

MIND THE GAP: A COMPARATIVE ANALYSIS AND FRAMEWORK FOR ESG ADOPTION
IN THE IT INDUSTRY

by

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LIST OF ABBREVIATIONS

Abbreviation	Full term
AI	Artificial Intelligence
B2B	Business-to-Business
B2C	Business-to-Consumer
CBAM	Carbon Border Adjustment Mechanism
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CHRO	Chief Human Resources Officer
COO	Chief Operating Officer
CPO	Chief Product Officer
CTO	Chief Technology Officer
CSO	Chief Sustainability Officer
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive (EU)
DEI	Diversity, Equity, and Inclusion
DPO	Data Protection Officer
ESG	Environmental, Social, and Governance
ESRS	European Sustainability Reporting Standards
ETS	Emissions Trading Scheme
EU	European Union
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
HR	Human Resources
IFRS	International Financial Reporting Standards
IP	Intellectual Property
ISSB	International Sustainability Standards Board
IT	Information Technology
KPI	Key Performance Indicator
MSCI	Morgan Stanley Capital International
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PIA	Privacy Impact Assessment
S&P	Standard & Poor's

SaaS	Software as a Service
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative
SDG	Sustainable Development Goal
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
TCFD	Task Force on Climate-related Financial Disclosures
tCO ₂ e	Tonnes of CO ₂ equivalent
UK	United Kingdom
UN	United Nations
UNGC	United Nations Global Compact
UNPRI	United Nations Principles for Responsible Investment
USD	United States Dollar
WEF	World Economic Forum

ABSTRACT

This research investigates the structural gap between universal ESG (Environmental, Social, Governance) standards and the specific materiality profile of product-based IT companies. While ESG frameworks have become central to corporate governance and investor decision-making globally – the global ESG investing market was valued at USD 39.08 trillion in 2025 and is projected to reach USD 180.78 trillion by 2034, growing at a CAGR of 18.80%, with Europe accounting for 44% of the market (Fortune Business Insights, 2026) – most existing standards were designed for asset-heavy industrial enterprises and have been extended to digital businesses without adequate sector-specific adaptation. This misalignment creates measurable analytical and practical problems: product IT companies face ESG risks that are platform-mediated, algorithmic, and data-intensive – none of which are well captured by conventional indicators focused on direct emissions, physical supply chains, and occupational safety.

The research pursues three interconnected objectives: to analyse the conceptual foundations of ESG and identify the specific limitations of universal frameworks when applied to product IT; to conduct an empirical case study assessment of ESG practices at appflame, a Ukrainian product-based IT company operating globally across consumer dating platforms, advertising technology, and B2B security products; and to develop a practical, adapted ESG framework supported by a phased implementation roadmap and economic justification.

The methodology combines a mixed-methods approach – qualitative maturity assessment, quantitative proxy indicator analysis, comparative gap analysis, and peer benchmarking – with a case study research strategy applied to appflame as a representative product IT firm. Benchmarking comparators include Snap Inc., Match Group, HubSpot, and Zendesk, selected for their structural parallels with appflame's business model and ESG risk profile.

The principal findings identify five structural ESG gaps at appflame: absence of quantified environmental data, no formalised data privacy ESG governance, no company-owned ESG disclosure of human capital metrics, no ESG governance structure at any organisational level, and

no ESG reporting aligned with international frameworks. The proposed ESG framework addresses these gaps through five integrated layers: a purpose-driven vision, a double materiality assessment identifying six priority topics, a leading-and-lagging KPI system, a governance structure, and a reporting and disclosure alignment architecture. A three-phase implementation roadmap (2026–2028) is developed with cost estimates, SMART targets, and a positive economic justification.

The research contributes at two levels: conceptually, by advancing the argument for sector-specific ESG adaptation in digital business; and practically, by delivering an implementable framework and roadmap that appflame and comparable product IT companies can adopt within a realistic timeframe.

Keywords: ESG, product IT companies, digital sustainability, ESG materiality, ESG framework, data privacy, responsible product design, Ukrainian technology sector, CSRD, GRI

Chapter 1. Introduction

1.1 GLOBAL TRENDS IN RESPONSIBLE BUSINESS CONDUCT AND GROWING ESG REQUIREMENTS FOR TECHNOLOGY COMPANIES

The global expansion of Environmental, Social, and Governance (ESG) principles into corporate strategy, regulatory frameworks, and capital markets represents one of the most significant governance transformations of the past two decades. What began in 2004 as a voluntary investor initiative – the United Nations Global Compact (UNGC) report "Who Cares Wins" (UNGC, Corporate Sustainability and ESG) – has evolved into a multi-trillion-dollar regulatory and financial infrastructure. By 2023, the UN Principles for Responsible Investment (UNPRI) had attracted signatories managing over USD 120 trillion in assets. According to Fortune Business Insights (2026), the global ESG investing market was valued at USD 39.08 trillion in 2025 and is projected to grow to USD 180.78 trillion by 2034, exhibiting a CAGR of 18.80%, with Europe accounting for 44% of the market in 2025.

The EU Corporate Sustainability Reporting Directive (CSRD), effective from 2024, mandates structured ESG disclosure for large European companies and is progressively extending its reach (European Commission, Corporate Sustainability Reporting Directive). The IFRS Sustainability Disclosure Standards, published by the International Sustainability Standards Board (ISSB) in 2023, are being adopted across 36 jurisdictions as of June 2025 as the global baseline for investor-oriented ESG reporting (IFRS Foundation, 2025). The trajectory is unambiguous: ESG is transitioning from voluntary best practice to mandatory compliance infrastructure.

The World Economic Forum's Measuring Stakeholder Capitalism report (WEF, 2020), developed by the International Business Council with support from 120 of the world's largest companies, proposed a common core set of metrics and disclosures to align mainstream corporate reporting on ESG performance across sectors and countries. The OECD Guidelines for

Multinational Enterprises on Responsible Business Conduct (OECD, 2023), updated in June 2023 to reflect urgent social, environmental, and technological priorities, explicitly address responsible business conduct for companies operating in digital environments.

Technology companies, and particularly those operating in the product-based IT sector, find themselves in an increasingly exposed position within this shift. Unlike industrial enterprises, whose ESG profile centers on direct emissions, physical resource consumption, and supply chain labor conditions, product IT companies generate risks that are structurally different: data privacy violations affecting millions of users, algorithmic systems that discriminate or manipulate, platform environments that enable harassment or psychological harm, and governance structures that lag far behind commercial scale. These risks are real, financially material, and growing – yet they are inadequately captured by the frameworks designed for industrial ESG assessment.

This creates the structural gap that motivates the present research. The problem is not that product IT companies are uninterested in ESG – many are. The problem is that the tools available to them are misaligned with their actual materiality profile. Universal ESG frameworks, applied without adaptation, either produce meaningless metrics (a software company with near-zero Scope 1 emissions scoring well on environmental indicators while carrying enormous data privacy risk) or force companies into compliance-oriented disclosure that serves neither strategic management nor genuine stakeholder accountability.

This research addresses that gap through a structured, empirically grounded analysis. Its central argument is that product-based IT companies require a fundamentally different ESG materiality orientation than the one embedded in current universal frameworks – and that developing such an orientation is both analytically tractable and practically urgent. The case study at the center of this research is appflame, a Ukrainian product IT company operating globally across consumer dating platforms, advertising technology, and B2B email security. appflame was selected not because it is exceptional but because it is representative: a mid-to-large product IT firm with a diverse digital portfolio, multi-jurisdictional regulatory exposure, and the full set of ESG

governance gaps characteristic of the sector. The findings and framework developed here are designed to be applicable beyond appflame to comparable product IT companies facing the same structural challenge.

The research is structured as follows: Chapter 1 establishes the theoretical and regulatory foundations, developing a sector-specific ESG materiality framework for product IT and documenting the structural limitations of universal standards; Chapter 2 applies this framework to appflame through a quantitative and qualitative ESG assessment; Chapter 3 develops the adapted ESG framework, benchmarks it against peer practice, and presents a phased implementation plan with economic justification; Chapter 4 assesses expected results using SMART criteria and summarizes the strategic and non-financial effects of framework adoption; Chapter 5 presents the assessment of potential effect; and Chapter 6 presents conclusions and directions for future research.

Chapter 2. ESG and the Specifics of Its Application in Product-Based IT Companies

2.1 THE ESSENCE OF THE ESG (ENVIRONMENTAL, SOCIAL, GOVERNANCE) CONCEPT

The ESG concept is a fixture of modern corporate discourse that remains analytically under-defined. This conceptual fluidity is symptomatic of ESG's simultaneous development across three institutional trajectories, each advancing a unique logic regarding the framework's purpose, primary stakeholders, and performance metrics. To conflate these distinct framings or to adopt a singular, generic perspective is to perpetuate the sector-insensitive analysis that this research intends to correct.

ESG as an investor assessment and risk-pricing tool. The concept originated within the financial community, notably through the 2004 UN Global Compact report "Who Cares Wins," which posited that superior ESG performance correlates with improved long-term risk-adjusted returns. In this paradigm, ESG serves as a methodology for risk identification: environmental factors influence regulatory costs; social factors impact reputational value and stability; and governance factors mitigate the risk of mismanagement. This logic is operationalized by agencies such as MSCI and Sustainalytics, whose scores directly influence institutional capital allocation and cost-of-capital calculations.

