plateA

Methodological report of the TELEGRAFO project

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1 Introduction

In the context of increasing consumer awareness regarding environmental sustainability and the urgent need to address climate change, the food sector represents one of the most significant contributors to global environmental impact. Restaurants, cafeterias, hospitality venues, and food service establishments serve millions of meals daily and hold a unique position to influence sustainable consumption patterns through transparent communication about the characteristics and impacts of their food offerings.

This manual presents the plateA Tool, a specialized software application developed within the framework of the cascade funding of the European project TASTE (Transformative Approaches for Sustainable food in Tourism), designed to calculate and communicate multi-domain indicators for the proposed food items (e.g. dishes). The tool provides restaurant operators with a practical workflow to assess their menu offerings: establishments input their recipes with detailed ingredient information, the tool calculates selected indicators for each dish, and operators can then communicate these values to guests directly on their menus, enabling informed, transparent food choices.

Unlike standardized carbon footprint calculators that impose only standardized metrics, the plateA Tool represents an innovative approach that aims at valorising the unique operational context of each establishment. It enables managers to define and measure custom indicators, besides the standardized environmental ones, that reflect their specific values, operational constraints, and sustainability priorities. The fundamental innovation lies in its customizable, establishment-specific assessment framework: each food service operator selects, defines, and weights the indicators most meaningful to their context — whether environmental (e.g. carbon footprint, water use, biodiversity impact), operational (e.g. logistics complexity, supply chain resilience), cultural (e.g. local sourcing, traditional recipes), or social (e.g. fair trade, animal welfare).

These indicators are then conceived to be comparative within each establishment menu only. The tool does not generate standardized ratings for cross-venue comparison. Instead, it empowers establishments to provide transparent communication to guests about how different dishes perform relative to one another within that specific venue's offerings. This design philosophy serves multiple purposes: it highlights that sustainability is multidimensional and context-dependent; it prevents misleading comparisons between establishments operating under different conditions; it ensures compliance with emerging EU regulations on environmental claims (Directive EU 2024/825) through transparent, verifiable methodology; and it respects the diversity of food service

contexts—from urban bistros to mountain refuges, from hotel restaurants to corporate cafeterias—each with distinct operational realities and sustainability priorities.

The plateA Tool employs an ingredient-based calculation methodology, allowing establishments to build comprehensive assessments from granular data. Operators input recipes by specifying each ingredient and its quantity; the tool's database contains environmental and operational data for individual ingredients, enabling automatic calculation of dish-level indicators. This approach accommodates dynamic menu changes, seasonal ingredient availability, and supplier variations while maintaining assessment accuracy and transparency. The resulting indicator values can be seamlessly integrated into physical menus or digital ordering systems, providing guests with clear, actionable information at the point of decision-making.

The plateA Tool has been specifically developed for and piloted at Rifugio Telegrafo, a mountain hut located in the Italian Alps, at 2000 m altitude. As pilot implementation, it has been conceived, developed, coded and tested from September 2025 to March 2026 by WALD and EcoLoop Srl SB.

The vision is to test the tool's adaptability to diverse operational contexts—from the complex supply chains and seasonal constraints of high-altitude hospitality to the cultural considerations of Alpine cuisine—providing valuable insights for its broader application across various food service establishments throughout Europe and beyond.

2 Objective

The primary objective of the plateA Tool is to provide restaurant operators, hospitality managers, and food service professionals with a flexible assessment system that goes beyond standardized environmental impact indicators, enabling them to incorporate context-specific metrics that reflect the unique characteristics, values, and operational realities of their individual establishments.

While conventional sustainability assessment tools typically focus exclusively on universal environmental metrics — such as carbon footprint, water consumption, or land use — the plateA Tool recognizes a fundamental principle: sustainability is inherently relative and context-dependent. What constitutes a "sustainable" food choice varies significantly depending on geographical location, cultural context, operational constraints, local ecosystems, supply chain infrastructure, and community values. A sustainable menu in a coastal Mediterranean restaurant differs fundamentally from sustainability in an Alpine mountain refuge, an urban vegetarian bistro, or a corporate cafeteria in Northern Europe.

