Buletinul Ştiinţific al Universităţii Politehnica Timişoara
Seria Limbi moderne

Scientific Bulletin of the Politehnica University of Timişoara
Transactions on Modern Languages

Vol. 25, Special Issue: Language, Communication and Society / 2026

Translators' Perceptions of Sustainable Translation and Sustainability Translation: Evidence from an International Survey

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Abstract: Sustainability has emerged as a significant concern within Translation Studies, both as a specialised type of translation and as a guiding principle for professional practice. Building on recent theoretical distinctions between sustainability translation and sustainable translation, this study investigates how professional translators perceive these two concepts. Using an exploratory mixed-methods design, data were collected through an international survey of translation professionals and language-industry stakeholders. The findings indicate that respondents generally distinguish between sustainability translation, understood as the translation of sustainability-related texts, and sustainable translation, understood as environmentally responsible and ethically informed translation practice, although some conceptual overlap remains. The study further identifies terminology management, interdisciplinarity, domain knowledge, and technological awareness as major challenges. Based on the survey findings, the article proposes a preliminary sustainability-oriented translator profile comprising five dimensions: knowledge, skills, technology, ethics, and collaboration. The study contributes empirical evidence to the emerging field of sustainability-oriented Translation Studies.

Keywords: sustainable translation; sustainability translation; translator competence; sustainability-oriented translator; translator education; sustainability communication.

1. Introduction

Sustainability has become a major concern of contemporary society, influencing policy-making, scientific research, technological innovation, and public

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communication worldwide. International initiatives such as the United Nations Sustainable Development Goals (SDGs) (United Nations 2015) and the European Green Deal (European Commission 2019) have generated increasing volumes of multilingual communication addressing climate change, renewable energy, biodiversity conservation, environmental legislation, and sustainable development. As sustainability-related discourse increasingly crosses linguistic and cultural boundaries, translation plays a central role in facilitating access to knowledge and supporting international cooperation (Cronin 2017; Stibbe 2021).

At the same time, digitalisation, machine translation, artificial intelligence, and cloud-based infrastructures have transformed translation practice, raising questions about energy consumption, environmental footprint, data governance, algorithmic bias, and ethical responsibility (Cronin 2017; Albl-Mikasa and Cronin 2018). Consequently, sustainability has emerged not only as a specialised translation type (Dejica 2026) but also as a principle informing translation workflows and professional practices.

Recent scholarship has distinguished between *sustainability translation* and *sustainable translation* (Dejica and Sburlea 2026). Sustainability translation refers to the specialised translation of sustainability-related texts, whereas sustainable translation concerns environmentally responsible and ethically informed translation practices. Although this distinction has recently been conceptualised, empirical evidence regarding how professional translators understand these notions remains limited. Previous research has largely focused on conceptual developments and environmental perspectives within Translation Studies (Cronin 2017; Hu 2020; Sburlea and Dejica 2024), while recent findings suggest that translation students generally distinguish between the two concepts, although some overlap persists (Sburlea and Dejica 2026).

This study addresses this gap through an international survey investigating translators' perceptions of sustainable translation and sustainability translation. Specifically, it examines how professionals conceptualise the two notions, the extent to which they distinguish between them, the challenges and competences they associate with sustainability-oriented translation, and the implications of these findings for translator education, professional development, and future research.

2. Theoretical Framework

The growing prominence of sustainability across scientific, political, economic, and social domains has increased the demand for multilingual communication on environmental issues, climate policies, renewable energy, biodiversity conservation, and sustainable development. Simultaneously, technological advances such as machine translation, artificial intelligence, cloud-based infrastructures, and remote collaboration tools have encouraged reflection on the environmental and ethical dimensions of translation practice (Cronin 2017; Stibbe 2021; Albl-Mikasa and Cronin 2018).

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Recent scholarship distinguishes between sustainability translation and sustainable translation (Dejica and Sburlea 2026). Although often used interchangeably, the two concepts refer to different aspects of the relationship between translation and sustainability.

Sustainability translation denotes the translation of sustainability-related content, including environmental reports, climate policy documents, ESG reports, renewable-energy documentation, sustainability strategies, and related specialised texts. Like technical or scientific translation (Dejica and Stoian 2016; Dejica 2026), it is defined by its subject matter and requires translators to combine linguistic competence with specialised domain knowledge and terminology management skills (Dejica and Sburlea 2026).

Sustainable translation, in contrast, concerns the way translation is performed. It emphasises environmentally responsible workflows, ethical technology use, resource efficiency, digital sustainability, and socially responsible professional practices. This perspective applies to all translation domains regardless of subject matter and includes practices such as paperless workflows, remote collaboration, and the responsible use of machine translation and artificial intelligence (Cronin 2017; Albl-Mikasa and Cronin 2018; Dejica and Sburlea 2026).

These developments place translators at the intersection of language, technology, specialised knowledge, and social responsibility. Contemporary competence models therefore emphasise not only linguistic and intercultural competences but also technological literacy, ethical awareness, documentary competence, and collaboration skills (European Commission 2022).

3. Research Methodology

This study investigates translators' perceptions of *sustainable translation* and *sustainability translation* through an international survey targeting translation professionals and related language-industry stakeholders. The research adopts an exploratory mixed-methods design combining quantitative and qualitative data collection in order to capture both measurable tendencies and more nuanced perceptions regarding sustainability-oriented translation practices.

The study was guided by five research questions: (1) How do professional translators conceptualise sustainable translation?, (2) How do professional translators conceptualise sustainability translation?, (3) To what extent do translators distinguish between the two concepts?, (4) What challenges and competences do translators associate with sustainability-related translation activities?, (5) What implications emerge for translator training and professional development?.