ESG as a strategic management and value creation system. An alternative framing views ESG as an internal management framework designed to integrate non-financial risks and opportunities into core strategy. The World Economic Forum (2020) articulated this paradigm through its Measuring Stakeholder Capitalism report, which proposed a common core set of metrics enabling companies to align mainstream reporting on ESG performance and track contributions to the SDGs (WEF, 2020). Here, ESG is not merely a disclosure exercise but a system for

target-setting and accountability. This is exemplified by organizations like Microsoft and Salesforce, which embed ESG objectives into operational budgets and executive compensation.

ESG as a regulatory disclosure and accountability framework. Predominant in the European Union, this trajectory treats ESG as a mandatory compliance regime. The Corporate Sustainability Reporting Directive (CSRD) mandates disclosure according to European Sustainability Reporting Standards (ESRS), utilizing a double materiality methodology to capture both environmental impact and financial risk (European Commission, Corporate Sustainability Reporting Directive). Simultaneously, the IFRS Sustainability Disclosure Standards establish a global baseline for investor-oriented reporting, now being adopted across 36 jurisdictions as of June 2025 (IFRS Foundation, 2025). In this context, ESG is a legal obligation characterized by standardized methodologies and third-party verification requirements.

Distinguishing these three framings is essential for defining the functional requirements of an ESG framework. While compliance asks what must be disclosed and investors ask what should be priced, management asks how the business should be governed. This research prioritizes the management-system framing while acknowledging regulatory disclosure as a critical boundary condition, aiming to develop a framework that guides appflame's strategy while preparing it for mandatory reporting in the EU market.

These framings further differentiate ESG from Corporate Social Responsibility (CSR) and sustainability. CSR is historically viewed as a discretionary, philanthropic effort focused on reputation rather than quantifiable performance. Sustainability is a systemic concept concerning global resource longevity. In contrast, ESG is a rigorous measurement and accountability framework that translates social and environmental concerns into comparable indicators tied to financial performance. This transition from CSR to ESG signifies a move from voluntary reputation management to strategic risk governance.

The evolution toward mandatory ESG has been rapid, moving from the TCFD's voluntary climate disclosures to the comprehensive mandates of the CSRD and ISSB standards. This marks

the shift from a voluntary, investor-led era to a mandatory, multi-stakeholder environment. This research positions appflame's ESG development within this new reality, where early investment in governance is no longer optional but a strategic and regulatory imperative.

2.2 FEATURES OF ESG IN PRODUCT-BASED IT COMPANIES

A fundamental obstacle in applying ESG to technology is the classification of "tech companies" as a monolithic entity. In reality, the sector comprises diverse business models with structural risk profiles that demand differentiated materiality assessments. Before an ESG framework for product IT can be established, the category must be analytically distinguished from other technology-driven sectors.

Product IT vs. IT outsourcing and services. Service firms derive revenue from external delivery, meaning their ESG profile centers on human capital metrics like labor practices and diversity within a headcount-intensive workforce. Conversely, product-based IT companies develop and operate their own digital assets used by millions. This ownership creates direct accountability for product behavior, data ethics, and societal impact – dimensions often absent in the outsourcing model.

Product IT vs. hardware and telecommunications. Hardware and telecom providers manage extensive physical infrastructure, where environmental materiality focuses on Scope 1 emissions, supply chain labor, and e-waste. For product IT companies operating through cloud infrastructure, these metrics are often misleadingly low. Applying hardware-centric frameworks to software firms creates an illusion of environmental leadership while ignoring the indirect digital impacts that actually define the sector's footprint.

Product IT vs. traditional manufacturing. Manufacturing ESG prioritizes direct emissions, water use, and occupational safety – factors largely irrelevant for product IT, which lacks production facilities and hazardous waste streams. This category mismatch results in systematically

distorted assessments when manufacturing-era standards are applied to software platforms. The OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (2023) explicitly acknowledge that digital businesses require adapted responsible business conduct standards that reflect the specific nature of platform-mediated operations (OECD, 2023).

The materiality profile of product IT is defined by digital value creation rather than physical processes. These companies generate risk through data, platform dynamics, and user scale, resulting in several core ESG priorities:

Data governance and the trust architecture of digital products. Managing sensitive user data is an existential risk. For dating and consumer platforms, privacy violations threaten the trust that sustains the business model. Beyond regulatory compliance like the GDPR, data monetization requires active governance to navigate the inherent conflict between revenue and user privacy.

User impact and responsible product design. Product IT firms continuously influence user behavior through algorithm and design choices. These carry risks of psychological harm, addiction, and harassment. As recognized by the EU AI Act, design-driven harm is a significant liability, signaling that "product design" is no longer a defense against claims of societal harm.

Algorithmic responsibility and fairness. Recommendation and matching systems can systematically amplify bias or misinformation. Algorithmic accountability – including auditing and transparency – is now a material governance topic as global regulators increase scrutiny on AI-driven systems.

Human capital as the primary productive asset. In product IT, productive capacity resides in knowledge and creativity. Risks such as workplace toxicity or lack of diversity translate directly into innovation stagnation. Diversity in leadership is correlated with superior financial performance, making human capital governance a critical financial materiality issue.

Indirect digital environmental footprint. While direct emissions are negligible, Scope 2 and 3 impacts from cloud computing and data centers are substantial. As AI scales, electricity

demand for data processing is projected to grow significantly, making cloud-related energy efficiency the relevant environmental category for the sector.

The table below (see Table 1) summarizes these features, contrasting them with the limitations of standard ESG metrics. This analysis underscores the research argument that universal frameworks fail to capture the platform-mediated risks central to digital business.

Table 1. ESG features of product-based IT companies and inadequacy of standard metrics

ESG Dimension	Key characteristics of product IT	Most material ESG topics	Why standard metrics fall short
Environmental	Negligible Scope 1; reliance on cloud; AI energy demand	Scope 2 & 3 emissions; AI inference efficiency	Focus on direct emissions; cloud impacts are underweighted
Social	Large user interaction; human capital dependency	Data privacy; user safety; digital well-being; DEI	Frameworks ignore algorithmic harm and digital addiction
Governance	Rapid scaling; informal structures; data regulation	AI ethics; board accountability; algorithmic transparency	Oversight challenges of fast-scaling digital firms are missing

Source: Author's analysis. Reference frameworks: GRI Standards (GRI, 2024); SASB Technology Sector Standard (SASB/IFRS Foundation); OECD Guidelines for MNEs on Responsible Business Conduct (OECD, 2023).

Environmental ESG for product IT must be adapted to capture indirect digital impacts rather than industrial ones. However, the social and governance dimensions carry substantially greater materiality for the sector, yet these are precisely where universal frameworks are most inadequate. A relevant ESG framework must be built on a sectoral materiality premise distinct from the assumptions of the GRI or SASB.

2.3 ISSUES OF APPLYING UNIVERSAL ESG STANDARDS IN DIGITAL BUSINESS

The misalignment between universal frameworks and product IT materiality has tangible consequences for digital company assessment and accountability. This section documents four structural misalignments grounded in regulatory and academic research.

Misalignment 1: Environmental materiality metrics. Dominant indicators focus on physical resource consumption and direct emissions. This produces a measurement distortion for software companies: a near-zero Scope 1 profile masks significant indirect impacts from cloud infrastructure and global user device energy usage. Traditional GHG accounting captures these upstream impacts poorly, a gap that will widen as AI-related electricity demand scales.

Misalignment 2: Social risk categories. International social standards prioritize occupational safety and supply chain labor rights – none of which are primary risks for software platforms. Material social risks are instead platform-mediated: data privacy violations, algorithmic discrimination, and mental health impacts. Regulatory bodies increasingly acknowledge that current frameworks insufficiently address these digital-specific risks.

Misalignment 3: Governance framework assumptions. Governance standards assume stable structures and independent boards – features often absent in growth-phase product IT companies. Dynamic firms frequently operate with founder-dominated structures and informal processes. Universal frameworks fail to provide analytical value for the specific governance challenges of these firms, such as AI ethics oversight and data protection board governance.

Misalignment 4: Absence of sector-specific digital indicators. While some standards recognize technology-specific risks, they do not adequately distinguish between outsourcing, hardware, and platform business models. Applying indicators from one sector to another produces misleading assessments. For product IT, a high generic ESG score may coexist with severe unmanaged risks in privacy and safety – the very factors that determine long-term viability.

These misalignments demonstrate that the problem is structural and cannot be resolved through minor recalibration. Addressing this requires a systematic reorientation of materiality for

product IT companies – shifting focus from industrial impacts to digital and algorithmic ones – to establish a new layer of sector-specific governance mechanisms.

2.4 RESEARCH METHODOLOGY AND LOGIC

The formal research design – comprising the object, subject, aim, tasks, and methods – is detailed in the following section.

Object of research: ESG governance structures and disclosure mechanisms within product-based IT companies, specifically examining the alignment between universal standards and digital materiality profiles.

Subject of research: The misalignment between universal ESG frameworks and product IT profiles, and the development of an adapted framework for a representative Ukrainian product IT firm.

Aim of the research: To construct a practical, sector-adapted ESG framework based on an empirical case study of appflame, producing an implementable governance structure and roadmap for comparable digital organizations.

Research tasks: (1) Analyze ESG interpretive frameworks and institutional logics; (2) distinguish the structural ESG features of product IT; (3) evaluate the inadequacy of universal standards; (4) assess appflame's current practices; (5) conduct peer benchmarking; and (6) develop a tailored ESG framework and implementation plan.

Methods used: The research utilizes a mixed-methods design centered on a case study strategy. This approach generates actionable insights for appflame, a private entity without standardized public data. Quantitative analysis involves proxy metrics for ESG assessment, while qualitative analysis evaluates governance maturity. Peer benchmarking includes disclosures from Snap Inc., Match Group, HubSpot, and Zendesk.