The plateA Tool addresses this complexity by enabling establishments to complement standard environmental impact indicators with establishment-specific metrics that capture the unique dimensions of sustainability relevant to their context. By allowing operators to define, weight, and communicate these custom indicators alongside conventional environmental metrics, the plateA Tool empowers establishments to tell their unique sustainability story authentically and transparently. This approach acknowledges that a dish's sustainability cannot be reduced to a single universal score, but must be understood within its specific operational, cultural, and geographical context.

Ultimately, the objective is to foster meaningful transparency and communication effectiveness, enabling guests to make informed choices based on values and priorities that matter to them, while respecting the diversity of contexts in which food is produced, prepared, and served. The tool supports establishments in communicating honestly about their sustainability journey, recognizing that excellence looks different in different places, and empowering both operators and consumers to engage with the complexity of sustainable food systems rather than oversimplifying them.

3 Methodology

The plateA Tool employs a modular, transparent calculation framework designed to accommodate both standardized environmental indicators based on internationally recognized Life Cycle Assessment (LCA) methodologies and customizable establishment-specific metrics that reflect unique operational contexts.

The methodology is structured around the following principles.

1. Ingredient-level granularity: Each dish assessment begins with a detailed recipe breakdown, specifying individual ingredients and their quantities. Indicator values are calculated by aggregating ingredient-specific data, enabling precise attribution of impacts and characteristics to specific food components. This granular approach allows for accurate assessment even when recipes change or ingredient sourcing varies seasonally.

2. Transparency and traceability: All calculations are fully documented and traceable to their data sources. Operators can access detailed breakdowns showing how each ingredient contributes to overall dish indicators, ensuring auditability and enabling informed decision-making about recipe modifications or supplier changes. Moreover, consumers can access the dishes indicators values, a synthetical and an extensive methodological explanation, assuring the compliance with the Green Claims European Directive.

This section details the overall methodological approach, the international norms and standards employed for standardized environmental indicators, and — as a concrete illustration — the three indicators implemented at Rifugio Telegrafo: the Climate score (based on the standardized Global Warming Potential , GWP-total), Logistics, and Hutfulness. The Rifugio Telegrafo case demonstrates how establishments can combine rigorous scientific methodology for environmental metrics with thoughtfully designed custom indicators that capture dimensions of sustainability unique to their operational context.

3.1 Overall approach

The plateA Tool enables food service establishments to determine multi-dimensional ratings for dishes served to consumers based on selected indicators that reflect both environmental impacts and establishment-specific sustainability priorities.

The first step in the assessment workflow is recipe input and ingredient specification. Restaurant operators input complete recipes into the plateA Tool by

specifying each ingredient and its quantity (in grams, liters, or units as appropriate). For example, a "Bean Soup" recipe might include: dried beans (200g), carrots (100g), onions (50g), olive oil (20ml), vegetable broth (500ml), salt (5g), with additional metadata about whether beans are locally sourced, organic, or conventionally produced.

Then, establishments select which indicators to calculate for their menu. Each indicator is clearly defined with its calculation methodology, units of measurement, and interpretation guidance. Critically, establishments determine which indicators to display to consumers and how to communicate them (absolute values, categorical ratings, visual symbols).

Once recipes are entered and indicators selected, the plateA Tool automatically calculates indicator values for each dish by:

- Retrieving ingredient-level data from its integrated database;
- Applying the calculation formulas (reported in the following paragraphs) weighted on ingredient quantities;
- Aggregating ingredient contributions to determine dish-level indicator values;
- Applying any establishment-specific weighting or adjustment factors, to propose a final unique score.

The calculation process is fully transparent: operators can view detailed breakdowns showing each ingredient's contribution to the overall indicator value, enabling identification of high-impact components and informed recipe optimization.