3.1 Participants

The study was based on an international online survey completed by 46 respondents representing a diverse range of professional backgrounds within and adjacent to the translation industry. Participants included professional translators, project managers, translation quality managers, consultants, sustainability specialists, and other

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language-industry stakeholders. Respondents reported varying levels of professional experience, ranging from early-career professionals with less than two years of experience to highly experienced practitioners with more than sixteen years in the field.

The sample was geographically diverse, including participants from Romania, the United Kingdom, Portugal, Spain, Poland, Slovenia, Croatia, Czechia, Hungary, Canada, the United States, Brazil, China, and other countries. Most respondents held higher-education qualifications, including bachelor's, master's, and doctoral degrees, primarily in Translation Studies, Applied Linguistics, Philology, Environmental Sciences, and related disciplines. The multilingual and international composition of the sample provided a broad perspective on current understandings and practices related to sustainable translation and sustainability translation.

The survey targeted professionals involved in translation and related language services in order to explore their perceptions of the concepts of sustainable translation and sustainability translation, their current professional practices, and the challenges and training needs associated with sustainability-oriented translation activities.

3.2 Research Instrument

The questionnaire was designed specifically for this study and was informed by recent conceptual work on sustainable translation and sustainability translation (Dejica and Sburlea 2026). The instrument comprised three major sections.

The first section collected demographic and professional information, including educational background, professional status, years of experience, country of residence, and language combinations.

The second section focused on *sustainable translation,* understood as environmentally responsible and ethically informed translation practice. Participants were asked about their understanding of the concept, the sustainability practices they currently employ, their awareness of the environmental impact of digital technologies, the role of data governance and ethical AI in technology selection, perceived challenges to sustainable workflows, and the types of support they considered necessary for more sustainable professional practice.

The third section examined *sustainability translation,* understood as the specialised translation of sustainability-related texts. Questions addressed respondents' familiarity with sustainability-related domains and genres, their experience with sustainability-oriented texts, confidence in sustainability-related subject knowledge, perceptions of terminology-related challenges, resources used for documentation and terminology management, collaboration with subject-matter experts, competence requirements, and training needs.

The instrument combined multiple-choice questions, Likert-scale ratings, frequency measures, and open-ended questions. This design allowed the collection of both quantitative data suitable for descriptive analysis and qualitative data reflecting participants' individual experiences, concerns, and professional perspectives.

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3.3 Data Analysis

The collected data were analysed using a mixed-method approach (Creswell and Plano Clark 2017). Quantitative responses were examined through descriptive statistics, including frequencies, percentages, and mean scores. Particular attention was paid to patterns of conceptual understanding, perceived challenges, competence ratings, and training priorities associated with both sustainable translation and sustainability translation.

Qualitative responses obtained through open-ended questions were analysed thematically. Recurring themes, concerns, and explanatory comments were identified and organised into broader categories corresponding to the study's research questions. Special attention was given to participants' descriptions of sustainability-related professional practices, perceptions of artificial intelligence and digital technologies, interpretations of the two concepts under investigation, and recommendations for future professional development and education.

The findings are presented and discussed in relation to the dual framework proposed by Dejica and Sburlea (2026), which conceptualises sustainability translation and sustainable translation as two complementary but distinct dimensions of contemporary translation practice.

4. Findings and Discussion

4.1. Translators' Understanding of Sustainable Translation

The empirical findings from Section B of the survey (N=46) provide concrete quantitative and qualitative insights into how translation professionals conceptualise and operationalise *sustainable translation*. Overall, respondents predominantly define sustainable translation as an environmentally responsible, resource-efficient, and ethically guided workflow management practice.

When asked about their conceptual understanding of sustainable translation (Question B1, multiple-choice), the vast majority of participants associated the concept with environmental and operational efficiency: 87.0% (n=40) defined it as an approach that minimizes the environmental footprint of digital tools and workflows; 80.4% (n=37) viewed it as organizing translation work to reduce paper use, energy consumption, and material waste; 50.0% (n=23) identified it as a set of ethical practices related to privacy, transparency, and the responsible use of machine translation (MT) and artificial intelligence (AI); 37.0% (n=17) highlighted social responsibility and fair working conditions; 26.1% (n=12) explicitly recognized it as a methodological framework concerned with *how* translation is performed rather than *what* is translated; only 15.2% (n=7) stated they were not familiar with the concept.

In terms of actual workflow implementation (Question B2), 43.5% (n=20) of respondents reported consciously applying sustainability principles in their translation workflows, while 32.6% (n=15) were unsure, and 21.7% (n=10) indicated they did not.

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When evaluating specific sustainability measures currently employed (Question B3), respondents overwhelmingly prioritized visible, paper-based, and physical energy reduction practices over digital infrastructure management (Figure 1).

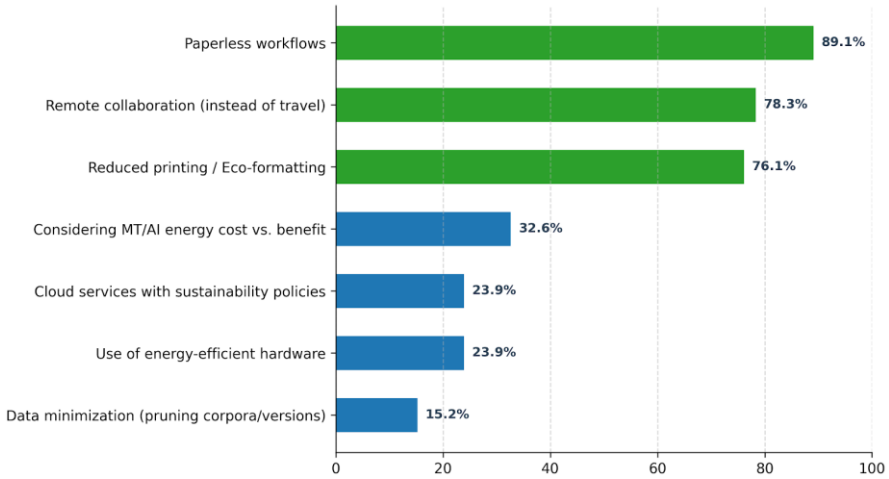


Figure 1. Adoption rates of sustainable translation practices among survey respondents (n=46)