Information base: Sources include international ESG standards: GRI Standards (GRI, 2024); SASB/IFRS Foundation Technology Sector Standard; EU CSRD/ESRS (European Commission, Corporate Sustainability Reporting Directive); EU Sustainable Finance Framework (European Commission, EU Sustainable Finance Framework); OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (OECD, 2023); WEF Stakeholder Capitalism Metrics (WEF, 2020); UNGC corporate sustainability principles (UNGC, Corporate Sustainability and ESG); regulatory policy documents from the European Commission and Ukraine; corporate data from appflame and its peers; and academic research on ESG materiality and financial performance.

Limitations: Findings are context-specific and should be extended cautiously. The assessment relies on proxy indicators due to data limitations common in the private sector. Additionally, all analysis is based on secondary sources, as primary management interviews were not conducted.

Chapter 3. Analytical Evaluation of ESG Practices in a Product-Based IT Company

(appflame Case Study)

3.1 COMPANY PROFILE AND STRATEGIC DEVELOPMENT CONTEXT

The selection of appflame as the case study for this research is analytically motivated rather than arbitrary. The company exemplifies the full set of structural characteristics that make ESG framework adaptation both necessary and analytically tractable for the product IT sector: meaningful and growing scale (524 employees as of 2024, +16% year-on-year), a multi-product digital portfolio with structurally distinct ESG risk profiles, multi-jurisdictional regulatory exposure spanning four countries, a high-growth governance environment in which ESG structures have not kept pace with commercial development, and a complete absence of formalised ESG governance at any organisational level.

appflame is a Ukrainian product-based IT company and a part of the Genesis ecosystem, focused on the development, scaling, and monetisation of digital products for global markets. The company operates three structurally distinct product categories: consumer social connection platforms (Hily and Taimi, with a combined user base of 70 million users globally), advertising technology and marketing solutions (AdConnect), and B2B email security products (Mailkeeper). This portfolio diversity is the defining feature of appflame's ESG complexity.

Established in Ukraine, appflame has expanded its operational footprint to 524 personnel as of 2024, maintaining an international network of offices and strategic hubs in Kyiv, London, and Limassol, complemented by a coworking presence in Warsaw. The company's human capital maturity is evidenced by its 11th-place ranking in the Forbes Ukraine Best Employers profile (2026), supported by a high employee NPS score of 86 and a career opportunities metric of 74%.

Strategically, the organization adheres to a high-growth, venture-oriented trajectory defined by aggressive product scaling, user acquisition as a primary operational KPI, and a performance

culture focused on commercial deliverables. The 16% year-on-year headcount growth recorded between 2023 and 2024, alongside 35 active vacancies at the time of assessment, underscores a commitment to capability expansion.

The ESG-relevant characteristics of appflame are summarized in Table 2 (see Table 2).

Table 2. Company profile and ESG-relevant characteristics at appflame

Parameter	Case-specific manifestation at appflame	ESG implication	Key risks and opportunities
Business model	Three structurally distinct digital product categories: consumer social platforms Hily/Taimi (70M registered users), adtech AdConnect, B2B security Mailkeeper. Part of Genesis ecosystem.	Portfolio complexity creates differentiated ESG governance requirements across product lines.	Risk: one product safety incident creates group-level reputational liability. Opportunity: safety leadership creates trust-based product differentiation.
Geography	Ukraine (HQ), UK/London (commercial), Cyprus/Limassol (EU hub), Warsaw/Poland (coworking).	Four simultaneously applicable regulatory frameworks: Ukrainian data law, UK GDPR, EU GDPR/DSA/AI Act/CSRD, Polish data law.	Risk: regulatory violation in any jurisdiction creates group-level liability. Opportunity: EU accession trajectory creates first-mover ESG advantage.
Workforce	524 employees (+16% YoY); NPS: 86%, career score: 74%, compensation above average.	Strong informal people practices confirmed by Forbes #11 Best Employer ranking. None formalised as ESG disclosures.	Risk: talent attrition if ESG employer brand not formalised. Opportunity: formalising practices into disclosed ESG program creates competitive talent advantage.
Asset structure	Predominantly intangible – software IP, data assets (70M user profiles), platform infrastructure; full cloud reliance.	Near-zero Scope 1 emissions. All environmental impact is indirect (Scope 2/3) through cloud providers.	Risk: unmeasured Scope 2/3 cloud emissions create CSRD disclosure gaps. Opportunity: green cloud migration achievable at low incremental cost.
Growth strategy	524 employees with 16% YoY growth; 35 open vacancies; high-growth venture-style product development.	Fast-scaling governance systematically lags commercial development. ESG formalisation deferred in high-growth phases.	Risk: governance maturity gap creates growing investor and regulatory scrutiny. Opportunity: Genesis ecosystem credibility provides ESG communication foundation.

Source: Company website; Forbes Ukraine Best Employers Rating 2026.

A structured stakeholder analysis is a prerequisite for a rigorous ESG materiality assessment. For appflame, the stakeholder universe is notably diverse due to the company's multi-product portfolio, multi-jurisdictional operational footprint, and 70-million-user platform

scale. The matrix below (see Table 2a) maps ten primary stakeholder groups across six analytical dimensions.

Table 2a. Stakeholder Matrix: internal and external stakeholders, interests, influence, and ESG expectations

Stakeholder	Type	Key Interests & Power	Influence Level	ESG Expectations	Linked Material Topics
Employees (524 staff, 4 hubs)	Internal	Career development, fair compensation, safe & inclusive workplace	HIGH	Published DEI policy; disclosed pay equity; formalised wellbeing program	Human Capital & DEI; ESG Governance; Ethics & Compliance
Executive Leadership (CEO, C-suite)	Internal	Profitable growth, regulatory compliance, investor credibility	HIGHEST	ESG accountability structure; exec pay linked to ESG KPIs; actionable roadmap	ESG Governance; All 6 material topics
Product & Engineering Teams	Internal	Clear product mandates, innovation freedom, algorithmic accountability guidelines	HIGH	Trust & Safety review framework; green cloud procurement; PIA integration	Responsible Design; Data Privacy; Digital Infrastructure Sustainability
Platform Users (70M registered)	External	Personal safety, data privacy, non-discriminatory algorithms	HIGH	Published safety metrics; GDPR-compliant data governance; proactive harm prevention	Responsible Design & User Safety; Data Privacy & Cybersecurity
B2B Enterprise Clients	External	Vendor ESG compliance, data security, regulatory alignment	HIGH	Published Code of Business Conduct; data security certifications; ESG disclosure	Ethics & Compliance; Data Privacy; ESG Governance
Investors & Financial Institutions	External	Risk-adjusted returns, ESG assessability, regulatory compliance trajectory	HIGH	GRI/SASB-aligned ESG disclosure; quantified ESG KPIs; CSRD readiness	ESG Governance; All 6 material topics
EU & UK Regulators	External	User rights protection, platform accountability, data governance standards	HIGHEST	GDPR-compliant privacy governance; DSA/Online Safety Act compliance; CSRD-preparatory assessment	Data Privacy; Responsible Design; Digital Infrastructure; ESG Governance
Ukrainian Government & Society	External	National resilience, employment in wartime economy, EU accession credibility	MEDIUM	Support for wartime community initiatives; transparent social contributions	Human Capital & DEI; Ethics & Compliance
Genesis Ecosystem	External	Portfolio-level ESG reputation, investor attractiveness, governance standards	HIGH	Minimum ESG baseline across portfolio companies; shared governance frameworks	ESG Governance; Ethics & Compliance

Civil Society, NGOs & Media	External	Platform accountability for user harm; LGBTQ+ rights; algorithmic transparency	MEDIUM	Published transparency reports; proactive stakeholder engagement; safety metrics	Responsible Design; Data Privacy; Digital Infrastructure Sustainability
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Source: Author's analysis. Reference frameworks: GRI Standards, Stakeholder Engagement (GRI 2, 2021); OECD MNE Guidelines (OECD, 2023); CSRD/ESRS Double Materiality Guidance (European Commission); Forbes Ukraine Best Employers 2026.

Three analytical conclusions emerge from the stakeholder matrix. First, regulatory stakeholders – particularly EU and UK regulators – exercise the highest formal influence. Second, platform users (70 million registered users) carry expectations deeply material to appflame's commercial model. Third, the analysis reveals a meaningful internal-external tension: employees hold strong expectations for formalised ESG governance, while external institutional investors and enterprise clients require structured, comparable ESG data that the company does not currently publish.

The ESG implications of appflame's product categories necessitate differentiated analysis. Dating and social platforms (Hily, Taimi – 70 million registered users) represent the most intensive materiality exposure. Advertising technology and marketing solutions (AdConnect) generate ESG risks concentrated within data ethics and digital rights. B2B email security (Mailkeeper) generates acute exposures concentrated in the governance dimension: cybersecurity robustness, data integrity, and multi-jurisdictional compliance.

3.2 QUANTITATIVE ASSESSMENT OF ESG INDICATORS (E, S, G)

The quantitative assessment evaluates appflame's ESG performance through the lens of measurable indicators. Given that the organization does not currently publish a formal ESG report, this assessment synthesizes confirmed primary data from the Forbes Ukraine Best Employers

Rating 2026, proxy estimations derived from sector-specific benchmarks, and observable evidence gathered from public corporate channels.