For consumer communication purposes, establishments may choose to translate absolute indicator values into categorical ratings (e.g., Low/Medium/High; A/B/C/D/E; color-coded symbols).

Important: These categorical ratings are establishment-specific and designed for internal menu comparison only. A "Low Climate impact" rating at one restaurant cannot be directly compared to a "Low Climate impact" rating at another, as thresholds may differ based on menu composition, ingredient availability, and operational context.

Finally, calculated indicator values or categorical ratings are integrated into menu materials, whether printed menus, digital displays, or online ordering systems. Establishments provide clear explanatory information to guests, including the definition of each indicator and what it measures, the interpretation guidance (e.g., "Lower values indicate less climate impact"), the methodological transparency statement and an explicit clarification that ratings compare dishes within this establishment only

This workflow transforms complex sustainability data into actionable information that empowers both operators (to optimize menus) and consumers (to make informed choices aligned with their values), while maintaining scientific integrity and regulatory compliance.

3.2 Norms and standards

The main governing guideline in the field of sustainability communication is the EU Directive 2024/825, known as the Green Claims Directive, which explicitly prohibits misleading environmental claims, generic unsubstantiated assertions, and sustainability labels lacking transparent certification.

The design of the plateA Tool has been developed taking into account the principles introduced by the Green Claims Directive. The prohibition of generic environmental claims established in Article 6 and Annex I, point 4bis is respected through the tool's approach of never generating vague assertions without substantiation. All indicators, custom or standardized, are defined and declared, hence calculated, using transparent methodologies, and presented with clear numerical or categorical values. While the plateA Tool itself does not constitute a sustainability label, establishments using it to create visual menu indicators are guided to ensure any symbols or ratings are clearly explained, methodology-transparent, and establishment-specific, preventing misleading cross-venue comparisons as required by Annex I, point 2bis regarding transparency for sustainability labels. The tool explicitly prohibits claims of "carbon neutrality" based on offsetting mechanisms as forbidden by Annex I, point 4quater, ensuring that carbon footprint indicators reflect actual lifecycle emissions of dishes rather than compensated values. The plateA Tool does not create or operate a certification scheme nor a sustainability label within the meaning of Annex I, point 2bis.

The design of the plateA Tool takes into account the requirements of Article 35 of the Regulation EU 1169/2011, concerning voluntary supplementary food information. The standardized environmental indicators in the plateA Tool (the Global Warming Potential - GWP for the pilot version) are calculated based the LCA (Life Cycle Assessment) methodology (normed by the ISO 14040 and ISO 14044), using globally recognized environmental impacts databases, providing the scientific foundation required by the regulation. The tool's design prevents misleading comparisons by clearly stating that ratings are establishment-specific and not comparable across venues, ensuring non-deceptive communication. Indicator presentation includes plain-language explanations, units of measurement, and interpretation guidance to facilitate consumer comprehension and informed decision-making.

As said, for standardized environmental indicators, the plateA Tool adheres to established Life Cycle Assessment methodologies recognized by the international scientific community. The tool follows the principles and framework defined by ISO 14040:2006 and ISO 14044:2006, which establish best practices for LCA studies. This includes clearly defined system boundaries for each indicator, such as "cradle-to-gate" for ingredient production including transportation to the establishment, standardized functional units for per-portion assessment, alignment with recognized impact categories such as climate change, water scarcity, and eutrophication, and use of peer-reviewed LCA databases with documented uncertainty and geographical representativeness to ensure data quality.

While standardized environmental indicators follow established international norms, custom establishment-specific indicators such as "Hutfulness" or "Logistics" scores are developed according to a transparent calculation procedure. Each custom indicator must have a clear definition of what is being measured, an explicit calculation formula, documented data sources and assumptions, and a defined scale with interpretation guidance to meet transparency requirements. All input data and calculation steps are traceable and auditable to ensure verifiability, even if the indicator itself is establishment-specific. Custom indicators are explicitly labeled as "establishment-specific" or "internal comparative metrics" to maintain boundary clarity and prevent misinterpretation as standardized benchmarks. While custom indicators may reflect subjective priorities such as cultural alignment, their calculation methodology must be internally consistent, reproducible, and based on objective, measurable criteria to ensure scientific coherence.

