

Sustainability in endoscopic medical congresses and courses: Position Statement from the European Society of Gastrointestinal Endoscopy and the European Society of Gastroenterology and Endoscopy Nurses and Associates



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published online 2026

Bibliography

Endoscopy

DOI 10.1055/a-2857-9380

ISSN 0013-726X

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This article is published by Thieme.

Georg Thieme Verlag KG, Oswald-Hesse-Straße 50, 70469 Stuttgart, Germany

 Supplementary Material

Supplementary Material is available at

<https://doi.org/10.1055/a-2857-9380>

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ABSTRACT

Medical conferences and educational courses in gastrointestinal (GI) endoscopy are essential for training, quality improvement, and scientific exchange, but they are also associated with a substantial environmental footprint, largely driven by travel-related greenhouse gas emissions and resource consumption. While sustainability in endoscopic practice has gained increasing attention, the environmental impact of endoscopy congresses and courses has remained insufficiently addressed. This document outlines the official position of the European Society of Gastrointestinal Endoscopy (ESGE) and the European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA). An international multidisciplinary panel of experts conducted a systematic literature review, expert narrative appraisal where evidence was limited, and an iterative Delphi consensus process. The resulting recommendations address key domains of conference organization, including event conception, scientific program design, transportation and participation models, faculty selection, venue and accommodation, catering, waste reduction, training formats, and collaboration with industry partners. Emphasis is placed on promoting virtual and hybrid conference formats, low-emission travel options, sustainable venues and catering, and the systematic measurement and transparent reporting of environmental impact. This ESGE–ESGENA Position Statement provides practical, consensus-based, evidence-informed guidance to support GI endoscopy societies, conference organizers, industry partners, and participants in reducing the environmental impact of endoscopy-related educational activities while preserving their scientific and educational quality.

ABBREVIATIONS

ESGE	European Society of Gastrointestinal Endoscopy
ESGENA	European Society of Gastroenterology and Endoscopy Nurses and Associates
GI	gastrointestinal
GRADE	Grading of Recommendations Assessment, Development and Evaluation
kgCO₂e	kilograms of carbon dioxide equivalent
PICO	population/problem, intervention, comparator, outcome

1. Introduction

The European Society of Gastrointestinal Endoscopy (ESGE) has embraced sustainability in gastrointestinal (GI) endoscopy as a strategic priority [1].

Medical conferences are resource-intensive events, associated with substantial greenhouse gas emissions, primarily driven by participant travel, but also by venue energy consumption, catering, conference materials, and industry exhibitions. The environmental impact of medical meetings has been documented in the scientific literature for more than two decades, and more recent analyses consistently demonstrate that conferences often represent the single largest contributor to the carbon footprint of scientific societies [2]. As awareness of climate change and planetary health increases, the sustainability of

traditional conference models has become a pressing concern across medical disciplines.

GI endoscopy societies face additional challenges, as educational activities frequently include live endoscopy sessions, hands-on training, and animal-based courses, all of which may further increase environmental impact. At the same time, these activities are central to education, training, and quality improvement, making a simple reduction in educational efforts neither feasible nor desirable. The challenge, therefore, lies in rethinking how such events are designed, organized, and delivered, with the aim of maximizing educational value while minimizing environmental harm.

This ESGE–ESGENA Position Statement reviews the available evidence on the environmental impact of GI endoscopy congresses, courses, live endoscopy events, and animal training programs, and provides practical, evidence-informed guidance to reduce the environmental footprint of GI endoscopy-related educational activities, while preserving scientific and educational excellence.

2. Methods

This document has been developed following the current ESGE Publications Policy [3]. A Position Statement was considered appropriate given the anticipated lack of high quality evidence and the strategic relevance of the topic.

In February 2025, the project leads (M.P. and E.R. de S.) issued an email invitation to the ESGE Green Endoscopy Working Group members, experts in sustainability research, and also to the ESGENA Governing Board requesting them to nominate ESGENA members with a particular interest in this topic. Final participant selection was conducted by the project leads, based on clinical and research experience, involvement in sustainability-related activities, and the principles of diversity, equity, and inclusion. The ESGE Executive Committee subsequently approved the final panel of 23 members.

The project leads then circulated a preliminary list of questions and topics to all panel members, who were organized into five taskforces (see Supplementary material, available online-only). Questions were structured using the PICO (population/problem, intervention, comparator, outcome) framework. Where a PICO structure was not feasible or appropriate, questions were addressed via expert-based narrative reviews. A virtual meeting was held on 24 February 2025, during which panel members provided input on the initial questions and the overall structure of the Position Statement. Panellists were then given 2 weeks to provide additional feedback, following which the final list of questions was approved.

A structured template was developed to standardize the literature search and methods. Subsequently, we conducted a systematic literature search in a minimum of two databases, using several PICO questions, from inception to June 2025 (see Supplementary material). Subsequently, each taskforce reviewed the available literature and drafted an initial list of statements. These drafts were reviewed by the project leads, who provided initial feedback. The GRADE (Grading of Recommendations Assessment, Development and Evaluation) system

was not used as we anticipated a lack of evidence for most statements.