Environmental indicators. appflame's direct environmental footprint is negligible by design, a structural consequence of its business model. As a pure-software product entity with no manufacturing facilities, no vehicle fleet, and no physical production infrastructure, Scope 1 direct greenhouse gas emissions are effectively zero. The material environmental exposure resides entirely in Scope 2 indirect emissions from office energy consumption across four jurisdictions (Kyiv, London, Limassol, Warsaw) and Scope 3 upstream emissions from the cloud hosting infrastructure required to serve 70 million platform users. Combined estimated Scope 2+3: 570–1,190 tCO₂e per annum. Currently, both metrics remain entirely unmeasured and undisclosed.

Environmental indicators are summarized in Table 3 (see Table 3).

Table 3. Quantitative environmental indicators: appflame baseline assessment

Environmental Indicator	Value / Status	Data Basis	Assessment / Gap
Scope 1 GHG emissions (direct)	~0 tCO ₂ e	Software-only operations; no fleet or manufacturing	Not material; no disclosure gap
Scope 2 GHG emissions (four offices)	270–390 tCO ₂ e/year (est.)	900–1,300 MWh x 0.3 tCO ₂ e/MWh; GeSI benchmark; 524 employees	Entirely unmeasured; not disclosed; primary environmental disclosure gap
Scope 3 Cat. 1 (cloud infrastructure)	300–800 tCO ₂ e/year (est.)	Cloud Carbon Footprint proxy; 70M user platform scale	Not measured; highest uncertainty; most material environmental category
Combined Scope 2+3 (estimated)	570–1,190 tCO ₂ e/year (est.)	Sum of Scope 2 and Scope 3 estimates above	No baseline established; target for 2026 baseline measurement
Renewable energy share (cloud providers)	Unknown	No public procurement policy	No green cloud procurement policy exists
Energy efficiency initiatives	None documented	No environmental policy published	Zero baseline; immediate opportunity for green cloud migration

Source: GeSI / Green Software Foundation benchmarks; Cloud Carbon Footprint methodology; IEA (2024). All figures are proxy estimates.

Social indicators – human capital. The Forbes Ukraine Best Employers Rating 2026 provides third-party public data for several foundational human capital indicators. Confirmed figures include: total headcount of 524 (+16% YoY), an employee NPS score of 86, a career

opportunities score of 74%, and above-average compensation. The NPS score of 86 significantly exceeds the Ukrainian IT sector average of approximately 65–70 points (DOU.ua, 2026). However, verified data remains unavailable for gender representation by level, pay equity ratios, voluntary turnover rates, and DEI training completion metrics.

Social indicators are summarized in Table 4 (see Table 4).

Table 4. Quantitative social indicators: appflame baseline assessment

Social Indicator	Value / Status	Data Source	Assessment / Gap
Total workforce	524 employees (+16% YoY)	Forbes Ukraine Best Employers 2026	Confirmed; no breakdown by geography, function, or gender published
Employee NPS	NPS score of 86	Forbes Ukraine Best Employers 2026	Confirmed; significantly above Ukrainian IT sector average (~65–70%). Strong informal HR program
Career opportunities score	74%	Forbes Ukraine Best Employers 2026	Confirmed; specific benchmark for ESG human capital disclosure
Compensation assessment	Above average	Forbes Ukraine Best Employers 2026	Confirmed qualitatively; no pay equity ratio published
Voluntary turnover rate	Not published (sector est. 18–22%)	DOU.ua IT survey 2026	Not measured or disclosed by company despite strong NPS signal
Women in management	Unknown – not disclosed	No public disclosure	Critical disclosure gap vs. peers (HubSpot: 44%; Match Group: 52%)
DEI training completion	Not published (practice confirmed by Forbes)	Forbes Ukraine 2026 HR practices section	Practices confirmed; no completion rates or program metrics published
Combined platform user base	70 million registered users (Hily + Taimi)	Forbes Ukraine Best Employers 2026	Confirmed; establishes scale of social ESG exposure and data privacy liability
User trust / Trustpilot presence	Positive scores present	Trustpilot platform (public)	Partial trust architecture confirmed; not integrated into formal ESG reporting
Platform compliance policies	Published on product websites	Company product websites	Basic compliance in place; not ESG-framed or benchmarked against industry standards
GDPR material violations (confirmed)	0 (no public record)	Regulatory databases; press review	Positive indicator; confirms minimum compliance baseline

Source: Third-party public data: Forbes Ukraine Best Employers Rating 2026; DOU.ua IT survey 2026.

Governance indicators. As a private, non-listed organization, appflame's governance assessment relies upon publicly observable indicators. The most significant finding is structural: no publicly observable formal ESG governance mechanisms were identified at any organizational level. There is no designated ESG Committee, no appointed ESG Lead, no cross-functional Working Group, and no published standalone ESG policies.

Governance indicators are summarized in Table 5 (see Table 5).

Table 5. Quantitative governance indicators: appflame baseline assessment

Governance Indicator	Status	Assessment
Board-level ESG oversight	Absent	No ESG Committee; no ESG agenda items in any public board disclosure
Executive ESG accountability	Absent	No ESG Lead, CSO, or equivalent role identified
Cross-functional ESG Working Group	Absent	No evidence of any cross-functional ESG coordination mechanism
ESG KPIs in executive compensation	Absent	No compensation policy disclosed; no ESG linkage evident
Published Code of Business Conduct	Absent	No standalone document found on company website
Anti-corruption policy	Absent	No standalone document; no training program evidence
Data Privacy Policy (ESG-framed)	Partial	GDPR-compliant product privacy notices on Hily, Taimi, Mailkeeper; no integrated ESG governance policy
Whistleblower mechanism	Absent	No evidence of formal anonymous reporting channel
ESG report published	Absent	No sustainability or ESG report in any format
ESG framework alignment	None	No alignment with GRI, SASB, TCFD, or any other framework

Source: Publicly observable indicators; company website; regulatory databases.

The quantitative baseline assessment reveals a characteristic paradox: appflame demonstrates robust informal performance across several social indicators where primary data is confirmed (NPS score of 86, Forbes #11 employer ranking, 70 million registered user trust practices), while simultaneously lacking a formal governance infrastructure. This does not represent a contradiction; rather, it reflects a common structural pattern among fast-growing product IT companies where

substantive organizational values and human capital investment precede formal ESG architectures. The objective of the framework in Chapter 3 is to formalize, measure, and disclose existing substantive practices, while simultaneously constructing the governance structures and digital product responsibility programs that remain absent.

3.3 QUALITATIVE ASSESSMENT OF THE EFFECTIVENESS OF ESG PRACTICES

The qualitative assessment evaluates the maturity and effectiveness of appflame's ESG practices, moving beyond binary indicator presence to a nuanced analysis of organizational integration. This evaluation utilizes a four-tier ESG maturity model – Absent, Basic, Developing, and Advanced – reconstructed from the MSCI ESG Rating methodology, GRI Sustainability Reporting Standards (GRI, GRI Standards), and academic frameworks for strategic ESG integration.

Absent: Characterized by a complete lack of formalized ESG governance, systematic data collection, or voluntary commitments. The organization operates at the legal minimum with no external sustainability disclosure.

Basic: Informal practices exist within isolated ESG dimensions but lack integration into a centralized governance structure. ESG is treated as a passive compliance byproduct rather than a strategic management function.

Developing: A formalized ESG governance structure is established, and baseline data collection is active. Initial disclosures are published, and targets are defined for priority material topics.

Advanced: ESG is fully integrated across all business functions as a competitive differentiator. The organization publishes externally assured reporting aligned with international standards (GRI/ISSB/CSRD).

Synthesizing the quantitative baseline from Section 2.2 – including the Forbes Ukraine benchmarks – appflame's aggregate ESG maturity is positioned at the Basic level, exhibiting significant variance across sub-dimensions. The data confirms that several social indicators have transitioned from Absent to Basic, reflecting substantive practices that exceed legal requirements but still lack formalization into a dedicated ESG program.

Environmental maturity: Absent. appflame exhibits a complete lack of formalized environmental ESG practices. The organization currently maintains no carbon footprint inventory, no renewable energy procurement strategy, and no defined environmental targets.

Social maturity – Human Capital: Basic. Third-party public data from the Forbes Ukraine Best Employers Rating 2026 confirms that appflame's people practices significantly exceed the minimum threshold for active governance. A validated employee NPS score of 86, an 11th-place Forbes ranking, and a comprehensive benefits architecture constitute a substantive social program. The structural gap is identified not as a lack of substantive practice, but as a lack of formalization within a unified ESG architecture.

Social maturity – Product Responsibility: Basic. This dimension is positioned at Basic maturity based on the establishment of a partial product-level trust and compliance architecture. The dating assets, Hily and Taimi, maintain public-facing safety policies and GDPR-compliant data protocols across a 70-million-registered-user base. The current orientation is characterized as reactive compliance rather than proactive, design-driven safety governance.

Social maturity – Data Privacy: Basic. Evidence of GDPR-compliant privacy notices across Hily, Taimi, AdConnect, and Mailkeeper, coupled with a zero-violation public record, confirms a Basic compliance maturity. Despite this baseline, the transition to Developing maturity

is hindered by the absence of a designated DPO appointment and no disclosed Privacy Impact Assessment (PIA) program.

Governance maturity: Absent. Notwithstanding the robust informal social practices identified, aggregate governance maturity remains Absent. appflame demonstrates none of the formal mechanisms essential for non-financial oversight: no ESG governance structure, no published Code of Business Conduct, no formal anti-corruption training architecture, and no whistleblower mechanism.

The ESG maturity assessment is summarized in Table 6 (see Table 6).