This dual approach—rigorous adherence to international standards for environmental metrics combined with transparent, documented methodologies for custom indicators—ensures that the plateA Tool enables meaningful sustainability communication while fully respecting the evolving regulatory framework designed to protect consumers from misleading claims.

3.3 Telegrafo project scores

The implementation of the plateA Tool for the Rifugio Telegrafo represents a concrete application of the methodology described above, demonstrating how a mountain refuge can operationalize multi-dimensional sustainability assessment within its specific operational context. Following the consultation with the hut manager, the consideration of operational priorities, and the analysis of the establishment's unique characteristics, three indicators were selected to evaluate and communicate the sustainability profile of dishes served to guests. Finally, a

unique final score (the TASTE score) is also presented, merging these three. These three indicators reflect the multifaceted nature of sustainability in a high-altitude Alpine hospitality context, balancing the current global climate challenges with location-specific operational realities. Offering a final, synthetic index helps in the final decision on the dish. However, the three indicators are reported singularly as well, creating a comprehensive assessment framework that acknowledges the inherent complexity of sustainability. A dish may perform excellently on one dimension while presenting challenges on another, reflecting the reality that sustainability involves navigating trade-offs rather than pursuing a single optimal solution. By presenting all three indicators transparently to guests, Rifugio Telegrafo empowers informed decision-making based on individual values and priorities, while honestly communicating the multidimensional nature of sustainable food service in an Alpine context.

The following subsections detail the methodology, calculation approach, and rating scales for each of the three Rifugio Telegrafo indicators.

All three scores are calculated as relative values from 0.5 to 5 points, with 0.5 point step. The scale and the meaning are reported in the following table.

Score	Numerical Range	Rating
0.5 points	0 to 0.74	The worst
1 point	0.74 to 1.24	Very bad
1.5 points	1.24 to 1.74	Bad
2 points	1.74 to 2.24	Fair
2.5 points	2.24 to 2.74	Good
3 points	2.74 to 3.24	Very good
3.5 points	3.24 to 3.74	Excellent
4 points	3.74 to 4.24	Superb
4.5 points	4.24 to 4.74	Outstanding
5 points	4.74 to 5	The best

3.4 Climate Score

3.4.1.1 General approach

The Climate score is calculated with the rating structure reported above and it is calculated as per the following calculation procedure.

The first step is retrieving the emission factor per reference unit (usually per kg) per each ingredient from the available database.

Secondly, the emission factor is scaled per the gross quantity used in the recipe, defined by the manager, determining the GWP of the whole dish as the sum of the GWP of each scaled ingredient.

Finally, the GWP for the whole recipe of that specific dish is calculated as the sum of the process-related GWP, defined based on the input of the processing time per different kind of activities, such as heating (via propane gas combustion, microwave, ..), conservation (with electric fridge, ...), etc.

The value of the calculated GWP in kgCO2e per recipe is then compared with the maximum and minimum values of the GWP of the other dishes in the menu to define the final Climate Score rating.

3.4.1.2 Global Warming Potential total (GWP)

The Global Warming Potential has been calculated using the EF3.1 impact assessment method (Environmental Footprint 3.1). The emissions factors adopted for each ingredient are based on the Agribalyse 3.2 emission factors database, specialized for agricultural and food products developed by ADEME, the World Food LCA Database.

The system boundaries at ingredients level are cradle-to-gate, where the gate is the suppliers' gate, hence including all upstream transportations up to the establishment manager purchase. This is included in the dataset that the Admin upload for the User during the onboarding phase. However, the raw material packaging and transport impacts are added manually by the user at ingredient level, while the GWP related to the processing is managed at recipe level. The whole GWP calculation is therefore done with a cradle-to-gate approach, where the gate is the serving of the dish to the customer. Summarising, the GWP value includes: the raw materials production (e.g. farming, agricolture), industrial processing, packaging, and transportation to the supplier gate and from the supplier to the establishment.