As shown in Figure 1, the contrast between physical eco-practices (green) and digital infrastructure measures (blue) underscores a pronounced divergence: paperless workflows (89.1%), remote collaboration (78.3%), and reduced printing (76.1%) dominate daily routines, whereas digital practices such as evaluating MT/AI energy costs (32.6%) or data minimization (15.2%) remain largely overlooked.

This discrepancy aligns with respondents' self-reported awareness regarding the environmental impact of digital technologies (Question B4: cloud platforms, AI systems, MT engines, and data storage). Only 17.4% declared high levels of awareness—comprising 15.2% (n=7) "Very aware" and 2.2% (n=1) "Expert level awareness". The majority indicated limited insight, with 34.8% (n=16) feeling "Slightly aware", 32.6% (n=15) "Moderately aware", and 15.2% (n=7) "Not aware". Consequently, 76.1% (n=35) of translators have not adjusted their workflow to reduce digital energy or data consumption (Question B5), while only 23.9% (n=11) have done so.

Regarding digital maintenance practices at the workplace or individual freelance level (Question B8), 30.4% (n=14) reported adopting no sustainable digital practices. Among those who do, 54.3% (n=25) conduct regular data cleanups, 21.7% (n=10) practice energy-aware task scheduling (e.g., batching tasks), 19.6% (n=9) prefer low-energy or offline tools when possible, 15.2% (n=7) monitor or estimate their digital carbon footprint, and 10.9% (n=5) use green hosting or servers powered by renewable energy.

When evaluating alignment, 76.1% of respondents expressed skepticism regarding current language technologies (Question B9), asserting that CAT tools, MT

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engines, AI platforms, and cloud environments align with sustainability principles either "Poorly" (37.0%, n=17) or in a "Mixed" manner (39.1%, n=18), with only 21.7% (n=10) rating alignment as "Well". Open-ended feedback (Question B10) highlighted major systemic barriers, including strict client deadlines sacrificing eco-friendly choices, client-enforced cloud/AI tool requirements, lack of transparent information regarding software carbon footprints, and an "aggressive push for AI" where NMT or offline tools would consume fewer resources.

Finally, governance and ethical considerations were found to strongly intertwine with respondents' understanding of sustainable practices. When selecting translation tools (Question B6), 32.6% (n=15) regularly evaluate data governance and ethics ("Always": 17.4%, n=8; "Often": 15.2%, n=7), 34.8% (n=16) consider them "Sometimes", and 32.6% (n=15) evaluate them "Rarely" or "Never". When specifically assessing AI-assisted tools (Question B7), ethical and governance factors far outweighed direct environmental metrics: 80.4% (n=37) evaluate Data privacy; 60.9% (n=28) evaluate Algorithmic bias; 50.0% (n=23) evaluate Model transparency; 28.3% (n=13) evaluate Environmental footprint; 21.7% (n=10) evaluate Energy consumption.

These quantitative findings demonstrate that while translators demonstrate a strong conceptual baseline and high adoption of physical sustainability measures (such as paperless working and remote collaboration), digital sustainability remains an area where awareness and actionable implementation significantly lag behind.

4.2. Translators' Understanding of Sustainability Translation

The survey findings from Section C (N=46) examine how language professionals conceptualise, experience, and operationalise *sustainability translation* as a distinct domain of professional practice. In contrast to sustainable translation (which focuses on workflow processes), respondents predominantly associated sustainability translation with subject-matter specialization and the translation of domain-specific texts.

When evaluated on their conceptual understanding (Question C1, multiple-choice), respondents aligned closely with content-driven definitions: 58.7% (n=27) defined it as the translation of documents connected to environmental science, climate policy, renewable energy, biodiversity, or sustainable development; 50.0% (n=23) identified it as a specialized type of translation dealing specifically with sustainability-related texts; 34.8% (n=16) viewed it as translation aimed at promoting sustainability awareness and public communication; 23.9% (n=11) recognized it as a genre-based specialization requiring interdisciplinary knowledge across technical, legal, scientific, policy, and economic fields; 10.9% (n=5) associated it with theoretical paradigms within ecolinguistics or ecotranslatology, while 8.7% (n=4) considered it a marketing term for "green translation"; 17.4% (n=8) reported being unfamiliar with the concept.

Despite the clear focus on content, the data reveal noticeable conceptual overlap between the two terms: 41.3% (n=19) of respondents selected "any translation

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that uses environmentally friendly workflows" as a definition for sustainability translation. This confirms that while the distinction is recognized by a majority, conceptual blurring between workflow sustainability and content specialization persists among a significant proportion of practitioners.

Regarding professional experience, 54.3% (n=25) of respondents reported having worked with sustainability-related texts (Question C2), whereas 45.7% (n=21) had not (Figure 2).

