shall disclose its electric driving share and include an uncharged use scenario. Best case charging behaviour shall not be assumed to represent every driver.

12.5 A battery electric vehicle may report zero direct tailpipe emissions where the measured or physically absent exhaust sources support that statement. Its declaration shall still include relevant upstream energy, material, non exhaust and maintenance impacts. Unqualified zero emissions language shall not be used for its total life cycle.

12.6 Emissions control functions shall be effective in the declared operating envelope. Undeclared test recognition, manipulation or suppression of unfavourable runs shall be prohibited. All valid runs shall be retained; every invalidated run shall have a technical reason unrelated to whether its result is favourable.

12.7 The organization shall evaluate deterioration of energy efficiency and emissions controls over the declared service life. Evidence shall identify aged components, accelerated ageing assumptions and field data. An extrapolation shall not be described as an observed lifetime result.

13 Non exhaust emissions and noise

13.1 The assessment shall address brake particles, tyre abrasion and relevant noise across all propulsion technologies. Selection of low resistance tyres or reduced friction materials shall not override required braking, grip, load, durability or safety performance.

13.2 Brake evidence shall identify friction material, disc or drum, conditioning, braking cycle, temperature, ventilation, measurement size fractions and the basis for conversion from one brake to the vehicle. Regenerative braking credit shall use a reproducible allocation of friction braking under the declared duty conditions, including low battery acceptance and emergency operation where relevant.

13.3 Tyre evidence shall identify tyre model, size, load, pressure, alignment, road or drum method, environmental conditions, distance and measured mass loss. Abrasion results shall state whether they represent total material loss or collected airborne particles. Road dust resuspension shall be reported separately if included.

13.4 Where a suitable standardized method is unavailable, an approved research method may supply labelled pilot data. The test plan shall define validation, repeatability and uncertainty. Such data shall not receive a regulatory compliance conclusion or an unsupported “low particle” performance designation.

13.5 Vehicle pass by noise and facility or service noise shall use applicable methods and boundaries. Required acoustic warning systems shall remain functional. Noise levels measured under different distances, surfaces or operating conditions shall not be ranked without a justified common basis.

14 Batteries and energy carriers

14.1 Traction battery evidence shall identify chemistry, cell and pack production locations where traceable, capacity definition, pack mass, manufacturing footprint, critical material sources, safety relevant repair restrictions and collection route. Pack level and cell level values shall not be interchanged.

14.2 Battery footprint shall be reported per pack and per unit of rated energy capacity under a specified test and capacity basis. A value per lifetime energy throughput may be added only with a documented durability and utilization model. It shall not replace the manufacturing value.

14.3 Durability evaluation shall address capacity and power retention, calendar ageing, cycle ageing, temperature, charging rate and relevant usage limits. State of health algorithms shall be validated against physical measurements and version controlled. Warranty terms alone shall not establish actual durability.

14.4 Replacement assumptions shall include realistic failure and degradation scenarios. Changing to a larger replacement pack shall account for its additional production burden. Reuse and second life claims shall identify the receiving application, remaining service capability and allocation rules; a possible second life shall not automatically reduce the first vehicle's footprint.

14.5 Hydrogen declarations shall identify production pathway, electricity and feedstock sources, upstream methane where relevant, compression or liquefaction, transport and measured or modelled leakage. A fuel colour designation shall not substitute for quantified supply chain evidence.

14.6 Biofuels and synthetic fuels shall identify feedstocks, land use effects, conversion energy, carbon source and combustion emissions. Biogenic carbon shall not automatically be treated as having no climate impact. Captured carbon input and avoided release claims shall be accounted for without double credit.

14.7 Emerging technologies, including sodium ion and solid state batteries, shall use the same boundary and evidence requirements. Pilot scale data shall be labelled and scaling assumptions tested. Forecast commercial performance shall not be presented as measured production performance.

15 Circularity and responsible materials

15.1 The organization shall maintain a material inventory covering major metals, polymers, elastomers, glass, fluids, electronics and other significant substances. Material composition and supplier declarations shall be traceable to the assessed configuration or batch.

15.2 Recycled content shall distinguish post consumer and pre consumer material. Pre consumer material shall exclude rework, regrind or scrap capable of recovery within the same generating process. Reused parts and remanufactured assemblies shall be disclosed separately.

15.3 Physical recycled content shall be supported by material flow and chain of custody records. A mass balance allocation claim shall disclose the accounting model, site boundary, period and independently controlled allocation. It shall not be described as the physical recycled percentage of an individual vehicle unless that physical content is established.

15.4 Recyclability by design shall identify dismantling steps, separation technology, contaminant constraints and assumed receiving infrastructure. Actual recovery rates shall be based on measured downstream outputs. Theoretical technical recyclability shall not be marketed as an achieved recycling rate.

15.5 Design reviews shall evaluate material efficiency, durability, modular replacement, disassembly, adhesives, fasteners and material compatibility. A change shall document effects on safety, life cycle burdens and repair cost. Lower vehicle mass alone shall not establish a lower total footprint.

15.6 Chemical controls shall address applicable restrictions and significant substances of concern. The organization shall maintain supplier change controls and risk based analytical checks. Substitution shall consider hazard and exposure so that a restricted material is not replaced by an equally serious unmanaged hazard.

15.7 Circularity planning shall prioritize feasible prevention of unnecessary material demand and retention of useful service before treatment of waste. Design and business model decisions shall evaluate repair, reuse, remanufacture and recycling, including reverse logistics and demand for recovered outputs. An improvement in a material circulation indicator shall be checked against lifecycle carbon, toxicity, safety and social impacts.

15.8 Packaging and auxiliary materials shall be assessed for avoidable consumption, reuse cycles, transport burden, contamination and recovery infrastructure. Reusable packaging claims shall use evidenced or clearly modelled reuse and return rates. Hazardous transport protection shall not be removed to improve a packaging reduction figure.

16 Water pollution and biodiversity

16.1 Facilities shall measure water withdrawal, discharge and consumption by source and destination. A balance shall explain storage, evaporation and water incorporated into products. Reused water shall be reported without inflating the volume of new water saved through repeated internal circulation.

16.2 Water significance shall reflect watershed conditions, seasonality, quality and competing local uses. A litre withdrawn in a stressed basin shall not be assumed equivalent in impact to a litre in a water abundant basin. Water scarcity results shall identify the characterization method and geographic resolution.

16.3 Wastewater controls shall address relevant metals, suspended solids, oils, solvents, organic load and other process specific contaminants. Dilution shall not be used to evade a discharge requirement. Sampling shall cover representative and foreseeable adverse operations.

16.4 Soil and groundwater contamination, accidental releases and hazardous storage shall have prevention, response and remediation controls. Environmental incidents affecting claims shall be reported through Clause 39.

16.5 Site development and significant raw material sourcing shall screen for protected areas, sensitive habitats and material biodiversity impacts. Identified impacts shall follow avoidance, minimization and restoration measures. A biodiversity offset shall be disclosed separately and shall not substitute for unlawful habitat damage or an unaddressed critical impact.

16.6 Environmental significance review shall include resource depletion, land use, ecosystem damage, persistent chemicals, microplastic releases and relevant waste or effluent hazards. The organization shall identify emerging concerns and document measurement or control development where methods remain immature. Absence of a universally agreed test method shall not justify ignoring credible severe harm.

16.7 Sourcing of natural rubber, timber, leather and other land dependent materials shall examine relevant habitat conversion, deforestation, lawful land use and community impacts. Animal derived materials shall also have a documented assessment of applicable animal welfare obligations and credible sourcing risks. Traceability gaps and substantiated adverse findings shall be addressed through due diligence.

17 Responsible sourcing and supply chain evidence

17.1 Purchasing controls shall prioritize suppliers by environmental contribution, material criticality, geography, known incidents and severity of potential social harm. Spend alone shall not determine risk. Batteries, metals, natural rubber, chemicals and electronics shall be screened where relevant.

17.2 Supplier requests shall include product boundary, production location, reporting period, allocation, energy basis, primary data coverage, verification status and material chain of custody. The applicant shall review consistency before accepting a supplier declaration.

17.3 High risk suppliers shall have a documented investigation and action plan. Evidence may include site assessment, worker or community input, transaction records and independent information. A completed questionnaire or third party rating alone shall not close a substantiated severe risk.

17.4 The organization shall provide proportionate support to smaller suppliers through standard data templates and staged data improvement. Simplified data collection shall not waive legal obligations, critical safeguards or disclosure of uncertainty.

17.5 Refusal or inability to supply data shall lead to a justified conservative estimate, increased uncertainty or scope limitation, as appropriate. It shall not produce an assumed low footprint. Confidential information may be verified through an authorized independent party.

17.6 Supplier changes shall trigger review of emissions factors, material attributes, sourcing risk and product configuration. Improved data quality shall be separated from actual physical reductions in performance reporting.

17.7 Environmental due diligence shall examine pollution, water stress, land and biodiversity impacts, climate effects and waste practices at significant upstream and downstream relationships. Controls shall connect screening to investigation, purchasing action, monitored prevention or mitigation, communication and remedy where appropriate. The organization shall keep evidence of how each identified high risk is being managed.

17.8 Due diligence shall be renewed when credible adverse information, a location or process change, an incident or a supplier change alters risk. A past audit, rating or certificate shall not override reliable evidence of a current problem. The integrated controls in Clauses 20, 21 and 32 and Annex K shall apply.

18 Logistics mobility services and digital systems

18.1 Logistics declarations shall include transport mode, actual or justified load, empty running, storage, route distance and energy supply. Tonne kilometre intensity shall use delivered freight and shall disclose the allocation of empty journeys. Freight services of materially different quality or speed shall not be treated as identical without explanation.