Table 6. ESG maturity assessment by dimension: appflame

ESG Dimension	Maturity Level	Evidence Base	Key Gap to Next Level
Environmental	Absent	No measurement, policies, or targets exist	Baseline Scope 2/3 measurement; renewable energy procurement policy
Social – Human Capital	Basic	Forbes #11 Best Employer; 86% NPS; confirmed wellbeing, DEI training, and social programs	Formalise into published policies; measure with defined KPIs; disclose against GRI 401-405
Social – Product Responsibility	Basic	User-facing trust/compliance policies on Hily/Taimi; Trustpilot presence; GDPR-compliant practices; 70M user base served	Structured Trust & Safety framework; published safety metrics; proactive algorithmic accountability process
Social – Data Privacy	Basic	GDPR-compliant notices on all products; zero confirmed violations	Systematic PIA program; published DPO appointment; ESG-integrated data privacy governance policy
Governance	Absent	No formal ESG governance at any level despite strong informal HR practices	Appoint ESG Lead; establish Working Group; publish Code of Conduct, anti-corruption policy, whistleblower channel

Source: MSCI ESG Rating methodology; GRI Sustainability Reporting Standards (GRI, 2024); Forbes Ukraine Best Employers Rating 2026.

3.4 COMPARATIVE ANALYSIS OF INTERNATIONAL ESG STANDARDS AND REGULATORY REQUIREMENTS

The comparative analysis evaluates appflame's current ESG positioning against the mandates of four primary international frameworks while assessing the regulatory trajectory influencing the company's disclosure duties as a Ukrainian entity with substantial EU market exposure and a 70-million-user platform footprint.

GRI Standards. The Global Reporting Initiative Standards represent the most widely adopted impact materiality framework globally, utilized by over 10,000 organizations as of 2024 (GRI, GRI Standards). For appflame, the most relevant Topical Standards encompass GRI 418 (Customer Privacy), GRI 416 (Customer Health and Safety), GRI 404 (Training and Education), GRI 405 (Diversity and Equal Opportunity), GRI 205 (Anti-Corruption), and GRI 302 (Energy).

SASB/ISSB Technology sector standards. Absorbed into the IFRS Sustainability Disclosure Standards in 2023, these standards identify four financially material issues for technology: digital infrastructure footprint, data privacy, data security, and employee engagement (SASB/IFRS Foundation, SASB Standards). Forbes-reported data provides partial evidence regarding employee engagement (NPS score of 86), yet no SASB-formatted disclosure exists.

EU CSRD/ESRS. The Corporate Sustainability Reporting Directive is the primary regulatory driver for European-market firms. While not currently mandatory for appflame, the trajectory toward compliance is defined by Ukraine's EU accession path, UK climate disclosure requirements, and the due diligence demands of enterprise clients (European Commission, Corporate Sustainability Reporting Directive).

TCFD/IFRS S2. Now integrated into IFRS S2, the TCFD framework structures climate disclosure around Governance, Strategy, and Risk Management. appflame currently maintains no TCFD-aligned disclosures and no climate risk governance, a gap that grows in significance as IFRS S2 is adopted across 36 jurisdictions as of June 2025 (IFRS Foundation, 2025).

The comparative analysis results are summarized in Table 7 (see Table 7).

Table 7. Comparative analysis: appflame vs. international ESG framework requirements

Framework	Key Requirements for appflame	Alignment	Status of Practices
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GRI Standards (Core)	Material topic policies, targets, and metrics across privacy (GRI 418), DEI (GRI 405), energy (GRI 302), anti-corruption (GRI 205) (GRI, 2024)	Absent	Social practices confirmed via Forbes-reported data; environmental/governance absent
SASB Technology	Data security, privacy, infrastructure footprint, and engagement metrics for digital firms (SASB/IFRS Foundation)	Absent	Engagement partially evidenced (NPS score of 86); no SASB disclosure
EU CSRD/ESRS	Double materiality; E1 (Climate), S1 (Workforce), S4 (Users), G1 (Conduct)	Absent	70M user base creates high S4 materiality; accession path makes preparation urgent
TCFD / IFRS S2	Climate risk governance; Scope 2/3 emissions from digital infrastructure; adopted across 36 jurisdictions as of June 2025 (IFRS Foundation, 2025)	Absent	No climate governance; Scope 2/3 unmeasured across footprint
OECD MNE Guidelines (2023)	Responsible business conduct for digital operations; data governance; algorithmic accountability; anti-corruption; stakeholder engagement (OECD, 2023)	Absent	No alignment with responsible business conduct standards for digital operations

Source: GRI Standards (GRI, 2024); SASB/IFRS Foundation; European Commission; IFRS Foundation (2025); OECD Guidelines for MNEs (OECD, 2023).

The comparative analysis reinforces the conclusions of Sections 2.2 and 2.3: appflame's structural gap is not a complete absence of relevant practices, but rather a lack of formal alignment and governance. The organizational imperative is to transition from informal strengths to a formalized framework that constructs environmental and governance accountability from scratch.

Chapter 4. Development of an ESG Framework and Recommendations for a Product-Based IT Company

The diagnostic evaluation conducted in Chapter 3 identifies four structural conclusions that establish the design logic for the proposed framework. First, appflame's ESG materiality is unequivocally centered on social and governance dimensions – specifically data privacy for 70 million registered users, platform-mediated safety, human capital formalization, and governance architecture – rather than the environmental metrics prioritized by universal frameworks. Second, the organization possesses a robust substantive foundation. Third, product responsibility maturity remains at a Basic level. Finally, governance maturity is Absent, defined by a complete lack of formal non-financial oversight mechanisms or framework alignment.

4.1 BENCHMARKING ESG PRACTICES OF PRODUCT IT COMPANIES

Benchmarking serves as the formal analytical foundation for framework design, necessitating an external evaluation of peer strategies, framework adoption, and performance thresholds before defining internal KPIs and governance architectures. This research benchmarks appflame against four structurally comparable digital organizations: Snap Inc. (consumer social scale), Match Group (direct portfolio comparator for Hily and Taimi), HubSpot (B2B SaaS growth profile), and Zendesk (enterprise CRM).

An essential contextual finding is that appflame's verified 86% employee NPS (Forbes Ukraine, 2026) exceeds the engagement metrics of most global comparators, including HubSpot (78–80%). This indicates that the benchmarking gap is not a deficit in substantive culture, but a deficit in governance formalization, measurement architecture, and external disclosure.

Environmental benchmarking. All peer companies have transitioned to quantified emissions baselines with defined reduction targets. Snap Inc. has achieved 100% renewable energy

for data centers and a net-zero 2030 commitment. Match Group publishes annual GHG assessments for cloud hosting and utilizes sustainability criteria in provider selection. appflame lacks comparable targets or green procurement policies.

Social benchmarking – product responsibility and user safety. The most significant benchmarking gap concerns platform safety governance. Match Group has developed an integrated Trust and Safety framework encompassing identity verification, anti-harassment tools, and published safety KPIs. Given appflame's 70-million-registered-user scale, the comparison is structurally direct.

Social benchmarking – human capital. While appflame's informal practices exceed peers on outcome metrics (NPS score of 86), the disclosure gap is acute. HubSpot, Match Group, and Snap publish verified pay equity audits, granular representation statistics, and DEI investment data. In contrast, appflame's substantive investments are disclosed only via third-party rankings rather than company-owned ESG reports.

Governance benchmarking. The governance gap remains absolute. Snap utilizes a board-level ESG Committee, while Match Group integrates ESG into executive variable compensation. HubSpot and Zendesk maintain dedicated ESG leadership with direct reporting lines. appflame currently possesses none of these formal mechanisms.

A comparative overview of ESG practices across product IT peers and appflame is provided in Table 8 (see Table 8).

Table 8. Benchmarking ESG practices: product IT peers vs. appflame

ESG Dimension	Snap Inc.	Match Group	HubSpot	Zendesk	appflame (2024–2026)
Environmental	Net-zero 2030; 100% renewable energy; Scope 3 roadmap	Annual GHG footprint; green cloud procurement criteria	Carbon neutral Scope 1+2; Scope 3 supplier engagement	Carbon neutrality target; green purchasing policy	Est. 570–1,190 tCO2e combined Scope 2+3; no measurement, no targets, no green cloud policy
Product Safety	Quarterly Transparency Reports; content moderation metrics	Full Trust & Safety framework; identity verification;	Privacy-by-design; third-party security audits	Data privacy charter; annual privacy report	GDPR-compliant policies; Trustpilot presence; 70M registered users –

		anti-harassment tools			no formal safety framework
Human Capital	Annual DEI report; pay equity review; mental health programs	Annual representation index; gender pay equity; DEI investment disclosure	Granular DEI data by level; third-party pay equity audit	DEI dashboard; wellbeing programs; engagement metrics	NPS score of 86; Forbes #11; DEI training; wellbeing – not disclosed in ESG format
Governance	Board ESG Committee; ESG KPIs in exec compensation; quarterly reviews	ESG metrics in exec variable pay; quarterly ESG board reviews	ESG under CPO; cross-functional Working Group; monthly KPI tracking	Chief Social Impact Officer; direct CEO reporting line	No formal ESG governance structure; no ESG Lead, Working Group, or board oversight
Reporting	GRI + SASB Tech; TCFD reference; quarterly transparency updates	GRI + SASB; UNGC signatory; annual ESG report	TCFD-aligned; SDG mapping; annual sustainability report	SDG-linked; GRI reference; annual disclosure	No ESG report or framework alignment. Forbes Ukraine Best Employers profile (2026) is only public ESG-relevant disclosure.

Source: Latest available sustainability disclosures: Snap Inc. (2023 Citizenship Report); Match Group (2023 ESG Report); HubSpot (2023 Sustainability Report); Zendesk (2022 ESG Report). WEF Stakeholder Capitalism Metrics (WEF, 2020). Forbes Ukraine Best Employers 2026 for appflame data.