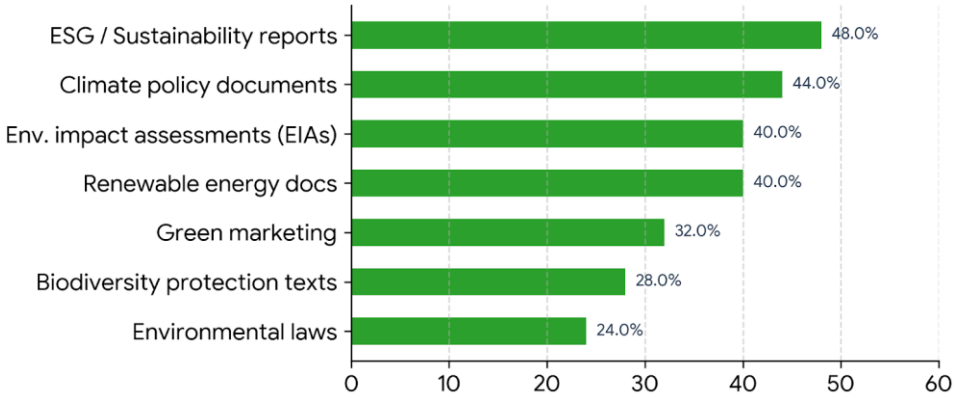


Figure 2. Most frequently translated sustainability genres among experienced practitioners (n=25).

As illustrated in Figure 2, among respondents with direct text experience (n=25), sustainability translation practice is heavily dominated by corporate ESG disclosures (48.0%), climate policy frameworks (44.0%), environmental impact assessments (40.0%), and renewable energy documentation (40.0%), whereas scientific environmental articles (12.0%) and circular economy texts (16.0%) feature less frequently.

However, overall engagement frequency remains limited (Question C3). A combined 71.8% of the total sample work with sustainability texts infrequently or not at all, with 37.0% (n=17) doing so "Rarely" and 34.8% (n=16) "Never". Only 17.4% (n=8) engage with these texts "Occasionally", and 10.9% (n=5) "Frequently".

This limited regular engagement corresponds to self-reported domain confidence and genre awareness:

- *Subject-matter confidence* (Question C4): Only 13.0% expressed high confidence in sustainability fields, comprising 10.9% (n=5) "Very confident" and 2.2% (n=1) "Expert-level". The remaining respondents felt "Moderately confident" (32.6%, n=15), "Not confident" (28.3%, n=13), or "Slightly confident" (26.1%, n=12).
- *Genre convention familiarity* (Question C7): More than half the sample—52.2% (n=24)—reported being "Not familiar" with the genre conventions of sustainability documents. Additionally, 21.7% (n=12) reported being "Slightly familiar", 17.4% (n=8) "Moderately familiar", and only 8.7%

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declared high familiarity (6.5%, n=3 "Very familiar"; 2.2%, n=1 "Expert-level").

- *Formal/Informal training* (Question C5): A large majority of respondents—84.8% (n=39)—have received no training on sustainability topics, while only 15.2% (n=7) reported having received formal or informal training.

Finally, respondents strongly acknowledged the inherent complexity of sustainability texts. When asked about interdisciplinarity requirements (Question C6), 91.3% of respondents stated that sustainability texts require interdisciplinary domain knowledge, with 47.8% (n=22) rating the requirement as "Strongly", 32.6% (n=15) as "Moderately", 10.9% (n=5) as "Extremely", and only 8.7% (n=4) as "Slightly".

These statistical patterns demonstrate that while translators recognize sustainability translation as a specialized, highly interdisciplinary domain dominated by ESG, policy, and technical texts, practical experience, formal training, and genre familiarity remain restricted to a minority of language professionals.

4.3. Challenges and Competences in Sustainability Translation

The empirical findings from Section C (N=46) reveal that translation professionals view sustainability translation as an exceptionally interdisciplinary and complex specialization, characterized by distinct terminological, conceptual, and technical challenges.

When identifying the most challenging structural and content-related aspects of sustainability-related texts (Question C8, multiple-choice), respondents highlighted: Specialized terminology: 58.7% (n=27); Regulatory and policy references: 54.3% (n=25); Quantitative indicators (data tables, metrics, KPIs, emissions figures): 37.0% (n=17); Highly interdisciplinary content: 34.8% (n=16); Multimodal elements (graphs, charts, infographics): 17.4% (n=8); Persuasive or advocacy-oriented language: 15.2% (n=7).

In evaluating subject-specific terminology difficulty (Question C9), 84.8% of valid responses rated sustainability terminology as difficult to manage in their working languages, with 50.0% (n=23) describing it as "Moderately difficult", 13.0% (n=6) as "Very difficult", 2.2% (n=1) as "Extremely difficult", 19.6% (n=9) as "Slightly difficult", and only 4.3% (n=2) as "Not difficult".

The primary root causes of terminology-related obstacles (Question C10) were evaluated across five key factors (Figure 3). As illustrated in Figure 3, the predominant barriers stem from systemic lexicographical deficits—most notably the lack of standardized target-language equivalents (43.5%, n=20) and conflicting institutional terminology across international and national bodies (43.5%, n=20)—compounded by the rapid emergence of new environmental terms (41.3%, n=19) and limited resources for specific language pairs (37.0%, n=17).

To navigate these terminological challenges, translators rely on a combination of official institutional repositories and client-supplied assets (Question C11). The top resources utilized include Official glossaries (UN, IPCC, EU, national agencies) at 63.0% (n=29), Glossaries provided by clients at 47.8% (n=22), Academic

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sources (books, articles, journals) at 30.4% (n=14), Specialized corpora or databases at 28.3% (n=13), In-house internal glossaries at 26.1% (n=12), and Crowdsourced/community platforms at 15.2% (n=7).