18.2 Passenger mobility services shall report total emissions, vehicle kilometres and passenger kilometres. Occupancy shall reflect observed or defensibly estimated service use. Assumed full occupancy shall not be used as a general performance claim.

18.3 Fleet operations shall control maintenance, tyre pressure, energy use and emissions relevant software. Claimed route or driving optimization shall demonstrate measured changes against a comparable baseline and account for increased distance or service demand.

18.4 Material digital burdens shall include on vehicle computing, communication equipment and supporting data processing attributable to the service. Allocation shall explain shared infrastructure and avoid counting the same electricity twice in vehicle and digital service inventories.

18.5 Artificial intelligence or digital twin models may support estimation, optimization and anomaly detection. Model version, training or calibration basis, validation errors and human approval shall be recorded. A predicted measurement shall not be represented as a physical test.

18.6 Vehicle to grid benefits shall be modelled separately from the main vehicle inventory with time, location, displaced generation assumptions and additional battery wear. An energy export credit shall not be deducted twice by the vehicle owner and receiving system within the same claim.

19 Durability repair and end of life

19.1 The organization shall declare expected service life and the evidence supporting it, including material degradation, corrosion, fatigue, emissions controls, battery performance and software support where relevant. A long assumed life shall not artificially dilute production impacts without supporting evidence.

19.2 Repair information shall identify replaceable modules, diagnostic access, tools, parts support, safe isolation and restrictions. Restrictions shall have a documented safety, security or legal basis. The assessment shall identify avoidable whole assembly replacement where a smaller repair would preserve service.

19.3 Repairability shall be demonstrated through representative tasks. Task records shall include part, tools, technician skill, access steps, elapsed hands on time, damage during removal, calibration and safe recommissioning. A repairability claim shall name the tested tasks rather than imply universal ease of repair.

19.4 Collection and treatment arrangements shall identify responsible operators, acceptance conditions, geographic coverage and evidence of actual disposition. Hazardous fluids and batteries shall have safe separation and transport controls. Exported waste shall retain destination and lawful treatment evidence.

19.5 Reuse, remanufacturing, recycling, energy recovery and disposal shall be separately quantified. Material sent to a recycler shall not automatically count as material recycled. Downstream losses and residual waste shall be included in achieved recovery calculations.

20 Materiality and stakeholder engagement

20.1 The organization shall assess its actual and potential effects on people, society and the environment, and the sustainability related risks and opportunities affecting its ability to operate and deliver its commitments. These two perspectives shall be recorded separately before priorities are combined. A risk to people shall not be excluded because its financial effect on the organization is small.

20.2 The assessment shall cover its own operations, products, services and business relationships across the value chain. It shall consider workers and contractors, suppliers, customers, vehicle users, vulnerable road

users, local communities, public authorities and other materially affected interests. Stakeholder identification shall not be limited to parties with commercial purchasing power.

20.3 Adverse impacts shall be evaluated for severity, scale, extent, reversibility and likelihood where relevant. For potential severe human rights impacts, severity shall take precedence over ease of quantification. Positive impacts shall be described separately and shall not cancel an adverse impact in the prioritization process.

20.4 Stakeholder engagement shall use accessible languages and safe channels, allow differing views and record how input affected decisions. The organization shall use independent or representative input when direct contact would create risk. Stakeholder consent to participate shall not be treated as consent to waive rights or accept an impact.

20.5 The materiality record in Annex J shall identify the issue, affected parties, value chain location, evidence, priority, uncertainty, responsible owner and action. Management shall approve the record and review it at least annually and after a major product, operational, sourcing or societal change.

20.6 Materiality determines additional effort and priorities; it shall not remove the common requirements in Annex A. Human rights, lawful employment, safety, ethical conduct, truthful disclosure and legal compliance shall remain mandatory. Lack of complaints or lack of historical data shall not establish absence of an impact.

21 Human rights due diligence and remedy

21.1 The organization shall adopt a public commitment to respect internationally recognized human rights within its operations and business relationships. It shall translate that commitment into responsibilities, purchasing decisions, operating controls and access to remedy. The policy shall include people affected by operations as well as people employed by the organization.

21.2 Due diligence shall identify whether the organization causes, contributes to, or is directly linked through a business relationship to an adverse impact. The response shall reflect that relationship and the severity of the impact. An organization that causes or contributes to harm shall provide or cooperate in remedy; one linked through a relationship shall use its influence to prevent and mitigate the harm and evaluate further action.

21.3 Risk analysis shall examine extraction, processing, logistics, manufacturing, security arrangements and end of life activities where relevant. Conflict affected locations, migrant recruitment, informal recycling and opaque subcontracting shall receive enhanced attention. A country risk score shall support investigation, not replace specific evidence or automatically prove abuse.

21.4 The organization shall maintain a process for complaints that is accessible, predictable, fair and protective against retaliation. It shall permit confidential reporting, explain handling steps and communicate progress to complainants where safe. The process shall not require waiver of judicial, collective bargaining or other lawful avenues of remedy.

21.5 Remedy shall be appropriate to the harm and developed with affected people where practicable. Examples may include repayment, restoration of employment rights, medical or livelihood support,

environmental restoration and measures preventing recurrence. Donations unrelated to the harm shall not count as remedy.

21.6 For severe ongoing impacts, the organization shall take prompt protective action and escalate decisions to accountable management. Ending a contract shall not automatically close responsibility for contributed harm. Responsible disengagement shall assess consequences for affected people, preserve remedy obligations and document the rationale.

21.7 Human rights records shall include credible allegations, investigations, outcomes and follow up. Unsubstantiated allegations shall not be presented as confirmed violations. An assessor shall nevertheless require sufficient evidence to resolve a credible risk before supporting a positive statement for the affected scope.

22 Employment recruitment and freedom of association

22.1 Employment shall be freely chosen. The organization shall prohibit forced labour, debt bondage, trafficking, coercion, detention and restrictions preventing lawful departure from employment. Workers shall retain control of identity documents. Voluntary safekeeping shall allow immediate access without penalties or dependence on a manager's discretionary approval.

22.2 Workers shall not pay recruitment fees or related costs to obtain or retain a job. The organization shall control agents and subcontractors, investigate worker paid fees and provide or secure reimbursement where fees have been charged in the assessed recruitment chain. A contractual prohibition without worker evidence shall not demonstrate implementation.

22.3 Terms of employment shall be provided before work begins in a language the worker understands and shall identify duties, location, remuneration, deductions, working time, benefits and departure arrangements. Material adverse substitution of terms after migration or recruitment shall be prohibited.

22.4 For this voluntary standard, the minimum age for employment shall be the higher of 15 years, the applicable statutory minimum and the age for completing compulsory education. Persons below 18 shall not perform hazardous or night work. This is an IAF draft minimum; lawful education and observation activities shall be separately controlled and shall not disguise productive child labour.

22.5 Age checks shall respect privacy and use reliable evidence without coercive medical examinations. If child labour is identified, the organization shall remove the child from harmful work through a plan protecting safety, education and livelihood. Abrupt dismissal without a protection and remediation plan shall not be treated as effective correction.

22.6 Workers shall be free to organize, choose representatives and bargain collectively without intimidation, discrimination or employer interference. Where law restricts particular forms of organization, the organization shall respect applicable law while supporting lawful independent worker dialogue and documenting the rights conflict under Clause 6. An employer appointed committee shall not be misrepresented as an independent union.

22.7 Agency, temporary, apprentice, migrant, platform and contract workers shall be included in relevant safeguards. Contract structures, repeated short term arrangements or false self employment shall not be

used to evade applicable employment obligations. Worker status and applicable protections shall be assessed using actual working arrangements.

23 Wages working time and social protection

23.1 Remuneration shall meet applicable legal requirements and binding collective agreements. Workers shall receive accurate statements and timely payment, including overtime and mandatory benefits. Unlawful deductions, withheld pay and deductions used to discipline protected conduct shall be prohibited.

23.2 The organization shall assess whether normal working time earnings provide a decent standard of living in the relevant locality. It shall identify the living wage benchmark, household assumptions, reference period and consultation basis. Overtime pay, discretionary bonuses and uncertain benefits shall not be used to conceal a gap in reliable normal working time earnings.

23.3 Where a living wage gap is identified, the organization shall establish a funded improvement plan with milestones, coverage and worker input, and report progress without claiming that all workers already receive a living wage. Legal underpayment shall be corrected immediately through the applicable remedy process and cannot be deferred to that improvement plan.

23.4 As proposed IAF operating limits, normal work shall not exceed 48 hours in any seven day period, overtime shall be voluntary and shall not exceed 12 additional hours, and workers shall receive at least one continuous 24 hour rest period in each seven days. Stricter applicable legal or contractual limits shall prevail. These limits are draft programme choices, not statements that all countries prescribe identical hours.

23.5 Lawful emergency work needed to protect life or prevent imminent serious harm shall be recorded separately with cause, duration, worker protection and compensatory rest. Production targets, seasonal demand or routine staff shortages shall not qualify as emergencies under this exception. Excess hours shall not be hidden through averaging or off clock work.

23.6 The organization shall reconcile hours, access records, production demands and payroll using lawful methods. It shall assess fatigue in driving, shift work and other safety critical activities. Refusal of unlawful or involuntary overtime shall not lead to retaliation.

23.7 Applicable social insurance, leave, maternity and parental protections, sickness and occupational injury benefits shall be administered correctly. Workers shall receive usable information about their rights and access routes. The organization shall monitor whether contractors delivering work in scope implement the obligations applicable to their workforce.