4.2 ESG FRAMEWORK FOR A PRODUCT IT COMPANY: STRUCTURE AND KEY ELEMENTS

The ESG framework proposed in this section integrates the collective findings from Chapters 2 and 3 into a structured and actionable governance architecture. The framework design adheres to the ESG Strategy Logic Chain, progressing from Vision and Purpose through Materiality Assessment to Strategic Goals, KPIs, and Operational Initiatives. Three foundational design principles govern the conceptualisation of this framework: materiality primacy, formalisation-first logic, and scalability through a three-phase implementation roadmap.

Layer 1: ESG Vision and Purpose. The framework's purpose statement must connect sustainability directly to appflame's core product logic and its stewardship of 70 million registered users. The proposed vision is: "To scale digital products that connect and protect people – governing our data responsibly, designing for safety and dignity at scale, and building the institutional transparency that earns lasting trust from our users, our team, and our partners."

Layer 2: Double Materiality Assessment – Six Priority Topics. Drawing upon the theoretical analysis in Chapter 2, the appflame baseline assessment in Chapter 3, and the peer benchmarking in Section 3.1, the framework identifies six material ESG topics. For each priority area, both dimensions of double materiality are assessed: impact materiality (the company's effect on people and the environment) and financial materiality (the ESG risks and opportunities affecting long-term business performance).

The double materiality assessment of the six priority ESG topics is provided in Table 9 (see Table 9).

Table 9. Double materiality assessment: six priority ESG topics for appflame

ESG Dimension	Material Topic	Impact Materiality	Financial Materiality	Priority
Environmental	Digital infrastructure sustainability (Scope 2/3)	Indirect GHG from cloud hosting serving 70M registered users; AI inference energy demand	Regulatory exposure as CSRD extends to digital infrastructure; reputational risk from unmeasured cloud emissions	**
Social	Data privacy and cybersecurity (70M registered users)	Risk of harm to 70 million users via data breaches or unauthorised profiling (GRI 418; GDPR)	GDPR fines up to 4% global revenue; user trust erosion; B2B client due diligence mandates	***
Social	Responsible design and user safety	Risk of harassment, psychological harm, and manipulation at scale; LGBTQ+ safety (OECD MNE Guidelines, 2023)	Regulatory scrutiny (DSA, Online Safety Act); NGO pressure; advertiser relationship risk	***
Social	Human capital, DEI, and well-being	Quality of work for 524 employees across 4 hubs under wartime conditions; DEI equity (GRI 401–405)	NPS score of 86 is a competitive asset to protect; talent retention; innovation capacity (WEF, 2020)	**
Governance	ESG governance and board oversight	Risk of greenwashing and lack of accountability despite	Investor credibility; access to institutional	***

		strong informal culture (CSRD G1)	capital; ESG rating assessability	
Governance	Ethics, anti-corruption, and compliance	Risk of corruption and regulatory violations across four active jurisdictions (GRI 205; OECD MNE Guidelines, 2023)	Regulatory sanctions; reputational damage; loss of multi-market license to operate	**

Source: GRI Standards (GRI, 2024); SASB Technology Sector Standard (SASB/IFRS Foundation); CSRD/ESRS (European Commission); OECD MNE Guidelines (OECD, 2023); WEF (2020); UNGC. Analysis by author.

Layer 3: KPI System – Leading and Lagging Indicators. The KPI system translates material topics into measurable performance indicators. Both lagging indicators – documenting outcomes – and leading indicators – capturing the actions taken to drive change – are required for each topic. All KPIs are designed to be auditable and aligned with GRI, SASB, and ESRS frameworks.

The ESG KPI system with leading and lagging indicators is summarized in Table 10 (see Table 10).

Table 10. ESG KPI system: leading and lagging indicators

Material Topic	Leading KPI (Action)	Lagging KPI (Outcome)	Baseline (2026)	Target (2028)
Infrastructure sustainability (GRI 302; CSRD E1)	% cloud workloads on renewable providers	Est. Scope 2+3 CO ₂ e emissions (tCO ₂ e/year)	0% renewable; est. 570–1,190 tCO ₂ e/year; no measurement	Baseline Q4 2026; 100% green cloud Q4 2028
Data privacy and security (GRI 418; SASB Technology)	% products with annual Privacy Impact Assessment (PIA)	Number of material GDPR breaches per year	PIAs not systematised; 0 confirmed breaches	DPO appointed Q2 2026; first PIA cycle Q4 2026; annual refresh 2027–2028
Responsible design and safety (EU DSA; OECD MNE Guidelines, 2023)	% new features reviewed via Trust & Safety framework	User safety incident rate; Trustpilot score trend	Not formalised; positive Trustpilot baseline	Safety framework live Q2 2027; first published safety metrics Q4 2027
Human capital and DEI (GRI 401–405; WEF, 2020)	DEI training hours per employee; survey completion rate	Employee NPS score; voluntary turnover rate; women in management %	NPS score: 86 (confirmed Forbes Ukraine Best Employers 2026); turnover: est. 18–22%	NPS maintained >=86; turnover <15%; women in mgmt >=35% by Q4 2028
ESG governance (CSRD G1; OECD)	ESG Lead appointed; WG meeting cadence;	Number of formal ESG policies publicly available	0 formal governance	Lead + WG: Q2 2026; exec pay 5–10% active Q1

MNE Guidelines, 2023)	ESG exec pay mechanism designed		elements or published policies	2027; 3+ policies published Q4 2026
Ethics and anti-corruption (GRI 205; OECD MNE Guidelines, 2023; UNGC)	Code of Conduct training completion rate (%)	Confirmed regulatory violations per year	Training not systematised across 4 jurisdictions	Whistleblower channel live Q3 2026; 100% staff trained Q4 2026

Source: GRI Standards (GRI, 2024); SASB/IFRS Foundation; OECD MNE Guidelines (OECD, 2023); UNGC; WEF (2020). NPS score of 86 confirmed by Forbes Ukraine Best Employers 2026.

Layer 4: ESG Governance Structure. The governance layer defines the organisational accountability required to institutionalise ESG. The structure is designed to formalise the robust informal culture already evidenced by Forbes data through a four-level governance model. CEO sponsorship is a critical precondition.

The proposed ESG governance structure is presented in Table 11 (see Table 11).

Table 11. Proposed ESG governance structure for applflame

Level	Role	Responsibilities	Strategic Context
Board	ESG Committee	Strategic oversight; dashboard review; approval of ESG targets in exec compensation	Board-level oversight is non-negotiable for institutional credibility
Executive	ESG Lead (Director level)	Strategy leadership; WG coordination; external disclosure ownership; accountability	Direct CEO reporting line ensures authority and championing
Coordination	ESG Working Group	KPI tracking; policy development; integration into product and people workflows	Sustainability cannot be siloed; cross-functional teams are essential
Operational	Business unit ESG owners	Own specific KPIs; embed ESG into product safety reviews and procurement	ESG integration means embedding into existing business units

Source: Peer governance structures: Snap Inc. (2023 Citizenship Report); Match Group (2023 ESG Report); HubSpot (2023 Sustainability Report); Zendesk (2022 ESG Report).

Layer 5: Reporting and Disclosure Alignment. The framework recommends a phased reporting alignment consistent with the global regulatory trajectory: GRI provides the impact materiality foundation; ISSB/SASB provides the financial materiality baseline; CSRD mandates both as Ukraine's EU accession advances. Phase 1 (2026) involves publishing the first ESG report aligned with GRI Core. Phase 2 (2027) expands SASB alignment. Phase 3 (2028) targets TCFD/IFRS S2 climate risk disclosure and preparatory CSRD double materiality assessments.

4.3 PRACTICAL RECOMMENDATIONS AND IMPLEMENTATION PLAN

The implementation plan translates the ESG framework into a sequenced three-phase operational program spanning 2026 to 2028. The plan applies a structured change management logic. appflame's primary challenge is structural rather than cultural. Consequently, the sequencing follows a governance-first approach, followed by the formalisation of existing strengths, and finally the construction of new environmental and safety capabilities.

Phase 1: Foundation – Governance, Baseline, and First Disclosure (2026). The objective is to establish minimum viable ESG governance infrastructure and publish appflame's first formal report. Priority actions include appointing an ESG Lead (Q2 2026), forming a cross-functional Working Group, and designing the ESG executive pay mechanism (activated at 5–10% weighting from Q1 2027). A DPO appointment is targeted for Q2 2026, with the first Privacy Impact Assessment (PIA) cycle to be completed by Q4 2026. Phase 1 culminates in the publication of three foundational policies and a GRI Core-aligned ESG report.

Phase 2: Integration – Embedding ESG in Operations (2027). Phase 2 transitions ESG from a governance function to an operational dimension. Key initiatives include activating the ESG executive pay linkage at 5–10% from Q1 2027, launching a comprehensive Trust and Safety framework for Hily and Taimi modelled on Match Group's architecture (framework live Q2 2027; first published safety metrics Q4 2027), and initiating a green cloud migration targeting 50% renewable-certified workloads.

Phase 3: Optimisation – External Assurance and Strategic Depth (2028). Phase 3 represents program maturation, encompassing TCFD-aligned climate risk disclosure and the completion of the 100% green cloud transition. The ESG executive pay linkage is increased to 10–15% from Q1 2028. A CSRD preparatory assessment and a UNGC Communication on Progress submission will mark the transition to a fully mature ESG profile.

The phased implementation roadmap is summarized in Table 12 (see Table 12).