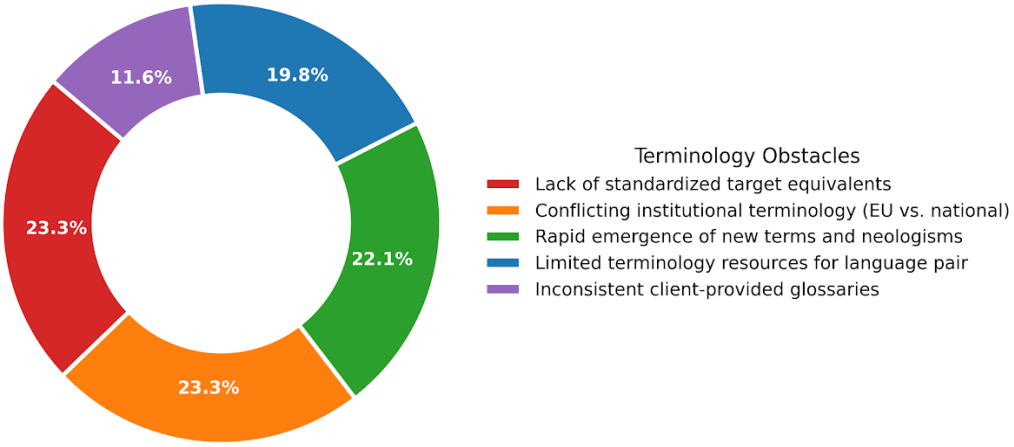


Figure 3. Primary causes of terminology challenges in sustainability translation.

When assessing the broader operational and systemic challenges encountered in translation projects (Question C14), respondents emphasized: Understanding complex environmental or scientific concepts: 54.3% (n=25); Inconsistencies across institutional sources (EU, UN, national agencies): 50.0% (n=23); Interpreting quantitative indicators, metrics, or technical data: 39.1% (n=18); Time pressure and limited access to specialized resources: 37.0% (n=37); Lack of training or professional guidance in this specialization: 34.8% (n=16); Managing multimodal content (graphs, charts, diagrams): 34.8% (n=16); Keeping up with rapidly evolving sustainability terminology: 30.4% (n=14); Adapting culturally embedded narratives or persuasive language: 26.1% (n=12); Coordinating with subject-matter experts: 13.0% (n=6).

Regarding expert collaboration (Question C13), 58.7% (n=27) of respondents do not collaborate with subject-matter experts during sustainability translation projects, while only 26.1% (n=12) reported active collaboration.

In evaluating the core competences required for effective performance (Question C12, measured on a 1–5 scale, where 5 indicates maximum importance), respondents assigned high value across all evaluated dimensions:

1. Environmental and sustainability domain knowledge: 69.5% rated high importance (Score 5: 30.4%, n=14; Score 4: 39.1%, n=18).
2. Genre competence (familiarity with document types): 54.4% rated high importance (Score 5: 28.3%, n=13; Score 4: 26.1%, n=12).
3. Technology competence (CAT tools, terminology management, MT/AI): 58.7% rated high importance (Score 5: 30.4%, n=14; Score 4: 28.3%, n=13).

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4. Data and indicator literacy (ability to interpret metrics and quantitative indicators): 52.1% rated high importance (Score 5: 21.7%, n=10; Score 4: 30.4%, n=14).
5. Ethical awareness (framing of environmental issues, mitigating bias): 52.2% rated high importance (Score 5: 37.0%, n=17; Score 4: 15.2%, n=7).
6. Cultural adaptation skills: 54.4% rated high importance (Score 5: 37.0%, n=17; Score 4: 17.4%, n=8).
7. Ability to collaborate with subject-matter experts: 50.0% rated high importance (Score 5: 32.6%, n=15; Score 4: 17.4%, n=8).

These findings confirm that language professionals view sustainability translation not merely as standard technical translation, but as a multidimensional specialization demanding a high synthesis of domain knowledge, data literacy, terminological precision, and ethical awareness.

4.4. Training Needs and Implications for Translator Education

The empirical results from Question C15 (N=46) demonstrate a pronounced demand for structured, sustainability-oriented training and professional development initiatives across the language industry. Reflecting the complex, interdisciplinary challenges identified in earlier sections, respondents prioritized learning needs that combine specialized domain knowledge, terminological precision, regulatory literacy, and technological competence.

When asked to identify the specific areas of training that would most improve their performance in sustainability translation (Question C15, multiple-choice), respondents evaluated eight potential learning domains (Figure 4).

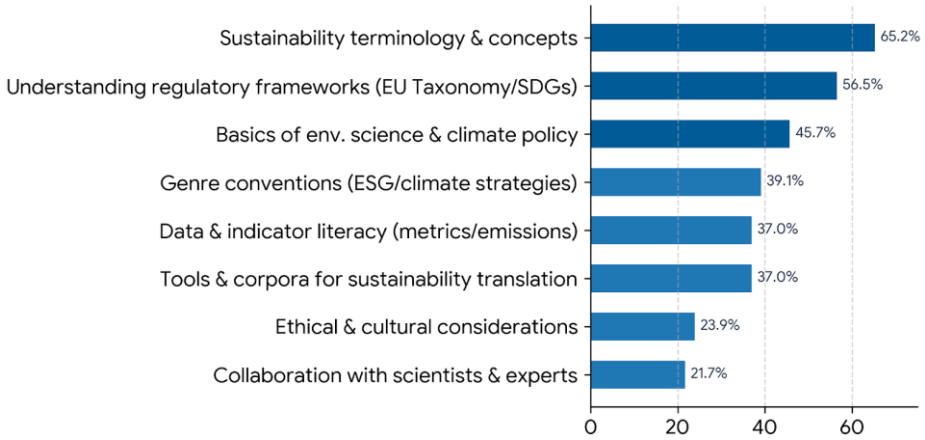


Figure 4. Priority training areas in sustainability translation.