24 Occupational health safety and wellbeing

24.1 The organization shall operate a documented process to identify hazards, assess exposure, implement controls and verify their effectiveness. Elimination and substitution shall be considered before engineering controls, work procedures and personal protective equipment. A safety policy without observed implementation shall be insufficient.

24.2 Automotive hazards shall include, where present, molten metal, presses and machinery, welding fumes, solvents and coatings, dust, noise, vibration, ergonomic strain, lifting, high voltage, battery

electrolyte, thermal runaway, hydrogen, confined spaces, mobile equipment and road transport. Emerging processes shall undergo review before introduction.

24.3 Competent persons shall control isolation of hazardous energy, maintenance permits, machine guarding, chemical storage and contractor coordination. Workers shall receive task specific training and have authority to stop and report work posing imminent serious danger without retaliation. Emergency actions shall not expose untrained personnel to uncontrolled hazards.

24.4 Health monitoring and exposure measurements shall address relevant occupational diseases and long latency effects. Medical information shall be confidential, collected lawfully and used to protect health. An absence of recorded injuries shall not be evidence that exposure to hazardous substances is adequately controlled.

24.5 Emergency plans shall cover credible fires, battery events, chemical releases, gas leaks, severe weather and transport incidents. Plans shall define evacuation, alarms, isolation, trained responders and coordination with emergency services. Drills shall test the plan and result in documented corrective actions.

24.6 The organization shall record occupational fatalities, injuries, ill health and significant near misses for employees and relevant nonemployee workers. Records shall identify population and hours worked, apply a consistent definition and avoid suppressing cases through incentives or contractor exclusions. Investigations shall address causes and prevention, not only individual conduct.

24.7 Workplace wellbeing shall address psychosocial hazards, harassment, excessive workload, fatigue and access to basic sanitation, drinking water and suitable rest facilities. Health services shall not substitute for correcting harmful working conditions. Employer provided accommodation and transport shall be included in relevant safety controls.

25 Equality dignity and inclusion

25.1 Employment decisions shall be based on legitimate job requirements and fair processes. Discrimination, harassment, violence and degrading treatment shall be prohibited. The policy shall protect characteristics and statuses covered by applicable law and shall also address other unjustified exclusion identified through the organization's rights assessment.

25.2 The organization shall assess access to recruitment, training, pay, promotion, technical roles and leadership. It shall investigate unexplained disparities and implement appropriate corrective measures. Aggregate differences shall be interpreted with job and working time context rather than automatically treated as proof of discrimination or proof of equal pay.

25.3 Reasonable workplace adjustments and accessible facilities shall be provided through a documented process consistent with applicable obligations. Training and safety instructions shall be accessible to workers with relevant language, literacy or disability needs. Workers shall be able to request adjustments without retaliation.

25.4 Personal demographic information shall be voluntary where required, lawfully collected and protected. The organization shall not infer sensitive personal traits using surveillance, names, photographs or artificial intelligence to populate diversity indicators. Small groups shall be protected against identification in public reporting.

25.5 Complaints involving harassment or discrimination shall have an independent handling route and interim protective measures. Confidentiality shall be balanced with fair investigation and the rights of affected parties. Retaliatory transfers, loss of shifts and coercive confidentiality arrangements shall be prohibited.

26 Skills and a just workforce transition

26.1 The organization shall assess how electrification, automation, software development, new materials and circular business models affect occupations and capabilities in scope. It shall identify workers at risk of displacement and skills required for safe and effective future work.

26.2 Transition plans shall include consultation with workers and representatives, training, recognition of existing skills and reasonable redeployment options. Plans shall identify funding, timing, eligibility and how outcomes will be measured. Announced training hours alone shall not establish successful redeployment.

26.3 Restructuring, site closure and outsourcing shall respect applicable information, consultation, notice and compensation obligations. The organization shall assess foreseeable community effects and take action appropriate to its role. Sustainability targets shall not conceal unlawful dismissal or transfer of harmful work to less protected contractors.

26.4 The organization shall evaluate training effectiveness through competence and employment outcomes, including access for temporary and otherwise vulnerable workers. Programmes shall not discriminate in access to technical skills or new opportunities.

26.5 Claims of job creation shall distinguish gross new positions, eliminated positions, temporary positions and net change within the stated boundary and period. A projected employment benefit shall be labelled as a forecast. Supplier employment effects shall not be counted as directly created jobs without a justified attribution method.

27 Communities land rights and local development

27.1 The organization shall identify communities materially affected by its facilities, transport corridors, water use, extraction relationships and waste treatment. Assessment shall consider health, road safety, noise, livelihoods, cultural heritage, access to essential services and cumulative impacts from other activities where relevant.

27.2 New projects and major changes shall include meaningful engagement early enough to influence design. People facing language, mobility, financial or other participation barriers shall have appropriate access. Public meetings alone shall not establish that all affected groups were heard.

27.3 Land acquisition and access arrangements shall respect lawful tenure and legitimate rights identified through due diligence, including customary rights where relevant. Forced or unlawful eviction shall be prohibited. Where Indigenous peoples' rights require free, prior and informed consent, that requirement shall be met through an appropriate rights based process; general community consultation shall not substitute for it.

27.4 Significant community harms caused or contributed to by the organization shall have prevention, mitigation and remedy measures with accountable owners. Community investment shall be developed with

local input and reported separately from compensation, taxes, legally required contributions and remediation.

27.5 Security personnel and contracted services shall receive appropriate rules and training on proportionality, lawful conduct and respect for rights. Credible abuse allegations shall be investigated independently. Security arrangements shall not be used to intimidate legitimate worker or community reporting.

27.6 Outcomes shall be tracked through relevant evidence, such as exposure reductions, restored access, agreed remediation or verified service improvements. Spending totals and donated items shall not alone support a claim of positive social impact. Affected people shall have a safe route to challenge a claimed outcome.

28 Product responsibility and accessible mobility

28.1 The organization shall integrate product safety, reliability and responsible use into sustainability decisions. Material substitution, lightweighting, energy efficiency and circularity measures shall undergo appropriate safety and durability review. A lower footprint shall not justify compromised required safety performance.

28.2 Product risk controls shall cover design, software, manufacturing, instructions, foreseeable use and misuse, maintenance and end of life. Relevant field incidents, complaints, defects and recalls shall be investigated. The organization shall provide timely and understandable information and corrective measures to affected users.

28.3 This standard evaluates the management and evidence of product responsibility. It does not establish a crashworthiness rating, functional safety approval or substitute for a technical product safety standard. Specific safety conclusions shall rely on the applicable qualified tests, reviews and approvals identified in the dossier.

28.4 User information shall disclose relevant limitations, energy and charging assumptions, safe maintenance, software support and material replacement requirements. Environmental claims shall not omit foreseeable costs or operating restrictions that materially affect the declared service. Warranty language shall match the actual coverage and remedy available.

28.5 Vehicle, mobility service and infrastructure designers shall evaluate accessibility for intended users, including people with disabilities and older people where relevant. The review shall cover physical access, information, interfaces, payment and assistance. Where a configuration cannot serve a user group, limitations and reasonable alternatives shall be stated without claiming universal accessibility.

28.6 Mobility and logistics operators shall consider risks to pedestrians, cyclists and other road users. Driver competence, fatigue controls, maintenance and safe operation shall remain part of the service assessment. Increased utilization shall not be rewarded where it depends on unsafe schedules or unlawful working conditions.

28.7 Affordability claims shall use a defined user group, market, period and total cost boundary, including relevant acquisition, energy, maintenance and repair costs. A sustainability statement shall not imply that a

product is affordable to every consumer. Essential safety and privacy controls shall not be made optional solely to produce a lower advertised price.

29 Responsible technology privacy and cybersecurity

29.1 The organization shall assess sustainability related risks from connected vehicles, automated decisions, artificial intelligence, worker monitoring and data intensive services. The assessment shall consider effects on safety, human rights, discrimination, privacy, accessibility, energy use and service continuity.

29.2 Personal data processing shall have an identified lawful basis, necessary purpose, appropriate retention and security controls. Collection shall be limited to what is necessary for that purpose. Data subjects shall have access to relevant information and rights mechanisms under applicable law. A sustainability programme shall not justify unrelated surveillance.

29.3 Automated decisions materially affecting employment, access to services or other significant interests shall have documented validation, appropriate human oversight and a route to challenge adverse outcomes. The organization shall assess relevant bias and error using suitable evidence and shall not describe an unvalidated system as fair or safe.

29.4 Cybersecurity controls shall cover relevant products, operational technology, charging systems, supplier interfaces and sustainability records. Vulnerabilities and incidents shall have detection, response, recovery and notification procedures. Security updates shall be controlled for effects on energy, emissions, user rights and continued functionality.

29.5 Product and service support policies shall state update duration, supported functions, foreseeable end of support effects and safe transition options. Software withdrawal or remote disabling shall not create an undisclosed environmental or safety burden. Planned loss of an essential function shall be included in service life and repairability assessment.

29.6 Simulations and digital twins shall preserve provenance and distinguish predicted outcomes from observed results. Software and data changes affecting a verified claim shall follow Clause 39. Reuse of a model shall require evidence that the new application remains within its validated domain.

30 Ethical governance and fair business conduct

30.1 The governing body shall oversee sustainability policy, significant risks, resource allocation, performance and remedy. It shall receive information on serious incidents and unresolved findings. Responsibilities delegated to management shall not remove the governing body's oversight responsibility.

30.2 Controls shall prohibit bribery, extortion, fraudulent records, improper influence and misappropriation. Due diligence shall address intermediaries, public interactions, gifts, hospitality, sponsorship and donations. Approval thresholds and investigation responsibilities shall be defined according to risk.