Table 12. ESG implementation roadmap: phased plan 2026–2028

Phase	Key Actions	Responsibility	Success Criteria
Phase 1: Foundation (2026)	Appoint ESG Lead (Q2 2026); form Working Group; design ESG exec pay mechanism; appoint DPO (Q2 2026); first PIA cycle Q4 2026; collect baseline data; adopt 3 core policies; whistleblower channel Q3 2026; publish first GRI Core-aligned ESG report Q4 2026	CEO, ESG Lead, Legal, HR, Finance	Governance operational Q2 2026; whistleblower Q3 2026; 3+ policies and first report published Q4 2026
Phase 2: Integration (2027)	Activate ESG exec pay linkage 5–10% (Q1 2027); launch Trust & Safety framework (Q2 2027); first published safety metrics (Q4 2027); initiate green cloud migration ($\geq 50\%$); publish formal DEI and pay equity data (GRI 405); issue second ESG report	ESG Lead, CPO, CHRO, CTO	Safety framework live Q2 2027; safety metrics published Q4 2027; green cloud $\geq 50\%$; exec pay linkage active Q1 2027
Phase 3: Optimisation (2028)	Increase ESG exec pay to 10–15% (Q1 2028); TCFD/IFRS S2 climate risk disclosure; 100% green cloud; engage auditor for limited assurance on KPIs; CSRD readiness assessment; UNGC Communication on Progress	ESG Lead, Board Committee, Auditor, CFO	TCFD disclosure published; 100% green cloud; external assurance obtained; UNGC CoP submitted Q4 2028

Source: GRI Standards (GRI, 2024); European Commission; OECD MNE Guidelines (OECD, 2023); UNGC.

4.4 ECONOMIC JUSTIFICATION AND RESOURCE ASSESSMENT

ESG investment within product IT generates returns through a distinct value creation logic focused on risk mitigation and intangible assets – specifically talent retention, investor access, and commercial differentiation. This section presents estimated costs alongside a structured analysis of four primary economic return channels, demonstrating a positive expected net value.

The estimated implementation costs by phase are summarized in Table 13 (see Table 13).

Table 13. Estimated ESG framework implementation costs by phase (USD)

Cost Category	Phase 1 (2026)	Phase 2 (2027)	Phase 3 (2028)
Personnel (Lead + WG)	USD 100K–140K	USD 105K–150K	USD 110K–160K
Technology (incl. green cloud premium)	USD 5K–10K	USD 10K–30K	USD 15K–30K
External advisory & audit	USD 15K–25K	USD 5K–10K	USD 20K–40K
Reporting & communications	USD 5K–8K	USD 8K–12K	USD 10K–15K
Total investment per phase	USD 125K–183K	USD 128K–202K	USD 155K–245K
Cumulative total 2026–2028	USD 408K–630K		

Source: Author's estimates based on sector benchmarks for ESG program implementation costs.

Return channel 1: Protecting and enhancing talent value. appflame's confirmed NPS score of 86 is among its most financially material assets, serving as a primary determinant of voluntary retention in a sector where senior technical replacement costs range from USD 40,000–80,000. Formalising these strong people practices into a disclosed ESG program protects this competitive advantage. Reducing voluntary turnover by 3–5 percentage points across 524 employees generates annual savings of approximately USD 630,000–2,080,000.

Return channel 2: Investor access and cost of capital. ESG-integrated investors utilise ESG disclosures to adjust valuation multiples; companies without assessable data are systematically disadvantaged. As appflame explores future growth financing, ESG credibility becomes a material factor. The EU Sustainable Finance Framework explicitly creates incentives for companies that disclose sustainability performance aligned with recognised frameworks (European Commission, EU Sustainable Finance Framework).

Return channel 3: Regulatory risk mitigation. The cost of regulatory risk materialisation significantly exceeds program costs. GDPR non-compliance triggers fines up to 4% of global revenue – a high-severity risk for a 70-million-registered-user platform. The Trust and Safety framework in Phase 2 directly reduces platform liability for the Hily/Taimi portfolio.

Return channel 4: Commercial differentiation. For appflame's B2B products, enterprise clients increasingly mandate ESG disclosures as part of procurement due diligence, a trend

accelerated by the OECD MNE Guidelines (2023) and EU supply chain due diligence requirements. The aggregate economic case for ESG investment remains positive across all identified return channels, with an approximate two-year payback horizon.

Chapter 5. Assessment of Potential Effect

This chapter evaluates the projected impacts of adopting the ESG framework proposed in Chapter 4 and provides a synthesis of the overarching research findings. Section 5.1 utilises SMART criteria to operationalise expected outcomes across the six identified material ESG categories. Section 5.2 explores the strategic and non-financial dividends of ESG integration.

5.1 EXPECTED RESULTS OF ESG FRAMEWORK IMPLEMENTATION (SMART CRITERIA)

The SMART framework – Specific, Measurable, Achievable, Relevant, and Time-bound – serves as the formal methodology for translating high-level ESG commitments into verifiable operational objectives. This section applies the SMART architecture to the six material topics prioritised in Section 3.2, calibrating each target against the empirical baseline documented in Chapter 3 and the phased implementation logic presented in Section 3.3.

The target-setting process is governed by a rigorous methodological principle: targets reflect genuine stretch goals that are ambitious relative to appflame's current formal maturity yet achievable based on peer benchmarking. Human capital targets are anchored in the primary data established in Section 2.2, specifically the verified NPS score of 86 and existing DEI initiatives. Product safety targets are modeled on the Match Group precedent.

SMART targets for each material ESG topic are presented in Table 14 (see Table 14).

Table 14. SMART targets for ESG framework implementation by material topic

Material Topic	Specific Target	Measurable Indicator	Achievable Assessment	Business Relevance	Timeline
Infrastructure sustainability (GRI 302; CSRD E1)	Establish Scope 2/3 emissions baseline; transition 100% of cloud	Annual tCO2e; % cloud workloads on certified green infrastructure	Cloud footprint tools are accessible; major providers offer renewable tiers at	Addresses estimated 570–1,190 tCO2e combined Scope 2+3;	Baseline: Q4 2026; 100% green cloud: Q4 2028

	workloads to renewable-certified providers		marginal premiums	aligns with CSRD E1 as EU accession advances	
Data privacy (GRI 418; SASB Technology; GDPR)	Systematise PIAs across portfolio; publish DPO appointment; maintain zero material breaches	% products with annual PIA; confirmed material GDPR violations	PIA processes are standard compliance functions; DPO is a governance decision	Mitigates GDPR fine exposure (4% global revenue) for 70 million registered user profiles	DPO: Q2 2026; first PIA cycle: Q4 2026; annual refresh 2027–2028
User safety (EU DSA; OECD MNE Guidelines, 2023)	Launch formal Trust & Safety framework; embed safety reviews in 100% of development cycles	% features reviewed; user-reported safety incident rate; Trustpilot trend	Achieved by Match Group at analogous scale; builds on existing basic compliance	Essential for DSA/Online Safety Act compliance; protects 70 million registered user connection assets	Framework: Q2 2027; published metrics: Q4 2027
Human capital (GRI 401–405; WEF, 2020)	Formalise and disclose people practices; maintain NPS score ≥ 86 ; achieve $\geq 35\%$ women in management	Employee NPS score; voluntary turnover; women in management %; pay equity ratio	Leverages existing social capital (Forbes #11, NPS score of 86); requires formalisation, not culture change	Protects primary technical talent asset; supports multi-hub growth resilience	GRI 401–405: Q4 2026; DEI targets: Q4 2028
ESG governance (CSRD G1; OECD MNE Guidelines, 2023)	Establish 4-level governance structure; appoint ESG Lead; integrate KPIs into executive compensation	ESG Lead appointment; WG cadence; % exec pay linked to ESG metrics	Governance is a CEO decision; peer models are standard for organisations of comparable scale	Necessary infrastructure for credibility and institutional investor assessability	Lead/WG: Q2 2026; exec pay designed Q4 2026, activated Q1 2027 at 5–10%; increased to 10–15% Q1 2028
Ethics & compliance (GRI 205; OECD MNE Guidelines, 2023; UNGC)	Achieve 100% training coverage; establish whistleblower channel; publish Code of Conduct; submit UNGC CoP	Training completion rate (%); whistleblower mechanism operational (Y/N); UNGC CoP submitted	Ethics programs are low-cost and rapidly deployable; whistleblower solutions are standard	Supports EU accession alignment and multi-jurisdictional licence to operate	Whistleblower: Q3 2026; full training: Q4 2026; UNGC CoP: Q4 2028

Source: GRI Standards (GRI, 2024); SASB/IFRS Foundation; European Commission; OECD MNE Guidelines (OECD, 2023); UNGC; WEF (2020). NPS score of 86 confirmed by Forbes Ukraine Best Employers 2026.

The achievability of these targets is validated through two analytical lenses. First, benchmarking in Section 3.1 confirms that Snap, Match Group, and HubSpot have reached these

performance thresholds within similar timeframes. Second, the resource assessment in Section 3.4 establishes that the total program cost is within operational capacity, with a return on investment driven primarily by talent retention and risk mitigation.

The implementation timeline follows a deliberate sequencing logic designed to embed accountability before operational change. 2026 targets focus on governance and measurement infrastructure, requiring commitment rather than capital. 2027 targets involve operational integration into product development and HR systems. 2028 targets represent disclosure maturity and external assurance.

5.2 STRATEGIC AND NON-FINANCIAL EFFECT FOR THE COMPANY

Beyond the quantifiable returns established in Section 3.4, ESG adoption generates profound strategic and non-financial effects that reshape institutional credibility, talent positioning, and regulatory standing. These intangible dividends accumulate over time to create a compounding competitive advantage. Four strategic dimensions are examined below.