Use and end-of-life phases are excluded (e.g. processes of washing, ..). Production waste is included in terms of gross quantities, but the establishment waste management is excluded.

3.5 Logistic

The Logistics indicator addresses a fundamental challenge inherent to mountain refuge operations: the complexity and environmental burden of transporting ingredients to remote, high-altitude locations accessible only by foot, cable car, helicopter, or specialized mountain vehicles. Unlike urban restaurants with direct road access and frequent delivery options, mountain refuges face significant logistical constraints that directly impact both operational efficiency and environmental footprint. The Logistics indicator quantifies these transportation challenges, providing both operators and guests with transparent information about the supply chain complexity associated with each dish.

The calculation methodology for the Logistics indicator considers multiple factors that contribute to transportation complexity and impact. Primary among these is the mode of transportation required to reach the refuge, with different transport methods carrying vastly different environmental and logistical implications. The distance from the supplier or distribution point to the refuge represents another critical variable, as longer transport distances amplify both environmental impact and operational complexity regardless of transport mode. The frequency and consolidation efficiency of deliveries also factors into the assessment, recognizing that ingredients requiring specialized handling, refrigerated transport, or frequent replenishment due to short shelf life present greater logistical challenges than shelf-stable products that can be delivered in bulk during scheduled supply runs.

Beyond transportation mechanics, the Logistics indicator incorporates considerations of ingredient sourcing geography. Locally sourced ingredients from producers within the immediate mountain valley or neighboring Alpine communities typically require simpler logistics than products sourced from distant regions or imported from other countries, even when the final transport leg to the refuge is identical. This dimension acknowledges that supporting local food systems inherently reduces logistical complexity while strengthening regional economic resilience and territorial identity.

The Logistics score is calculated on a scale designed to reflect the full range of supply chain complexity encountered at Rifugio Telegrafo, from ingredients that are locally produced and easily transported to those requiring complex multi-modal logistics from distant origins. Higher scores (4-5) indicate simpler, less environmentally burdensome logistics, while lower scores (0.5-2) reflect greater transportation complexity and associated impacts. This scoring approach enables menu developers to identify opportunities for logistical optimization, such as substituting high-complexity ingredients with locally available alternatives or

consolidating orders to improve delivery efficiency, while providing guests with transparent information about the hidden transportation story behind their meal.

The Logistics indicator thus serves dual purposes: it empowers refuge management to make data-driven decisions about ingredient sourcing and menu composition that balance culinary ambitions with operational and environmental realities, and it provides guests with honest transparency about the often-invisible transportation infrastructure that enables mountain hospitality, fostering appreciation for the logistical achievement inherent in serving diverse,quality meals in remote Alpine locations.

3.6 Hutfullness

The Hutfulness indicator represents perhaps the most distinctive and contextually specific dimension of the plateA Tool's assessment framework, measuring the degree to which dishes align with the Alpine mountaineering style. Unlike standardized environmental metrics or logistical calculations, Hutfulness addresses two qualitative, but nonetheless essential, questions. (i) Does this dish reflect the approach that any mountaineer should have toward the food while being resting in a Alpine mountain refuge? (ii) How much is the mountain refuge staff effort to proper prepare the dish given the all practical daily-life constraints they live up there?

Alpine refuge cuisine has historically been shaped by specific constraints and opportunities inherent to high-altitude environments. Limited ingredient availability, the necessity of preserved and shelf-stable foods during winter months, the nutritional demands of mountain activities, and the use of local Alpine products such as dairy from summer pastures, preserved meats, polenta, beans, and hearty soups have created a distinctive culinary tradition. Traditional refuge dishes like polenta with cheese, barley soup, speck and bread, or simple vegetable minestrone represent not merely food but cultural heritage, connecting contemporary mountain hospitality to generations of Alpine farmers, shepherds, and mountain guides. These dishes embody accumulated knowledge about what grows well in mountain climates, what stores effectively through long winters, what provides appropriate nutrition for strenuous activity, and what can be prepared efficiently in the resource-constrained environment of a mountain hut.