30.3 Conflicts of interest shall be disclosed and managed in purchasing, employment, technical evaluation and assurance decisions. Persons with a material conflict shall not determine the affected outcome without independent control. Sustainability payments, membership fees or sponsorship shall not influence assessment findings.

30.4 Commercial and collaborative activities shall comply with applicable competition obligations. Industry sustainability projects shall not facilitate price fixing, market allocation, coordinated exclusion or exchange of competitively sensitive information beyond lawful and necessary arrangements. Environmental objectives shall not be used to disguise anticompetitive conduct.

30.5 Tax and public contribution records shall be accurate and supported by responsible governance. The organization shall maintain controls for applicable reporting and payment obligations and review material tax risks. This standard does not provide a tax opinion or require publication of protected tax return data.

30.6 Material lobbying, policy positions and trade association activity relating to sustainability shall be reviewed for consistency with public commitments. Differences shall be addressed or explained. Public claims shall not conceal material contradictory actions taken through intermediaries.

30.7 Whistleblowing channels shall be available to workers and relevant third parties, with protection from retaliation, competent investigation and conflict escalation. Cases involving senior management shall have a route beyond the implicated reporting line. Allegations and confirmed outcomes shall remain distinct in reports.

31 Economic resilience and responsible investment

31.1 The organization shall evaluate whether its resources and business plans support its sustainability obligations over relevant time horizons. The review shall address essential maintenance, pollution controls, worker commitments, product support, closure obligations and major transition expenditures.

31.2 Investment decisions shall consider environmental and social effects across the relevant life cycle, together with cost, resilience and service performance. Assumptions about demand, energy, material availability, carbon costs and technology maturity shall be documented. A favourable financial return shall not override critical requirements.

31.3 Committed sustainability actions shall have accountable owners and credible funding. The organization shall monitor spending, delivery and reasons for delay. A public financial commitment shall distinguish approved funding, conditional funding and an unfunded aspiration.

31.4 Sustainability related financial risk analysis shall identify physical risks, market changes, technology transition, supply interruption, liabilities and reputation effects where relevant. It shall disclose time horizons and uncertainty. The assessment shall not be represented as a credit rating, investment recommendation or guarantee of solvency.

31.5 Insurance, reserves, guarantees or other lawful arrangements shall be evaluated for material foreseeable closure, remediation, waste and product support obligations. The organization shall maintain controls to prevent transfer of those obligations to communities or insolvent intermediaries without an effective delivery route.

31.6 Economic contribution reporting shall separate revenue, wages, procurement, taxes, public assistance and community investment where those measures are reported. Claimed local benefits shall define geography and avoid counting the same payment as several separate benefits. Forecast multipliers shall be labelled and justified.

32 Sustainable procurement and supply chain partnership

32.1 Purchasing decisions shall incorporate relevant environmental, labour, human rights, integrity and continuity requirements alongside technical quality and commercial criteria. Suppliers shall receive clear expectations, a practicable evidence request and information about escalation and remedy.

32.2 The organization shall examine whether its prices, lead times, late changes, penalties and payment practices contribute to excessive hours, unsafe work, underpayment or environmental breaches. Corrective action shall address the buyer's contribution where identified, rather than transferring all responsibility to a supplier.

32.3 Supplier prioritization shall consider severity and likelihood of harm, traceability and exposure as well as spend. High risk raw materials shall be traced towards relevant extraction, processing and trading points as far as necessary to evaluate the identified risk. Unknown origin shall be recorded as a gap, not certified as responsible origin.

32.4 Critical minerals, natural rubber, leather, textiles, polymers, chemicals, electronics and outsourced services shall be included where relevant. Material assessments shall address extraction and land impacts, working conditions, conflict related risks, pollution and the reliability of recycled input claims. A recycled source shall not automatically be assumed free of labour or environmental risk.

32.5 Supplier development shall include appropriate capacity building, shared data methods, realistic corrective action support and monitoring of effectiveness. Duplicate data demands shall be reduced where equivalent verified evidence can be reused. Reuse shall preserve the original scope, period and limitations.

32.6 Agreed payment terms shall be lawful, transparent and monitored. Late payment, disputed invoices and financially coercive changes shall be reviewed for supplier impacts. The organization shall track the share of payments made within agreed terms and explain material exceptions.

32.7 Suspension or disengagement shall consider severity, the ability to change conditions, effects on workers and the buyer's own contribution. Continued engagement with a severe risk shall require effective protection and a credible corrective route. Commercial importance shall not justify maintaining an uncontained critical violation.

33 Climate adaptation and operational continuity

33.1 The organization shall evaluate exposure to heat, flooding, water scarcity, storms, wildfire and other relevant physical hazards across its facilities, critical suppliers, logistics and service infrastructure. Current and plausible future conditions shall be considered over time horizons consistent with the assets and commitments concerned.

33.2 Adaptation measures shall address worker health, emergency access, infrastructure resilience, energy and water availability, pollution containment and service continuity. A measure that protects one facility by transferring serious flood, water or heat risk to another community shall undergo further impact assessment and correction.

33.3 Continuity plans shall identify essential activities, dependencies, recovery objectives, alternative supply routes and responsible decision makers. Alternatives shall meet applicable sustainability safeguards; an emergency procurement route shall not automatically exempt a supplier from critical requirements.

33.4 Recovery exercises shall test plausible disruptions and record actual restoration capability, gaps and corrective action. The organization shall include cyber incidents, energy interruption, material shortages and failure of environmental controls where relevant. A plan existing on paper shall not demonstrate tested resilience.

33.5 Climate adaptation and mitigation shall be reported separately, with interactions explained. Measures that increase emissions, resource use or social burdens shall have a documented justification and options review. A resilience claim shall identify the hazards and service conditions actually addressed.

34 Sustainability reporting and performance management

34.1 The organization shall issue a controlled sustainability performance report for each twelve month reporting period within its assessed scope. The report shall identify the standard version, entities and activities, material topics, objectives, indicators, findings, action status and significant limitations. A restricted product or metric statement shall not be represented as that complete report.

34.2 Environmental indicators shall follow Annex B and applicable technical modules. Social, governance and resilience indicators shall follow Annex I. Each material topic shall include the relevant impact, control, target, evidence of implementation and measured outcome where a credible outcome measure is available. Activity counts shall not be substituted for outcome evidence without explanation.

34.3 Reported data shall reconcile with controlled operational, human resources, purchasing and financial records as applicable. Employees and contractors, actual results and forecasts, gross and net changes, and measured and estimated data shall remain distinguishable. Boundaries for different indicators may differ only where clearly stated and justified.

34.4 The report shall disclose serious relevant incidents and unresolved material findings with appropriate protection of personal data and fair process. A low number of grievances shall not be described as proof of worker satisfaction. A report shall include negative trends and missed targets as well as improvements.

34.5 The sustainability report shall demonstrate fulfilment of the applicable IAF reporting requirements through an exact mapping of disclosures, evidence and outstanding gaps. A reporting statement shall not imply a broader conformity decision than the evidence supports. The IAF assessment is not a substitute for legally required sustainability or financial reporting.

34.6 Management shall review the report, resource needs, stakeholder feedback and independent findings at least annually. Actions shall be assigned and tracked. Incentives linked to sustainability indicators shall be designed so that they do not reward underreporting, short term displacement of harm or manipulation of the assessment boundary.

34.7 Revisions of material data shall preserve the original version and explain the reason, affected indicators and effect on conclusions. The organization shall distinguish correction of a reporting error from improvement in physical or social performance. The controls in Clause 39 shall govern significant changes and misleading statements.

35 Testing sampling and measurement assurance

35.1 A written assessment and test plan shall be approved before testing or review. Annex D defines minimum contents. The plan shall identify the object, measurands, methods, limits, sample selection, uncertainty, data retention and decision rules.

35.2 Laboratories shall demonstrate competence for the specific methods, including calibrated equipment, traceability, personnel, environmental control and quality checks. Accreditation may support competence only within the relevant accredited scope. Where suitable accredited testing is unavailable, the assessor shall document an alternative competence evaluation and disclose the limitation.

35.3 The assessor shall control selection or witness selection of representative items. Product family sampling shall include configurations with the highest relevant burden, critical technology differences and a randomly selected configuration where a family includes several variants. Annex D defines the draft minimum pilot sampling; it does not establish production population confidence.

35.4 Samples shall have identifiers, condition records and custody history. Preconditioning, repairs and software changes shall be recorded. Unauthorized intervention during testing shall invalidate the affected evidence pending investigation.

35.5 Measurement uncertainty shall be quantified where relevant to interpretation or limits. For a voluntary upper limit, positive conformity shall require the measured result plus expanded uncertainty to be no greater than the limit, unless the approved method specifies another justified rule. For a lower limit, the result minus expanded uncertainty shall meet the limit. Mandatory regulatory decision rules shall govern regulatory conclusions.

35.6 Where the uncertainty interval overlaps a voluntary limit and no other approved rule applies, the result shall be inconclusive rather than a pass. The assessor shall request additional evidence or limit the claim. Averaging shall not conceal failure of an individual condition where the applicable requirement applies to each condition.

35.7 Valid and invalid runs, instrument checks, raw data, calculations and deviations shall be retained. Retesting shall follow a predefined technical rule. Original results shall remain in the evidence record.

35.8 Verification of social, governance and resilience requirements shall follow Annex J as well as the common assessment plan. Quantitative environmental testing competence and qualitative impact assessment competence shall be evaluated separately and combined in the assessment team as required.

36 Digital sustainability record

36.1 Each assessed object shall have a persistent identifier and a versioned sustainability record containing the fields in Annex E. The record shall link a public summary to controlled technical evidence and shall distinguish measured, calculated, estimated and forecast values.