As illustrated in Figure 4, practitioner demand is heavily concentrated in specialized terminology management (65.2%, n=30), regulatory compliance frameworks (56.5%, n=26), and foundational environmental science (45.7%, n=21),

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establishing a clear roadmap for curriculum design and continuous professional development.

These quantitative patterns reveal several key implications for university translator training programs, continuous professional development (CPD), and language industry bodies:

1. *Integrating Specialized Domain Knowledge and Regulatory Literacy:* The high interest in regulatory frameworks (56.5%) and foundational environmental science (45.7%) underscores that linguistic proficiency alone is insufficient. Translator education curricula must incorporate modules covering key legal and institutional frameworks (such as the EU Green Deal, CSRD, and UN SDGs) alongside introductory climate science to bridge the gap between language skills and subject-matter comprehension.
2. *Systematic Terminology and Corpus Management:* Given that 65.2% of practitioners requested terminology training and 37.0% sought dedicated tools and corpora, educational frameworks should emphasize advanced documentation strategies. This includes training students and professionals to build, clean, and navigate specialized parallel corpora, as well as accessing official multilingual terminology repositories (e.g., IATE, UNTERM, IPCC glossaries).
3. *Data Literacy and Multimodal Processing:* With 37.0% of respondents identifying data literacy as a key training priority—and 39.1% noting quantitative indicators as a major translation obstacle in Section 4.3—curricula must expand beyond purely narrative text analysis. Training should incorporate the interpretation of quantitative disclosures, carbon footprint metrics, data visualization, and multimodal document layouts.
4. *Fostering Interdisciplinary and Collaborative Competence:* Although active expert collaboration is currently low among practitioners (26.1%, Question C13), 21.7% of respondents recognized it as a vital training area. Pedagogical models should create interdisciplinary learning environments where translation students collaborate directly with students or specialists from environmental sciences, engineering, law, and economics.
5. *Bridging Workflow Sustainability with Technology Literacy:* The combined survey findings highlight a clear divergence between high adoption of physical eco-practices (paperless workflows: 89.1%) and lower awareness of digital carbon footprints (high awareness: 17.4%). Professional development initiatives must address "digital sustainability," equipping language professionals to critically evaluate the energy consumption, data governance, and ethical implications of cloud platforms, machine translation engines, and large-scale AI models.

In summary, the data underscore an urgent need to transition from ad-hoc self-learning to formal, structured training modules. Incorporating both *sustainability translation* (content specialization) and *sustainable translation* (eco-friendly, ethical workflows) into university degree programs and industry CPD courses will be

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essential to prepare translators for the evolving demands of multilingual environmental communication.

5. Towards a Sustainability-Oriented Translator Profile

The empirical findings presented in Section 4 demonstrate that operating in contemporary sustainability-oriented communicative environments requires a competence profile extending beyond conventional linguistic, textual, and intercultural skills. Respondents consistently associated both *sustainability translation* (content specialization) and *sustainable translation* (eco-friendly, ethical workflows) with an integrated synthesis of domain knowledge, technological literacy, ethical responsibility, and interdisciplinary collaboration. Building on these findings and drawing upon multidimensional approaches to translator competence (European Commission 2022; Kovacs and Dejica, 2025; Dejica and Grigoras 2026; Dejica and Mali 2026; Grigoras and Dejica 2026; Kovacs and Dejica 2026; Mali and Dejica 2026), this section proposes a preliminary *Sustainability-Oriented Translator Profile* composed of five interconnected dimensions: *Knowledge*, *Skills*, *Technology*, *Ethics*, and *Collaboration*.

The visual representation of this five-dimension competence framework, synthesizing the survey respondents' evaluation ratings and professional priorities, is illustrated in Figure 5.

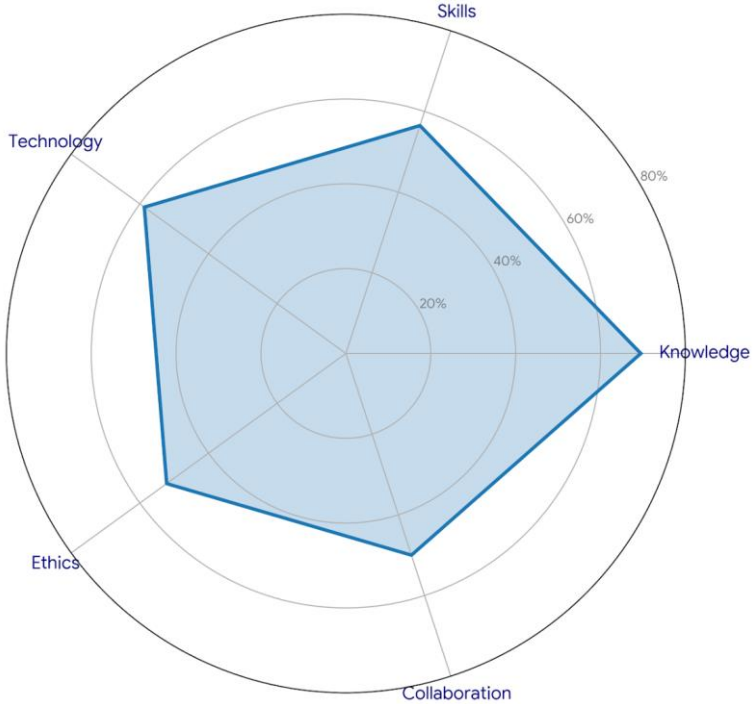


Figure 5. Sustainability-Oriented Translator Competence Profile

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5.1. Knowledge Competence

At the foundation of the profile lies specialized domain knowledge. In the survey, 69.5% of respondents assigned high importance to environmental and domain knowledge. Furthermore, 45.7% identified foundational training in environmental science and climate policy as a priority need, while 56.5% prioritized understanding complex regulatory frameworks (such as the EU Taxonomy, CSRD, and UN SDGs). These empirical trends demonstrate that translators operating in this specialization require genuine climate and environmental literacy. Because sustainability communication increasingly relies on multidisciplinary scientific concepts and evolving legal mandates, domain knowledge forms an indispensable prerequisite for accurate source-text comprehension and target-text transfer.