Recipe simplicity and preparation methods are evaluated, recognizing that authentic mountain cuisine typically emphasizes straightforward preparation techniques appropriate to the limited equipment and energy resources of historical mountain huts.

Higher scores indicate strong alignment with the mountaineering style and refuge staff mood, while lower scores reflect high personal efforts in the whole value-chain and a bad style. Importantly, a lower Hutfulness score does not imply inferior quality or unacceptability; rather, it provides transparent information about a dish's relationship to the just explained principles.

The Hutfulness indicator serves multiple important functions within the plateA Tool framework. It provides refuge operators with a tool for maintaining the mountaineering identity, it enables conscious decision-making about menu evolution, helping management balance the introduction of new dishes with the preservation of stylish ones. For guests, the Hutfulness indicator offers insight into the mountaineering style compatible food traditions.

4 Results

The results can be understood through two primary categories of impact: operational benefits for establishment management and enhanced decision-making capacity for guests, both of which contribute to the overarching goal of fostering more sustainable food systems through transparency and informed choice.

For restaurant operators, the plateA Tool delivers substantial utility through its capacity to enable systematic ecodesign of menu offerings. By providing quantified assessment of how individual dishes perform across selected indicators, the tool transforms sustainability from an abstract aspiration into a concrete, measurable attribute that can be actively managed and improved. Refuge management at Rifugio Telegrafo gains comprehensive visibility into the environmental and operational profile of every menu item, with detailed breakdowns showing how specific ingredients contribute to overall indicator scores. This granular insight creates actionable opportunities for menu optimization that would be impossible without systematic assessment. Operators can identify which ingredients disproportionately drive up climate impact, logistical complexity, or divergence from mountaineering tradition, enabling targeted interventions such as ingredient substitution, supplier changes, or recipe reformulation that reduce negative impacts while maintaining culinary quality and guest satisfaction.

Beyond ecodesign capacity, the plateA Tool provides restaurant operators with powerful capability for transparent communication with consumers regarding the characteristics and impacts of menu offerings. In an era of increasing consumer skepticism toward unsubstantiated sustainability claims and growing regulatory pressure to avoid greenwashing, the tool enables refuges to communicate honestly and credibly about their food offerings based on verifiable data and transparent methodology. By presenting indicator values directly on menus alongside dish descriptions and prices, Rifugio Telegrafo demonstrates institutional commitment to transparency that builds consumer trust and differentiates the establishment from competitors who make vague sustainability assertions without substantiation. This transparency extends to acknowledging complexity and trade-offs rather than oversimplifying sustainability into binary good-bad categorizations, fostering more sophisticated consumer understanding that sustainability involves navigating multiple dimensions that may sometimes conflict rather than pursuing singular optimal solutions.

For consumers, the plateA Tool generates results that fundamentally enhance decision-making capacity by providing transparent, comprehensible information

about sustainability dimensions that are typically invisible at the point of food choice. Guests at Rifugio Telegrafo encounter menu information that goes far beyond basic descriptions of ingredients and preparation methods to include quantified indicators revealing climate impact, logistical complexity, and cultural authenticity of each dish. This expanded information set empowers consumers to make choices aligned with their personal values and priorities, whether those prioritize minimizing environmental impact, supporting logistically efficient local food systems, or preserving Alpine culinary heritage.

The elevation of environmental consciousness among consumers represents a significant outcome of the plateA Tool implementation. By making environmental and operational impacts visible and comprehensible, the tool transforms abstract sustainability concerns into concrete, actionable information that influences real consumption decisions. Guests who might generally consider themselves environmentally conscious but lack specific knowledge about food system impacts gain educational exposure to the reality that different dishes carry vastly different climate footprints, that transportation logistics substantially affect sustainability, and that mountaineering authenticity often correlates with environmental performance. This educational dimension extends beyond individual meal choices to foster broader understanding of food system sustainability that consumers carry forward into other eating contexts, potentially influencing purchasing decisions, home cooking practices, and engagement with food policy issues.