36.2 The public layer shall state object, scope, standard version, assessment status, reporting period, market profile, key indicators, uncertainty, exclusions, assessor and last review date. Sensitive production recipes and personal data shall remain in access controlled layers.

36.3 The format shall support export in a documented machine readable structure without mandatory dependence on a single commercial platform. Field definitions, units and version migration rules shall be accessible to authorized users. A missing or unknown value shall remain distinguishable from zero and not applicable.

36.4 Record integrity shall use authenticated access, approval control, version history and tamper evidence appropriate to the risk. Digital signatures or hashes may protect integrity; they do not prove that the original measurements are truthful.

36.5 QR access may point to the public summary and current status. A record may link to a vehicle identity or a legally required passport when available. Such a link shall not imply that the IAF record satisfies every statutory passport field or that an unimplemented IAF platform already exists.

36.6 The record shall also include material social and governance topics, applicable controls, indicator definitions, assessment coverage, action status and relevant resilience conclusions. Public records shall publish aggregate findings and scope information while preserving worker and community confidentiality. A public carbon figure shall not be used as shorthand for complete sustainability conformity.

37 Assessment decisions and independent review

37.1 The assessment shall separately conclude on requirements conformance, accuracy of named sustainability statements and claimed improvement. The applicant shall not convert one conclusion into another.

37.2 Findings shall be classified as critical, major or minor. Critical findings include fraud, manipulation, material unresolved legal breaches and severe uncontained harm within the assessed scope. Major findings include absent applicable evidence, materially unreliable calculations or failure of a required control. Minor findings are isolated defects that do not undermine the conclusion.

37.3 All critical and major findings shall be closed and effectiveness verified before a positive conformity decision. Minor findings may remain open only with an accepted action plan, deadline and evidence that they do not affect an indicator, legal obligation, critical safeguard or claim. An overdue minor finding shall be escalated.

37.4 Decision reviewers shall be independent of the evidence preparation, consultancy and assessment activities they review. Competence shall cover the technical modules in scope. Decisions shall state criteria, evidence references, uncertainty and restrictions.

37.5 Permitted outputs are: a requirements conformity statement for the identified scope; a verification statement for specified sustainability indicators; and a verified improvement statement for a specified baseline comparison. A verification engagement shall define its criteria, materiality, scope, assurance level and conclusion wording before work begins. A limited review shall not be marketed as reasonable assurance.

37.6 First Edition shall not issue an overall sustainability score, stars, an A to F class or a universal low carbon badge. Category performance thresholds and aggregation rules require a separately validated and adopted schedule. Excellent carbon performance shall not compensate for failure in legal, pollution, data integrity or safeguarding requirements.

37.7 An IAF branded statement or mark shall require an adopted scheme, competent authorized assessors, an independent decision and a public status mechanism. During development, outputs shall be marked as pilot reports and shall not carry an operational conformity mark.

37.8 Complete standard conformity requires the applicable common controls and the environmental, social, governance and resilience modules established in Annex A. A verified numerical statement is a separate output. Failure of a critical requirement prevents complete conformity regardless of improvements in other modules.

37.9 Critical findings also include prohibited child labour, forced recruitment costs used as coercion, deliberate retaliation for protected reporting, imminent uncontrolled serious occupational danger, severe uncontained community harm, material corruption affecting the scope and deliberate suppression of significant sustainability data. Findings shall be supported by evidence; credible unresolved risks shall be addressed without prematurely presenting allegations as established facts.

38 Public statements and sustainability claims

38.1 Every claim shall identify what was assessed, what was concluded, the period, method and relevant limitations. Claims shall be understandable without opening a lengthy technical report; supporting details shall remain accessible.

38.2 “Verified carbon footprint” shall refer only to the stated boundary and indicator. “Sustainable vehicle,” “environmentally friendly,” “clean,” “zero emissions” and similar broad language shall not be used as unqualified conclusions from this assessment.

38.3 A reduction claim shall identify the reference product or baseline, comparable function, baseline date, absolute values, percentage change and uncertainty. It shall distinguish measured operational reduction, supplier changes, contractual attributes, model changes and improved data.

38.4 Avoided emissions, credits, future reductions and carbon removals shall be shown separately from gross product and corporate results. This standard does not by itself authorize a carbon neutral or net zero claim. Such a claim requires separately defined criteria and supporting evidence for its full scope.

38.5 A statement shall not suggest government approval, another organization's endorsement or mutual recognition without a documented agreement applicable to the exact scope. A laboratory's accreditation shall not be presented as accreditation of the product.

38.6 Published statements shall have a retrievable current status. Suspended, withdrawn or superseded results shall retain a visible status notice. Historic results may remain accessible but shall not appear current.

38.7 Social and governance claims shall identify the population, activity, period and evidence to which they refer. Statements such as ethical sourcing, fair wages, inclusive mobility, responsible AI or positive community impact shall not exceed the actual evaluated scope. Participation in a programme or publication of a policy shall not be presented as proof that the claimed outcome has been achieved.

38.8 Claims concerning integrated environmental controls shall identify the applicable IAF requirements and approved method versions and be supported by the control register and gap assessment in Annex K. Implementation of a control, conformity with a requirement and independent verification of a result shall not be used as interchangeable terms.

39 Monitoring changes and corrective action

39.1 Organizational and operating service indicators shall be updated for each twelve month reporting period. The active public statement shall show the reporting period and review status. Product records shall be reviewed at least annually for changes and updated when a significant change occurs.

39.2 Changes in chemistry, suppliers, production energy, mass, tyres, emissions controls, relevant software, usage assumptions, allocation or legal requirements shall be evaluated before existing claims are applied to the changed object. A configuration change shall not be hidden by retaining an old model identifier.

39.3 A change estimated to alter a declared quantitative result by at least five percent shall trigger recalculation and independent review before continued use of that value. Smaller changes shall also trigger review if they could change a claim, legal outcome, uncertainty based conclusion or critical requirement. This draft threshold is an administrative trigger, not a tolerance for inaccuracy.

39.4 The applicant shall notify the assessor without undue delay of suspected falsification, serious environmental incidents or material noncompliance affecting a statement, and no later than five working days after becoming aware of credible evidence. The affected claim shall be contained promptly; the notification period is not permission to continue a misleading claim.

39.5 Corrective action shall include containment, cause analysis, correction, prevention and effectiveness review. Relevant users of materially incorrect results shall receive a corrected statement. Repeated or unresolved failures shall result in scope reduction, suspension or withdrawal.

39.6 There shall be no automatic fixed multi year validity independent of product or data changes. The statement shall identify issue date, reporting or tested configuration date, next scheduled review and events that end applicability. An overdue required review shall change the public status to review overdue and suspend active conformity claims.

39.7 Significant changes shall also include recruitment channels, workforce structure, remuneration systems, material supplier labour or community risks, major governance events, safety incidents, technology impacts and continuity dependencies. The quantitative five percent trigger does not govern critical social or governance events; those shall be evaluated on severity and their effect on the conclusion.

40 Programme governance and adoption

40.1 Before launch, the scheme owner shall publish programme rules for assessor authorization, competence, independence, fees, use of marks, complaints, appeals, surveillance and status publication. Membership or payment shall not guarantee a favourable decision.

40.2 Technical development shall include manufacturers, suppliers, laboratories, environmental specialists, users and representatives of relevant affected interests. Conflicts of interest shall be declared. Consultation comments and their disposition shall be recorded.

40.3 Technical profiles shall be tested with diverse technologies, markets and organization sizes. Interlaboratory reproducibility, assessor consistency, data burden, uncertainty and risk of misleading claims shall be evaluated. Requirements that cannot be applied consistently shall be revised before adoption.

40.4 Any future performance class shall have published category boundaries, indicator definitions, thresholds, uncertainty rules, noncompensable conditions and evidence supporting the thresholds. Changes shall include an implementation date and transition arrangements. No class shall be invented for an individual applicant after its results are known.

40.5 Complaints and appeals shall be handled by competent persons independent of the original decision. Relevant restrictions shall remain in place while an unresolved risk could make a public claim misleading. The programme shall publish aggregate learning without exposing confidential data.

40.6 The programme shall validate environmental, labour, human rights, governance and resilience assessments before offering complete standard conformity. Its expert participation shall include independent worker and affected community perspectives where relevant. The scope of authorized assessors and statements shall be publicly distinguishable from specialist tests or partial module verifications.

Annex A Applicability and critical requirements

Normative

A1 The following matrix is a minimum applicability map. C means common and mandatory. R means mandatory where the stated activity, product or impact occurs. An R item may be excluded only with the evidence required by Clause 4. Sector risks may make additional modules applicable.

Module	Organization or site	Vehicle or part	Mobility service	Recovery operation
Governance legal data and claims	C	C	C	C
Corporate inventory	C	R	C	C
Product life cycle model	R	C	R	R
Manufacturing controls	R	R	R	R
Vehicle energy and exhaust	R	R	R	R
Non exhaust and noise	R	R	R	R
Battery and fuel pathways	R	R	R	R
Materials and circularity	R	C	R	C
Water pollution and nature	C	R	R	C
Sourcing and traceability	C	C	C	C
Repair and final treatment	R	C	R	C
Materiality and stakeholder engagement	C	C	C	C
Human rights and labour controls	C	C	C	C
Ethics and governance	C	C	C	C
Product and technology responsibility	R	R	R	R
Communities and land rights	R	R	R	R
Economic resilience and continuity	C	C	C	C
Independent assessment and records	C	C	C	C

A2 Common controls apply to the applicant and the operations and business relationships relevant to the defined route. Worker, governance and due diligence requirements cannot be marked not applicable merely because the assessment object is a product. Activity specific requirements apply where that activity or impact exists. A full conformity claim requires the entire applicable matrix; partial studies shall be named as partial verification.