5.2. Skill Competence

The second dimension encompasses specialized methodological and technical skills required to process complex sustainability texts. Survey findings highlighted specialized terminology management as the single most critical skill: 65.2% of participants selected terminology training as their top learning need, and 58.7% rated terminology as the most challenging text aspect. In addition, 54.4% assigned high importance to genre competence, navigating specialized document types such as ESG disclosures, climate strategies, and environmental impact assessments. Finally, 37.0% prioritized data and indicator literacy, underscoring the growing necessity for translators to accurately interpret quantitative metrics, carbon accounting figures, and multimodal elements (graphs, tables, and infographics).

5.3. Technological Competence

Technological competence bridges both dimensions of the dual framework. While 58.7% of respondents rated technology competence (CAT tools, MT/AI engines, terminology databases) as highly important, the empirical data revealed significant skepticism regarding current technological infrastructures: 76.1% asserted that existing translation technologies align poorly or only partially with sustainability principles. Moreover, only 17.4% demonstrated high awareness of the digital carbon footprint associated with cloud servers and large-scale AI processing, and 76.1% have not adjusted their workflows to reduce energy or data consumption. The sustainability-oriented translator must therefore possess not only operational technical skills, but also the digital sustainability literacy required to critically evaluate software energy efficiency, minimize redundant data storage, and implement resource-efficient workflows.

5.4. Ethical Competence

Ethical awareness emerged as a core dimension, particularly in relation to *sustainable translation* practices. 52.2% of respondents rated ethical awareness as highly important. Crucially, when evaluating AI and machine translation tools, respondents prioritized governance and ethical considerations far above environmental metrics:

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80.4% evaluated data privacy, 60.9% evaluated algorithmic bias, and 50.0% evaluated model transparency. These findings indicate that translators perceive themselves as ethical actors responsible for digital governance, data privacy, fair representation, and avoiding greenwashing or biased framing in environmental communication.

5.5. Collaborative Competence

Finally, the profile incorporates collaborative competence. Sustainability communication originates within highly interdisciplinary environments involving environmental scientists, legal experts, corporate officers, and policymakers. In the survey, 50.0% of respondents rated expert collaboration as highly important, and 21.7% identified collaborative workflows with scientists and policy experts as a key training priority. Given that 58.7% currently do not collaborate with subject-matter experts during translation projects, developing structured collaborative competence is essential to transition translators from isolated language workers into active members of interdisciplinary communication teams.

5.6. Summary of the Five Competence Dimensions

Table 1 summarizes the five core dimensions of the proposed profile, detailing their primary sub-components and their empirical grounding in the survey findings.

Dimension	Primary Competence Components	Empirical Survey Grounding (N=46)
1. Knowledge	Environmental science literacy, climate policy, regulatory frameworks (EU Taxonomy, SDGs), ESG reporting standards.	69.5% high importance rating; 56.5% demand training in regulatory frameworks.
2. Skills	Specialized terminology management, genre awareness (ESG/EIAs), data & metric literacy, multimodal processing.	65.2% demand terminology training; 58.7% identify terminology as primary challenge.
3. Technology	CAT/MT/AI operational proficiency, digital sustainability, energy-aware workflow optimization, corpus management.	76.1% view current tools as poorly/mixed aligned with sustainability; 17.4% high digital footprint awareness.
4. Ethics	Data privacy, algorithmic bias mitigation, transparency, framing integrity, anti-greenwashing responsibility.	80.4% evaluate data privacy in AI tools; 60.9% evaluate algorithmic bias.
5. Collaboration	Interdisciplinary communication, co-authoring, consultation with environmental scientists, engineers, and legal experts.	50.0% high importance rating; 58.7% currently lack active expert collaboration.

Table 1. Structural overview of the preliminary Sustainability-Oriented Translator Profile.

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The five dimensions demonstrate how *sustainability translation* and *sustainable translation* converge at the level of professional competence. While sustainability translation foregrounds specialized domain knowledge and terminological skills, sustainable translation highlights technological, ethical, and workflow-related responsibilities. Contemporary translation professionals must synthesize both perspectives to effectively mediate multilingual sustainability communication while ensuring that their own professional practices conform to environmental and ethical principles.

6. Conclusions

This study provided empirical evidence on how translation professionals perceive and operationalise *sustainable translation* and *sustainability translation*. The findings confirm that practitioners generally distinguish between sustainable translation (environmentally responsible and ethically informed workflows) and sustainability translation (the specialized translation of domain-specific content such as climate policy, ESG reports, and environmental documentation), supporting the dual framework proposed by Dejica and Sburlea (2026). Nevertheless, some conceptual overlap persists, underscoring the need for further theoretical clarification and pedagogical dissemination across professional environments.

Empirically, the study demonstrates that sustainability-oriented translation is perceived as a complex, highly interdisciplinary practice. Language professionals identified terminology management, regulatory frameworks, data literacy, and technological governance as major operational challenges. To address these demands, the study synthesized survey responses into a preliminary 5-dimension translator competence profile—encompassing *Knowledge*, *Skills*, *Technology*, *Ethics*, and *Collaboration*—representing the primary theoretical contribution of this research. This model illustrates how content expertise and workflow sustainability converge at the level of professional competence.