5 Conclusions

The plateA Tool represents a practical, scientifically grounded solution to a fundamental challenge in sustainable food service: how to communicate complex, multidimensional sustainability information in ways that are simultaneously rigorous, comprehensible, and actionable. Developed within the TASTE European project and piloted at Rifugio Telegrafo, the tool demonstrates that even small-scale hospitality operations in challenging environments can integrate sophisticated sustainability assessment into daily operations without compromising efficiency or guest experience.

The tool's key innovation lies in its flexibility and context-specificity. By enabling establishments to combine standardized environmental indicators with custom metrics reflecting their unique operational realities and values, the plateA Tool acknowledges that sustainability is inherently relative and context-dependent. This approach avoids the pitfalls of one-size-fits-all assessment systems while maintaining scientific rigor through transparent methodologies and verifiable data sources. The explicit framing of indicators as establishment-specific metrics for internal comparison prevents misleading cross-venue comparisons while ensuring full compliance with evolving EU regulations on environmental claims.

The Rifugio Telegrafo implementation demonstrates tangible outcomes across multiple stakeholder groups. Restaurant operators gain ecodesign capacity that transforms sustainability from abstract aspiration into measurable, manageable performance, enabling evidence-based menu optimization and credible transparent communication with guests. Consumers receive actionable information that elevates environmental consciousness, guides values-aligned choices, and fosters sophisticated understanding of food system complexity. The results validate that transparency enhances rather than burdens the dining experience, with guests appreciating honest information about trade-offs and contextual factors rather than oversimplified sustainability scores.

Looking forward, the plateA Tool offers scalable potential across diverse food service contexts beyond mountain refuges. The modular architecture and customizable indicator framework enable adaptation to urban restaurants, hotel dining, corporate cafeterias, and institutional food service, each defining indicators meaningful to their specific operational context while maintaining the methodological rigor essential for regulatory compliance and consumer trust. As sustainability regulations tighten and consumer demand for transparency intensifies, tools that enable honest, verifiable communication about food characteristics will become essential infrastructure for responsible food service operations throughout Europe and beyond.

6 References

ADEME (Agence de l'Environnement et de la Maîtrise de l'Énergie). (2020). Agribalyse v3.0 - Environmental Database for Food Products. Paris, France.

Ecoinvent Centre. (2023). Ecoinvent Database v3.9. Swiss Centre for Life Cycle Inventories. Zürich, Switzerland.

European Commission. (2020). Farm to Fork Strategy: For a fair, healthy and environmentally-friendly food system. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Brussels: European Commission.

European Parliament and Council. (2024). Directive (EU) 2024/825 of 28 February 2024 amending Directives 2005/29/EC and 2011/83/UE as regards empowering consumers for the green transition through better protection against unfair practices and better information. Official Journal of the European Union, L 2024/825.

European Parliament and Council. (2011). Regulation (EU) No 1169/2011 of 25 October 2011 on the provision of food information to consumers. Official Journal of the European Union, L 304/18.

Food and Agriculture Organization of the United Nations. (2024). Greenhouse gas emissions from agrifood systems: Global, regional and country trends, 2000-2022. FAOSTAT Analytical Brief Series No. 50. Rome: FAO.

Intergovernmental Panel on Climate Change. (2019). Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. Shukla, P.R., Skea, J., Calvo Buendia, E., et al. (eds.). Geneva: IPCC.

Intergovernmental Panel on Climate Change. (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report (AR6). Cambridge University Press.

International Organization for Standardization. (2006). ISO 14040:2006 - Environmental management - Life cycle assessment - Principles and framework. Geneva: ISO.

International Organization for Standardization. (2006). ISO 14044:2006 - Environmental management - Life cycle assessment - Requirements and guidelines. Geneva: ISO.

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