A3 The product route shall apply corporate requirements to the applicant's controls and supplying facilities only to the extent needed to substantiate the product claim. It shall not automatically require a group wide

corporate conformity assessment. The application shall identify which organizational controls were inspected.

A4 The following are critical: material unresolved legal noncompliance; falsified measurements or material records; undeclared emissions manipulation; deliberate double allocation of environmental attributes; confirmed severe uncontained environmental harm linked to the scope; confirmed forced labour or unlawful child labour linked to the assessed supply; and deliberate use of a materially misleading public statement after notice.

A5 The additional critical findings in Clause 37.9 shall apply across all routes. No scoring system, membership status, donation or environmental credit shall compensate for a critical failure.

A6 Missing significant evidence without fraud is normally a major finding, not automatically a critical finding. It nevertheless blocks a positive decision until resolved. Status labels shall preserve this distinction.

Annex B Required indicators and calculations

Normative

B1 The following indicators shall be reported where applicable. Every value shall include its period, boundary, source, method and uncertainty or justified data quality description. Indicator labels shall not be shortened in a way that hides their boundary.

Indicator	Required expression	Essential companion information
Direct organizational greenhouse gas emissions	t CO2e per reporting period	Consolidation basis and gas factors
Purchased energy greenhouse gas emissions	t CO2e location based and market based where used	Instruments and residual treatment
Other value chain greenhouse gas emissions	t CO2e by relevant category	Screening exclusions and coverage
Vehicle production footprint	kg CO2e per vehicle	Configuration and factory boundary
Vehicle life cycle footprint	kg CO2e per vehicle and g CO2e per vehicle km	Distance service life energy scenario
Component footprint	kg CO2e per declared unit	Part reference quantity and boundary
Vehicle energy	kWh per 100 km or MJ per km	Fuel energy basis and measurement point
Exhaust pollutants	Applicable mass per km or work unit and particle count unit	Cycle gas species and particle threshold
Brake particles and tyre loss	Method specific mass or count per distance	Sampling fraction axle or vehicle basis
Battery production footprint	kg CO2e per pack and per kWh rated capacity	Chemistry plant and capacity method
Physical recycled content	Percent by mass	Pre consumer and post consumer shares

Indicator	Required expression	Essential companion information
Actual recycling output	Percent of eligible input mass	Downstream losses and output quality
Reuse and remanufacturing	Share of eligible products or components returned to service	Count or mass basis function and assessed period
Collection performance	Collected items or mass divided by eligible end of life flow	Market coverage and estimated denominator
Service life extension	Additional delivered or validated expected service	Baseline method maintenance and replacement effects
Material demand	Virgin input per declared product or service unit	Product function production yield and total input
Water	m3 withdrawal discharge and consumption	Basin source season and water quality
Waste	kg or t by treatment route	Hazard class and destination evidence
Service intensity	g CO2e per passenger km or tonne km	Occupancy load and empty running
Repair performance	Minutes per identified task	Skill tools and safe return to service

B2 Calculate greenhouse gas emissions by multiplying each activity quantity by a factor with a compatible unit and boundary, then aggregating the relevant contributions. Where gas specific factors are used, convert each gas with the declared global warming potential. A factor already expressed as CO2e shall not be characterized again.

B3 Calculate life cycle impact per vehicle kilometre by dividing the complete vehicle life cycle total in kilograms CO2e by lifetime distance in kilometres and multiplying by one thousand. Production, use, maintenance and final treatment totals shall remain separately visible.

B4 Calculate an improvement percentage as the difference between comparable baseline and assessed results, divided by the baseline result and multiplied by one hundred. A zero or negative baseline shall not be used as the denominator of a percentage reduction claim. Report absolute changes instead and explain any removal accounting.

B5 Calculate physical recycled content by dividing the eligible recycled mass incorporated in the assessed product by the total assessed product material mass. Packaging is excluded from both quantities unless packaging is the assessed product. Fluids included in the defined product mass shall be treated consistently in both numerator and denominator.

B6 For the main life cycle result, use a recycled content allocation approach: incoming secondary material carries collection, sorting and reprocessing burdens needed to deliver usable input, but not the previous product's primary production burden. The current product carries its collection, dismantling and final disposal burdens. Processing that creates usable secondary material for the next product is assigned to that next product. State the transfer point and reconcile upstream datasets to prevent a gap or duplication. Report any alternative allocation as a sensitivity result, not a replacement selected for favourability.

B7 Screen the complete inventory before cutoffs. No legal, hazardous, critical material or known significant impact may be omitted because of low mass. The detailed product inventory shall identify at least 98 percent of product mass and 95 percent of estimated gross climate impact. Each omitted detail shall contribute less than one percent of screened gross climate impact; aggregate omitted detail shall not exceed five percent. The best estimate for the remainder shall still be included as a separately identified subtotal in the reported footprint. These draft coverage rules permit incomplete detail, not zero burden for unknown inputs.

B8 Facility energy evidence shall reconcile all purchased and self generated energy. At least 90 percent of total annual final energy, converted consistently to MJ, shall be supported by meters or traceable commercial measurements. The remainder shall be estimated and disclosed. Failure to meet this pilot minimum blocks a full facility energy verification, while a clearly restricted statement may identify the verified subset.

B9 Primary data coverage for product climate results shall be estimated on an emissions weighted basis using gross positive contributions. Each process contribution shall be multiplied by the evidenced primary share of its underlying activity data; the resulting contributions shall be divided by the total gross positive contribution. Supplier aggregates with unknown underlying coverage shall not be assigned 100 percent primary coverage. Removals and credits shall not increase this percentage.

B10 Data shall normally describe the assessed twelve month production period. Older process or secondary data may be used when representativeness is justified and more representative data are unavailable. Data age alone shall not be treated as proof of poor or good quality. Known changes in technology, electricity mix or sourcing shall trigger review regardless of age.

B11 Circularity indicators shall distinguish input, use and output stages. Calculate collection rate from the collected quantity and the eligible end of life quantity in the same market and period; estimates of products reaching end of life shall be explained. Calculate a reuse or remanufacturing share only for a defined eligible input stream and a verified return to an identified function. Units by count and units by mass shall not be combined.

B12 Service life extension claims shall compare equivalent functions and distinguish observed additional service from predicted extension. Virgin material intensity shall use the same product or service unit across periods and shall be accompanied by the absolute virgin input total. Improved intensity during increased production shall not be described as an absolute resource reduction without supporting totals.

Annex C Vehicle comparison profile for pilot use

Normative for a study claiming use of this pilot profile

C1 This profile applies only to passenger cars intended primarily for personal road transport. It establishes a common analysis scenario, not a universal vehicle lifetime or a regulatory test cycle. Results are pilot comparison results until the profile has been technically validated and adopted.

Parameter	Pilot rule
Core reference service	One vehicle delivering 200000 vehicle km over 15 years

Parameter	Pilot rule
Distance sensitivity	Recalculate at 150000 km and 250000 km
Primary energy scenario	Named target market electricity and fuel supply for a stated year
Electricity sensitivity	50 400 and 800 g CO ₂ e per kWh delivered electricity as hypothetical factors
Electricity measurement point	Energy supplied at the external charging connection including charging losses
Time variation	Constant current factor as main case and separately documented prospective case
Vehicle configurations	Comparable utility body class seating cargo capability and intended duty
Use condition evidence	Approved market cycle plus documented representative real operation
Temperature sensitivity	Include cold and hot conditions defined in the approved test method
Battery replacement	Evidence based main case and a separate one full replacement sensitivity for traction batteries
End of life	Named regional scenario with separate actual and assumed recovery rates
Output	Absolute life cycle total and result per vehicle km for every scenario

C2 The hypothetical electricity factors are sensitivity inputs selected for this draft. They shall not be attributed to any country, utility or date. Fuel factors in the same study shall have compatible upstream and combustion boundaries. Transmission losses shall not be added again if already included in a factor for delivered electricity.

C3 The same distance and service time shall apply to all compared passenger cars. The sensitivity calculation shall change maintenance and replacement schedules when the altered service requires it. Comparing a small urban car with a large freight capable vehicle shall not yield a class ranking without a demonstrated equivalent service basis.

C4 Use phase energy shall be calculated from measured consumption and the agreed duty profile. A combined duty profile shall state distance weights summing to 100 percent. Real operation data shall identify seasonal coverage and sample representativeness. No invented weighting shall be represented as observed global driving.

C5 Plug in hybrid scenarios shall include the evidence based main charging case, a no external charging case and a high charging availability case. The electric distance share, mode specific fuel and electricity use, and battery energy balance shall be given for each. Electricity and fuel contributions shall be counted once.

C6 Lifetime emissions shall not assume automatic grid decarbonization. A prospective scenario may use a named published pathway with annual factors and distances; it shall remain separate from the current factor scenario. The time profile of energy use shall match the time profile of the factors.

C7 An improvement statement shall require a lower impact under the named scenario, comparable assumptions and uncertainty analysis of the difference. Where independence cannot be justified, uncertainty shall not be combined as if all inputs were independent. A conservative comparison may require

the upper bound for the assessed product to be below the lower bound for the comparator. Otherwise report the result without asserting a demonstrated reduction.

Annex D Test plan and evidence schedule

Normative

D1 Before assessment, the plan shall contain applicant and scope; route and applicable clauses; intended statements; legal market profile; method register; test objects and variants; source data period; sampling rationale; repetitions; acceptance criteria; uncertainty; responsibilities; independent review; and significant change rules.