Institutional credibility and capital market visibility. Formal ESG adoption resolves a structural visibility gap that prevents appflame from participating in ESG-screened capital allocation. In the ratings ecosystem, the absence of disclosure is interpreted as an unmanaged risk. By publishing its first GRI-aligned report in Phase 1, appflame converts its substantive social strengths into assessable data. The EU Sustainable Finance Framework explicitly connects disclosure quality to access to sustainable finance instruments (European Commission, EU Sustainable Finance Framework).

Talent competitive advantage and organisational resilience. Knowledge workers under 40 increasingly treat ESG reputation as a material factor in employment decisions. appflame's confirmed NPS score of 86 is a significant asset that must be formalised to be fully leveraged as a

brand asset in global hubs like London and Warsaw. Converting informal wellbeing and DEI practices into verifiable ESG disclosures protects this talent moat against global competitors.

Product trust and platform safety as competitive moat. For platforms serving 70 million registered users, safety governance is a product quality dimension that drives acquisition and retention. Proactive investment in Trust and Safety, aligned with OECD MNE Guidelines Chapter IV on consumer protection in digital environments (OECD, 2023), creates a differentiation that less-governed competitors cannot easily replicate.

Regulatory readiness and strategic positioning. The regulatory environment – encompassing the DSA, EU AI Act, CSRD, and Ukraine's EU accession path – creates a tightening compliance landscape. Proactive ESG adoption during the 2025–2028 window allows appflame to build infrastructure incrementally and at a lower cost than reactive adopters. These dimensions constitute a reinforcing value cycle: institutional credibility attracts capital; capital sustains talent; talent drives product excellence; and excellence builds user trust.

Chapter 6. Conclusion

This research addressed the structural misalignment between universal ESG standards and the materiality profile of product-based IT companies. Dominant frameworks, designed for industrial enterprises, fail to capture the platform-mediated and data-intensive risks central to digital business. The research progressed through four stages: theoretical foundation, empirical case study of appflame, framework development with a three-phase roadmap, and the assessment of effects using SMART criteria. The findings yield six principal conclusions that contribute both analytically and practically to the field.

First, universal ESG standards are structurally inadequate for product IT companies.

This misalignment is systemic: standard metrics prioritise direct impacts over the material Scope 2/3 cloud emissions, data privacy, and algorithmic safety risks that define the sector. The GRI Standards, SASB Technology Sector Standard, and OECD MNE Guidelines (2023) each acknowledge different aspects of this gap, yet none provides a fully integrated sector-specific materiality framework for product IT.

Second, appflame exhibits a formalisation gap rather than a practice gap. Third-party public data from Forbes Ukraine Best Employers profile (2026) (NPS score of 86, #11 Best Employer) confirms that appflame possesses substantive social strengths that significantly exceed sector norms. The paradox is that these practices are uncoded and undisclosed. The primary ESG imperative is therefore governance construction and disclosure architecture, not cultural transformation.

Third, the proposed framework provides a sector-specific and scalable solution. The five-layer architecture – vision, double materiality, KPI system, governance structure, and reporting alignment – is designed as a management system rather than a checklist. The three-phase roadmap (2026–2028) demonstrates that reaching a mature maturity level is achievable within a realistic timeframe at a total investment of USD 408K–630K.

Fourth, the economic case for ESG investment is positive across multiple channels.

Savings from talent retention (524 employees x 3–5% avoided turnover x USD 40k–80k replacement cost = approximately USD 630k–2,080k annually) and the mitigation of GDPR-related regulatory risks (up to 4% revenue) generate a value that substantially exceeds implementation costs. This represents a positive expected economic effect with an approximate two-year payback horizon.

Fifth, ESG adoption generates a compounding strategic value cycle. Institutional credibility (EU Sustainable Finance Framework), talent advantage (WEF People Pillar metrics), product trust (OECD MNE Guidelines consumer protection), and regulatory readiness (CSRD/ISSB 36-jurisdiction adoption trajectory) reinforce each other. Initiating this cycle in Phase 1 allows appflame to capitalize on its existing social capital, converting informal organizational strengths into verifiable competitive differentiators that accumulate over time.

Sixth, the framework is transferable to the broader Ukrainian product IT sector. The conditions defining appflame – growth outstripping governance, strong informal people practices, and multi-jurisdictional risk – are common across the sector. This framework provides a template for Ukrainian firms navigating the convergence of EU alignment, investor expectations, and the demand for digital accountability, anchored in the international standards of GRI, SASB, CSRD, OECD MNE Guidelines (2023), and the UNGC.

The research contributes conceptually by advocating for sector-specific ESG materiality and practically by delivering an implementable roadmap for appflame and comparable organizations. Limitations include the context-specific nature of case studies and the reliance on proxy indicators for unmeasured baseline data. Future research should prioritize longitudinal studies tracking appflame's progress against the SMART targets and comparative studies across larger samples of Ukrainian product IT firms to test the transferability of the materiality assumptions.

In conclusion, this research demonstrates that closing the ESG gap in product IT requires a systemic reorientation toward platform-mediated risks. The proposed framework offers appflame a

structured pathway from governance absence to formal maturity, leveraging its existing cultural strengths to build a credible, economically justified, and strategically resilient ESG program calibrated for global digital competition.

WORKS CITED

Corporate Sustainability Due Diligence Directive.

corporate-sustainability-due-diligence-directive.com.

DOU.ua. Ukrainian IT Salary and Employer Survey 2026. DOU.ua, 2026.

European Commission. “Corporate Sustainability Reporting Directive (CSRD).“ European Commission,

finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

European Commission. “EU Sustainable Finance Framework.“ European Commission,

finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance_en.

European Commission. “Questions and Answers: Corporate Sustainability Reporting Directive (CSRD).“ European Commission, 2023,

ec.europa.eu/commission/presscorner/detail/en/qanda_23_4043.

European Commission. “The European Green Deal.“ European Commission,

commission.europa.eu/strategy-and-policy/priorities-2019-2024/story-von-der-leyen-commission/european-green-deal_en.

Financial Stability Board. *FSB to Establish Task Force on Climate-related Financial Disclosures*.

Bloomberg, 4 Dec. 2015,

assets.bbhub.io/company/sites/60/2015/12/12-4-2015-Climate-change-task-force-press-release.pdf.

Forbes Ukraine. *Forbes Ukraine Best Employers Rating 2026 — appflame Profile*. Forbes Ukraine, 2026.

Fortune Business Insights. *ESG Investing Market Size, Share & Industry Analysis, 2026–2034*.

Fortune Business Insights, 2026, fortunebusinessinsights.com/esg-investing-market-113824.

Global Reporting Initiative. “Mission & History.“ globalreporting.org/about-gri/mission-history/.

- Global Reporting Initiative. *GRI Sustainability Reporting Standards*. Global Reporting Initiative, 2024, globalreporting.org/standards/.
- Green Transition Office. *Assessment of the Level of Readiness of Ukrainian Business for the Implementation of ESG Standards*. 2025, pp. 13-39, drive.google.com/file/d/1cr1we3JGEu08il_aKSBWxbhr47dPuYJo/view.
- Green Transition Office. *ESG Study 2025 – Green Transition Office Recommendations*. 2025, pp. 12-13, drive.google.com/file/d/12XQyTNtVIQ6fCtoAUwpp-r4XgryTwUPa/view.
- HubSpot. *2023 Sustainability Report*. HubSpot, 2023.
- IEA (International Energy Agency). *Electricity Grids and Secure Energy Transitions*. IEA, 2024.
- IFRS Foundation. “IFRS Foundation Publishes Jurisdictional Profiles Providing Transparency and Evidencing Progress Towards Adoption of ISSB Standards.” IFRS Foundation, 12 June 2025, ifrs.org/news-and-events/news/2025/06/ifrs-foundation-publishes-jurisdictional-profiles-issb-standards/.
- KPMG. *The Move to Mandatory: KPMG Survey of Sustainability Reporting 2024*. KPMG International, 2024, p. 7, assets.kpmg.com/content/dam/kpmg/ro/pdf/2024/the-move-to-mandatory-reporting-report.pdf.
- Match Group. *2023 ESG Report*. Match Group, 2023.
- Normative. “Corporate Sustainability Reporting Directive (CSRD), Explained.” Normative, 19 Mar. 2025, normative.io/insight/csr-d-explained/.
- OECD. *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*. OECD Publishing, 2023, doi.org/10.1787/81f92357-en.
- Snap Inc. *2023 Citizenship Report*. Snap Inc., 2023.
- Sustainability Accounting Standards Board (SASB) / IFRS Foundation. *SASB Standards*. IFRS Foundation, sasb.org/standards/.

United Nations Global Compact. “25 Years of the UN Global Compact: A Legacy of Impact and a Call for Bold Action.” The Compact Journal, 24 Feb. 2025, unglobalcompact.org/compactjournal/25-years-un-global-compact-legacy-impact-and-call-bold-action.

United Nations Global Compact. “Corporate Sustainability and ESG.” United Nations Global Compact, unglobalcompact.org/what-is-gc/our-work/environment.

United Nations Global Compact. *Who Cares Wins: Connecting Financial Markets to a Changing World*. United Nations, 2004, d306pr3pise04h.cloudfront.net/docs/issues_doc%2FFinancial_markets%2Fwho_cares_who_wins.pdf.

World Economic Forum. *Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation*. WEF International Business Council, Sept. 2020, weforum.org/docs/WEF_IBC_Measuring_Stakeholder_Capitalism_Report_2020.pdf.

Zendesk. *2022 Environmental, Social, and Governance Report*. Zendesk, 2022.