Overall, the empirical findings directly answer the five research questions posed at the outset of this study. By clarifying how translators conceptualise sustainable and sustainability translation (RQ1, RQ2), evaluating the extent of conceptual distinction versus overlap (RQ3), identifying core operational challenges and competence requirements (RQ4), and delineating concrete priorities for translator training (RQ5), the study offers a comprehensive baseline for future research and curriculum development.

Several limitations of the study should be acknowledged. The sample size remains relatively small (N=46) and relies on self-reported survey data rather than direct observation of translation performance. Additionally, while geographically diverse, the sample is not fully representative of the global translation industry. Future research should expand upon these findings through larger-scale cross-cultural surveys, longitudinal observational studies, and corpus-based analyses of authentic sustainability translation projects.

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Ultimately, this study contributes to sustainability-oriented Translation Studies by establishing an empirical baseline for professional perceptions. As sustainability continues to reshape global communication, corporate governance, and technological innovation, language professionals must play a dual role: accurately mediating multilingual sustainability knowledge while ensuring their professional practices and digital workflows remain ethically and environmentally responsible.

References

Albl-Mikasa, Michaela, and Michael Cronin, eds. 2018. *Translation Goes Green: Translating for the Green and Sustainable Economy*. London: Routledge.

Creswell, John W., and Vicki L. Plano Clark. 2017. *Designing and Conducting Mixed Methods Research*. 3rd ed. Thousand Oaks, CA: SAGE Publications.

Cronin, Michael. 2017. *Eco-Translation: Translation and Ecology in the Age of the Anthropocene*. London: Routledge.

Dejica, Daniel. 2010. "Approaching the Information Universe for Translation Purposes: The Atomistic Perspectives." *Romanian Journal of English Studies*, vol. 7, edited by Luminița Frențiu, 252–264. Timișoara: Editura Universității de Vest.

Dejica, Daniel. 2026. "Technical and Scientific Translation." In *International Encyclopedia of Language and Linguistics*, 3rd ed., edited by Hilary Nesi and Petar Milin, vol. 10, 126–130. Amsterdam: Elsevier. https://doi.org/10.1016/B978-0-323-95504-1.01407-1.

Dejica, Daniel, and Claudia Stoian. 2016. "Properties and Qualities of Technical Translations in Romanian." *Professional Communication and Translation Studies* 9: 131–138.

Dejica, Daniel, and Patricia Grigoraș. 2026. "Technical Translation Pedagogy in Romanian Universities: Survey Evidence on Competence Development and Technology Use." *Swedish Journal of Romanian Studies* 9 (2): 190–205. https://doi.org/10.35824/sjrs.v9i2.28777.

Dejica, Daniel, and Izabella Mali. 2026. "Website Localization from the Perspective of Industry Professionals: Challenges, Competences, and Future Directions." *Annales Universitatis Apulensis. Series Philologica*. Forthcoming.

Dejica, Daniel, and Noemi Sburlea. 2026. "Sustainability Translation and Sustainable Translation: Foundations for a Dual Framework in Translation Studies." In *Transcultural Communication, Health and Sustainability*, edited by Natalia Kaloh Vid and Vlasta Kučiš, 125–141. Maribor: Maribor University Press.

European Commission. 2019. *The European Green Deal*. Brussels: European Commission.

European Commission. 2022. *EMT Competence Framework 2022*. Brussels: European Commission.

Grigoraș, Patricia, and Daniel Dejica. 2026. "Beyond Linguistic Competence: Terminological, Digital, and Collaborative Challenges in Technical Translation Education." *Scientific Bulletin of the Politehnica University of Timişoara, Transactions on Modern Languages* 25 (2). Special issue, "Language, Communication and Society," edited by Walter Giordano and Daniel Dejica. Forthcoming.

Hu, Gengshen. 2020. *Eco-Translatology: Towards an Eco-Paradigm of Translation Studies*. Singapore: Springer.

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Kovacs, Zoltan, and Daniel Dejica. 2025. “From Standards to Hybrid Workflows: Automatic Post-Editing and Translation Quality Assessment for English-Romanian Medical Texts.” *Professional Communication and Translation Studies* 18: 136–245.

Kovacs, Zoltan, and Daniel Dejica. 2026. “Machine Translation, Post-Editing, and Quality Assessment in English–Romanian Medical Translation: Insights from Professional Practice.” *Scientific Bulletin of the Politehnica University of Timişoara, Transactions on Modern Languages* 25 (1): 69–83.

Mali, Izabella, and Daniel Dejica. 2026. “Teaching Website Localization in the Romanian Context: An Empirical Study of Linguistic, Cultural, and Technological Competences.” *Scientific Bulletin of the Politehnica University of Timişoara, Transactions on Modern Languages* 25 (1): 130–144.

Sburlea, Noemi, and Daniel Dejica. 2024. “Transformative Translation: Empowering Environmental Discourse Through Linguistic Innovation and Sustainable Translations.” In *ERAZ 2024 Conference Proceedings*, 507–518. Belgrade: Association of Economists and Managers of the Balkans.

Sburlea, Noemi, and Daniel Dejica. 2026. “Sustainable Translation and Sustainability Translation Through the Eyes of Students: Awareness, Competences, and Training Needs.” *Annales Universitatis Apulensis. Series Philologica*. Forthcoming.

Stibbe, Arran. 2021. *Ecolinguistics: Language, Ecology and the Stories We Live By*. 2nd ed. London: Routledge.

United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York: United Nations.

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