Evidence package	Minimum content	Acceptance basis
Legal and scope file	Permits approvals market register and object identifiers	Applicable obligations and defined scope
Corporate or facility inventory	Activity records factors reconciliation and omissions	Clauses 8 9 and 11 and Annex B
Product model	Material inventory allocation scenarios and sensitivity	Clause 10 and relevant category profile
Vehicle tests	Raw runs equipment checks conditions and software	Applicable method and declared decision rule
Materials and battery	Composition sourcing capacity durability and flow records	Clauses 14 15 and 19
Pollution and resources	Air water waste and relevant noise records	Applicable permits methods and Clause 16
Social and governance	Workforce rights safety ethics community and risk evidence	Clauses 20 to 34 and Annexes I and J
Claims and record	Draft statement evidence links and status controls	Clauses 36 to 39

D2 For pilot vehicle family evidence, select at least three production representative units where available. Include a highest burden configuration and relevant technology differences. For a single configuration, sample three distinct units; a repeated run on one unit is not three units. Where fewer production units exist, test all available units and state the restricted representativeness. No family wide conformity inference shall be made solely from a reduced prototype sample.

D3 Use at least three valid repeated runs for each quantitative pilot test condition unless the prescribed method has its own repetition and statistical rule. Repetitions characterize test repeatability; they do not establish long term production consistency. Apply the selected method's conditioning and validity requirements.

D4 Sample other products and processes according to variability, process control and risk. The assessor shall record the statistical or risk based rationale. A vehicle sample rule shall not be transferred automatically to a chemical assay, a waste flow or a corporate inventory.

D5 Facility selection shall include all sites with critical risk and all materially different process types within the claimed scope. Other sites may be sampled only under a documented common control system and justified plan. Site selection shall be made by the assessor, and unvisited sites shall be listed.

D6 A repeat result more than five percent from the condition mean shall trigger a review of validity, equipment and operating variation for pilot energy tests. The result shall not automatically be discarded. Where the approved method has a different variability rule, that rule governs. The plan shall define further testing needed to resolve unexplained variation.

Annex E Digital record data dictionary

Normative

E1 A machine readable export shall include the following groups. A structured JSON or equivalent documented format may be used. Exact field names may vary only where an unambiguous mapping is published.

Data group	Required fields
Identity	record_id object_type object_id manufacturer facility product_variant
Version	standard_edition draft_or_final profile_version record_version supersedes
Boundary	scope_statement lifecycle_boundary markets reporting_start reporting_end
Configuration	powertrain mass battery tyre software and relevant part identifiers
Metric	metric_id value unit method_id boundary scenario_id
Quality	measured_or_modelled primary_share completeness uncertainty_basis lower upper
Scenario	lifetime_distance service_years energy_factors duty_weights replacements
Evidence	evidence_id issuer date source_reference access_class
Assessment	assessor reviewer decision_date criteria assurance_level conclusion
Status	pilot active review_due review_overdue suspended withdrawn or superseded
Change	changed_fields reason effective_date previous_record_reference
Public access	public_record_location contact_for_corrections last_updated

E2 Numeric values shall carry units; dates shall use an unambiguous year month day representation. “Unknown,” “not assessed” and “not applicable” shall have separate status values and explanations. A missing result shall not be exported as a numeric zero.

E3 Access classes shall distinguish public, authorized supply chain and restricted assessor evidence. Exact personal location histories and unnecessary individual identifiers shall not be placed in public records. Aggregation shall preserve sufficient evidence for verification.

E4 The public record shall resolve to the current status and preserve previous versions. If access is interrupted, the issuer shall provide a means of checking status and shall not treat an inaccessible record as automatically valid.

Annex F Assessment and statement templates

Normative minimum fields

F1 Application record. Record the applicant, legal entity, accountable owner, assessment object, route, sites, markets, reporting period, applicable modules, exclusions and intended public use. Attach configuration and method registers.

F2 Finding record. Record finding identifier, requirement, objective evidence, affected scope, classification, immediate containment, cause, corrective action, responsible person, deadline, effectiveness evidence and independent closure decision.

F3 Quantitative statement. Record indicator, value, unit, method and edition, boundary, reporting period, scenario, uncertainty, data limitations, assurance level, assessor, independent reviewer, issue date and status location. A positive indicator verification shall not imply overall requirements conformance.

F4 Requirements conformity statement. Use wording with the following meaning only after programme adoption: “The identified assessment object was evaluated against the applicable requirements of IAF Automotive Sustainability Standard First Edition for the stated scope and period. The conclusion, exclusions and conditions are given in this statement. This conclusion is not a type approval or an environmental superiority rating.” Insert actual object identifiers and conclusions; do not leave template fields in a published statement.

F5 Improvement statement. State both baseline and assessed values, the absolute and percentage change where meaningful, comparison profile, uncertainty analysis and any significant adverse changes in other indicators. Name the precise impact improved. Do not generalize a climate reduction to total sustainability.

F6 Pilot report. Before programme adoption, identify the document as a pilot evaluation against Working Draft 0.3 and state that it conveys no IAF conformity mark or operating certification status. The public draft page shall use the same status description.

F7 Checklist status values. For each applicable clause record conforming, critical nonconformity, major nonconformity, minor nonconformity, evidence pending or justified not applicable. An unresolved evidence pending item affecting a mandatory conclusion prevents that positive conclusion.

Annex G Worked calculation example

Informative

G1 The following values are hypothetical and demonstrate arithmetic only. They do not describe an actual vehicle, country, industry average or passing threshold. Assume a battery electric passenger car, 200000 km of service, no battery replacement in the main case and 18 kWh per 100 km measured at the external charging connection.

Input or result	Illustrative value
Vehicle and original battery production	8000 kg CO ₂ e
Maintenance and other replacements	1500 kg CO ₂ e
Collection and final treatment assigned to this life	500 kg CO ₂ e
Electricity over 200000 km	36000 kWh
Hypothetical supplied electricity factor	400 g CO ₂ e per kWh
Use phase greenhouse gas emissions	14400 kg CO ₂ e
Whole life greenhouse gas emissions	24400 kg CO ₂ e
Greenhouse gas intensity	122 g CO ₂ e per vehicle km

G2 Energy is obtained by multiplying 200000 km by 18 kWh and dividing by 100 km, giving 36000 kWh. Multiplying that energy by 0.4 kg CO₂e per kWh gives 14400 kg CO₂e. Adding production, use, maintenance and final treatment gives 24400 kg CO₂e. Dividing by 200000 km gives 0.122 kg CO₂e per km, or 122 g CO₂e per km.

Hypothetical electricity factor	Use phase kg CO ₂ e	Whole life kg CO ₂ e	g CO ₂ e per vehicle km
50 g CO ₂ e per kWh	1800	11800	59
400 g CO ₂ e per kWh	14400	24400	122
800 g CO ₂ e per kWh	28800	38800	194

G3 All non use values are held constant only for this simple sensitivity example. A real assessment shall update maintenance and replacement burdens when scenarios change them. No charging loss is added because the example consumption already uses the external charging connection. The calculation does not demonstrate superiority over another vehicle and does not cover non climate impacts.

Annex H Technical validation and future development

Informative

H1 The proposed adoption sequence is technical review, public consultation, pilot assessment, interlaboratory comparison, revision, independent review of the scheme and formal IAF approval. Each step should produce a documented decision and unresolved issue list. Publication timing should depend on evidence quality rather than a promised launch date.

H2 Pilot participation should include independent labour and human rights expertise, worker representatives, affected community input, governance specialists, mobility service providers and combustion, hybrid, battery electric and fuel cell technologies where available; different vehicle utility classes; battery and material suppliers; small manufacturers; recyclers; and facilities with different energy and water conditions. Geographic diversity should be sufficient to test whether the rules unfairly assume one market's infrastructure.

H3 Priority validation questions are the 98 percent mass and 95 percent climate detail coverage rules; the 90 percent facility energy evidence rule; family sampling and repetition minima; the five percent review triggers; lifetime assumptions; recycling transfer boundaries; primary data weighting; uncertainty and assessor consistency. The expanded pilot should also test working time limits, living wage gap assessment, recruitment fee remedy, protected interviews, governance findings, supplier payment indicators and the adequacy of qualitative evidence. These are proposed programme choices and should change if pilot evidence does not support their usefulness.

H4 Before comparative classes are introduced, category profiles should define utility groups, duty cycles, relevant pollutants, validated non exhaust methods, durability assumptions, limit derivation and rules for uncertain results. Proposed performance thresholds should be published with the underlying dataset and technical reasoning, subject to confidentiality safeguards.

H5 Further modules may address heavy commercial transport, motorcycles, advanced battery chemistries, microplastic pathways, hydrogen leakage, software induced energy changes, vehicle to grid use, automated mobility, remanufacturing and new recycling processes. Each should retain the same scope, evidence, uncertainty and claims disciplines.

H6 Future connections to IAF vehicle identity or other IAF programmes should reuse verified object identifiers and evidence where appropriate. Connections should be described as planned until implemented and independently tested. Specialist environmental and safety findings should remain distinguishable from complete sustainability conformity and organizational quality conclusions.

Annex I Social governance and resilience indicators

Normative

I1 The following indicators shall be reported for the applicable assessed operations. Definitions, reporting period, population, exclusions and evidence shall accompany every value. Indicators shall be disaggregated where needed to reveal a material risk, while protecting privacy. A missing indicator shall be marked as unavailable with a correction plan; missing evidence affecting conformity shall be treated under Clause 37.

Indicator	Required measure	Interpretation and evidence
Workforce coverage	Employees and nonemployee workers in scope as separate counts	Contract types sites and coverage of source records
Recruitment costs	Confirmed workers charged fees and amounts reimbursed	Worker evidence agent records and remedy status

Indicator	Required measure	Interpretation and evidence
Young worker protection	Verified age checks and any confirmed prohibited work	Age documentation and protected remediation records
Wage compliance	Confirmed underpaid workers amounts owed and amounts repaid	Payroll hours benefits and independent worker checks
Living wage assessment	Share of workers assessed and share below the selected benchmark	Local benchmark normal earnings assumptions and action milestones
Working time	Share of sampled worker periods exceeding the applicable limit	Complete hours overtime and rest evidence with sampling limits
Collective representation	Workforce share covered by collective agreements	Distinguish independent representation from management committees
Occupational fatalities	Absolute count for employees and nonemployee workers separately	Work relationship and investigation status
Occupational injuries	Defined recordable injury count and rate per million hours	Consistent cases hours and separate workforce populations
Occupational ill health	Confirmed work related cases under the stated definition	Confidential health records and latency limitations
Equality and accessibility	Relevant access disparities and corrective actions	Lawful aggregate data and protected small groups
Skills transition	People trained assessed competent and redeployed	Separate participation competence and employment outcomes
Grievances and remedy	Received substantiated open closed and overdue cases	Category severity resolution evidence and nonretaliation checks
Supplier due diligence	High risk suppliers assessed and open severe findings	Severity based denominator and evidence beyond questionnaires
Payment practices	Share of due invoices paid by agreed date	Relevant period disputed items and contract terms
Ethics and integrity	Confirmed material incidents and unresolved investigations separately	Governance response and independently evaluated closure
Community impacts	Material adverse impacts and progress of remedy	Affected party input and outcome evidence
Resilience	Critical dependencies assessed and exercises completed	Results gaps and corrective action effectiveness
Funded commitments	Approved funding and delivery against named milestones	Distinguish funding approval actual spending and achieved outcomes

I2 Calculate an injury rate by dividing the defined recordable cases by hours worked for the same population and period and multiplying by one million. Include fatalities in that case definition and report them separately as well. If a different legally prescribed rate is also reported, label its denominator and definition. Contractor hours shall not be excluded while contractor cases are included, or vice versa.

I3 Calculate on time payment as the number of invoices falling due in the reporting period and paid by the agreed due date, divided by all invoices falling due in that period. Disputed invoices shall remain identifiable and shall not silently leave the denominator. Report their count and the reasons for material disputes separately.

I4 Worker period compliance shall use a predefined time unit, such as a worker week. The organization shall report the number reviewed, the selection basis, the breach count and the share. Results from a risk targeted sample shall not be presented as an unbiased estimate for the entire workforce.

I5 Living wage coverage shall state the benchmark and the employee or worker population assessed. A benchmark change shall be distinguished from a wage change. Public “living wage paid” claims shall require evidence that normal earnings meet the selected credible benchmark for the entire claimed population; a gap closure plan alone shall not support that claim.

I6 Complaint closure shall require a reasoned decision, communication where appropriate and evidence of remedy or justified disposition. Withdrawal under pressure, inability to contact an at risk complainant or an administrative deadline shall not automatically mean the issue was resolved. Zero recorded complaints shall not be treated as a performance target.

I7 An assessor shall evaluate both indicators and the operation of controls. No aggregate score shall compensate for forced labour, prohibited child labour, imminent uncontrolled serious danger, deliberate retaliation, material corruption, falsification or another critical failure.

Annex J Evidence sampling and action records

Normative

J1 Each assessment shall combine document review, interviews, direct observation and other relevant corroboration. For worker and community issues, information obtained solely from management shall be insufficient where independent affected party evidence can be obtained safely. Physical test rules in Annex D do not replace social or governance evidence.

J2 The assessor shall select interviews and records independently. The sampling plan shall consider sites, shifts, gender where lawfully available, agency and migrant status, occupations, recruitment channels and known risks. It shall explain adequacy and limitations; there is no single universal interview count for every workforce.

J3 Worker interviews shall be confidential, voluntary, conducted without supervisors present and supported by an independent interpreter where needed. Interview arrangements shall avoid exposing participants to retaliation. Information shall be corroborated while respecting the safety of individuals; public reports shall not contain identifiable interview accounts without appropriate consent and protection.

J4 Payroll and time review shall cover at least three distinct months in the assessed twelve month period, including the month with the highest identified overtime or recruitment risk. Where the operation is

younger, review all available months and disclose that limitation. Sampling shall be extended when records conflict or a pattern of abuse is indicated. This is an IAF draft audit minimum, not a universal statistical confidence claim.

J5 Evidence shall be triangulated across contracts, hours, pay, production schedules, recruitment records and confidential worker input. Personal documents shall be inspected only as necessary and lawfully permitted; unnecessary copies shall not be retained. Refusal of unnecessary collection shall not be treated as noncooperation.

J6 For communities and sourcing, evidence may include affected party accounts, environmental measurements, lawful land records, grievance outcomes, traceability documents and credible independent information. The assessor shall distinguish direct observation, third party reports, allegations and confirmed findings.

J7 The materiality and action record shall contain the issue; affected people or ecosystem; value chain location; cause contribution or linkage; actual or potential impact; severity and likelihood; evidence quality; required control; action owner; funded resources; due date; interim protection; outcome measure; and effectiveness review. Serious impacts shall not be downgraded because remedial action is expensive.

J8 Action closure shall identify who verified effectiveness and the evidence used. A policy update or supplier promise alone shall not close a finding concerning actual unpaid wages, harmful discharge, unsafe equipment or continuing retaliation. Correction of the immediate effect and prevention of recurrence shall both be considered.

J9 Assessors shall include competence relevant to labour, human rights, environmental science, automotive processes, governance and data assurance according to scope. A laboratory qualification alone shall not qualify a person to verify worker rights. The team may use specialists, while retaining an accountable lead and independent decision review.

J10 Evidence retention shall protect sensitive personal information through minimization, controlled access and appropriate deletion rules. Long term retention of the assessment conclusion does not require retaining every personal record. A protected evidence index or anonymized finding may support traceability where full personal data retention would be unnecessary or unlawful.

Annex K Integrated environmental controls and due diligence

Normative

K1 The organization shall maintain an environmental control register connecting the applicable IAF requirements to actual methods and evidence. The register shall contain the method title, responsible owner, version and amendments; applicable scope; mapped IAF clauses; implemented controls; method differences; outstanding gaps; responsible reviewer; and review date. A claim that the controls are implemented shall be supported by this register and the underlying evidence.

K2 The following table identifies the technical relationships within this standard. It shall be used to assign controls, evidence and review responsibilities. Before claiming conformity with the applicable IAF requirements, the applicant shall demonstrate that the required controls are implemented and that any material gaps have been resolved.

Control area	IAF requirements	Required control
Environmental management	Clauses 5 to 8 11 16 20 33 and 34	Aspects legal duties objectives operating controls monitoring and improvement
Life cycle assessment	Clause 10 and Annexes B C and D	Goal scope functional unit inventory allocation impacts interpretation and review
Product carbon accounting	Clauses 8 10 14 and 19	Boundary gas factors data quality energy assumptions and compatible product rules
Corporate carbon accounting and purchased energy	Clauses 9 11 and 34	Organizational boundary emissions categories energy attributes and reconciled totals
Circularity and material flows	Clauses 15 19 and 32 and Annex B	Source definitions chain of custody allocation repair life extension and actual recovery
Responsible business conduct and due diligence	Clauses 17 20 21 27 30 and 32	Identify prevent mitigate track communicate and remedy relevant impacts
Sustainability impact reporting	Clauses 20 34 36 and 38	Material topics boundaries evidence indicators limitations and truthful disclosure

K3 Lifecycle carbon shall include upstream raw materials, production, distribution, energy supply, use, maintenance and final treatment for a complete vehicle assessment. Each stage shall have a reconciled subtotal. Supplier carbon values shall be checked for boundary overlap, omitted processes, allocation and electricity assumptions before aggregation. A shared supplier factor shall retain its version and verification limits.

K4 Circularity controls shall distinguish reducing material demand, retaining products in service, repair, reuse, remanufacture, recycling and energy recovery. The organization shall evaluate achievable life extension and actual receiving systems. A theoretical recyclable design, a mass balance certificate and measured physical recycled content shall remain separate claims. Each shall have its own denominator and evidence.

K5 Environmental due diligence shall address the organization's activities and significant value chain relationships. It shall identify actual and potential adverse impacts, integrate prevention and mitigation into decisions, track whether controls work, communicate material results and provide or cooperate in remedy when the organization causes or contributes to harm. Human rights aspects of environmental harm shall be addressed with Clause 21.

K6 Due diligence controls shall include documented screening; enhanced investigation of high risks; contractual and purchasing controls; competent operating procedures; monitoring and grievance input; escalation of serious issues; and verification of corrective action. A supplier's certification or questionnaire shall be evaluated for its actual scope and shall not replace investigation of credible contrary evidence.

K7 Carbon reduction, circular design and due diligence shall be evaluated together when a decision creates tradeoffs. A substitute material shall not be accepted as an overall sustainability improvement solely because it lowers one carbon figure while creating an uncontained serious labour, toxicity, biodiversity or safety risk. The comparison and required mitigation shall be recorded.

K8 Differences between applicable methods shall be resolved openly. For example, a required battery footprint calculation and an IAF vehicle life cycle model may use different allocation or reporting rules. Separate conforming results or a documented reconciliation shall be supplied; selected favourable elements from incompatible methods shall not be combined into an apparently compliant result.

K9 The environmental control register shall be reviewed when an applicable IAF requirement, approved method or relevant obligation changes. The organization shall determine whether the change affects calculations, procedures, disclosures or claims, and apply a controlled transition. A superseded method version shall be named accurately and shall not be represented as the current version.