The first round of Delphi voting was conducted during July and August 2025, followed by a second round in October 2025. Statements were graded with a 5-point Likert scale (1, Strongly disagree; 2, Disagree; 3, Neither agree nor disagree; 4, Agree; 5, Strongly agree) via a web-based platform (Survey Monkey). Before voting, panellists received the evidence supporting each statement. Panellists were asked to consider clinical benefits and harms for patients and healthcare systems, costs, quality of the evidence, and the environmental impact. Consensus was defined as $\geq 80\%$ agreement (the sum of Agree and Strongly agree). Statements were deleted or reformulated by the project leaders for the subsequent voting round if the agreement was $< 80\%$. In addition, panellists' comments were reviewed and, when considered relevant by the project leads, incorporated even for statements that reached the agreement threshold. The results of each voting round are detailed in the Supplementary material.

The manuscript was reviewed and approved by the ESGE Executive Committee. The final version of the Position Statement was approved by all authors. The final statements are summarized in ► **Table 1**.

3. What is the environmental impact of GI endoscopy congresses?

Our systematic search identified 17 studies assessing the environmental impact of medical conferences; these were predominantly retrospective and employed heterogeneous methodologies (see Supplementary material). To date, no conference focused on GI endoscopy has assessed its environmental impact.

Air travel contributes approximately 85%–99% of total greenhouse gas emissions (► **Fig. 1**) associated with medical conferences, with per-attendee contributions varying considerably depending on location and conference format [2,4,5]. Long-haul flights, in particular, are responsible for the highest emissions per attendee, and traveling in business class can result in up to three times the emissions compared to economy class [2,6,7]. For instance, the Canadian Association of Gastroenterology's annual meeting experienced a 41% increase in emissions, primarily due to longer average flight distances [7]. These findings highlight the substantial influence of conference location on overall environmental impact. This trend is consistent across medical specialties, with remote venues generating nearly twice the emissions of centrally located alternatives [8].

Accommodation at the destination contributes to the environmental burden to a lesser extent. Other factors – such as venue energy use, heating, and waste generation from conference materials and giveaways – are relatively minor contributors to the carbon footprint [2].

Fully virtual conferences can reduce emissions by 86%–99% compared to in-person meetings [9,10]. Hybrid models, incorporating virtual participation alongside regional hubs, have achieved emissions reductions of 54%–71% [11]. However, careful planning is essential, as emissions from interhub travel

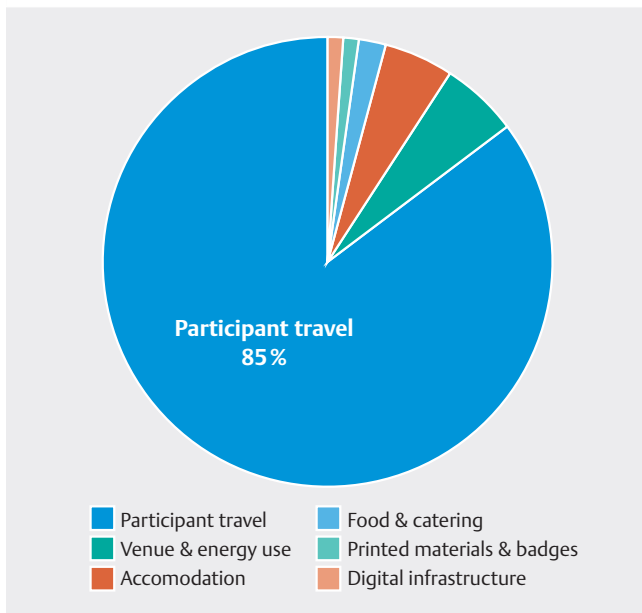
► **Table 1** Sustainability in endoscopic medical congresses and courses. ESGE and ESGENA Position Statement: final statements.

	Key domains	Statements
Sustainability in event conception and scientific program	4.1 Core principles	1 ESGE and ESGENA recommend the establishment of a 'Green Plan' when starting to organize a GI endoscopy congress or course, taking the '5 Rs' (Reduce, Reuse, Recycle, Rethink, Research) into consideration. Level of agreement 100%
		2 ESGE and ESGENA support the educational role of medical conferences on environmental sustainability. Level of agreement 100%
	4.2 Dedicated sustainability sessions	3 ESGE and ESGENA recommend dedicated green sessions during conferences to increase sustainability awareness and create common interest groups. Level of agreement 92%
	4.3 Live endoscopy events and hands-on training	4 ESGE and ESGENA recommend that sustainability awareness should be included during hands-on training courses and live endoscopy events. Level of agreement 92%
		5 When practical hands-on training is included, ESGE and ESGENA recommend transitioning to non-live-animal training models except when a clear educational benefit has been demonstrated. Level of agreement 83%
Reducing transport-related emissions	5.1 Hybrid and online formats	6 ESGE and ESGENA recommend that virtual and hybrid conference models should be encouraged. Level of agreement 100%
	5.2 Low-emission travel options	7 ESGE and ESGENA recommend that conference organizers identify and promote climate-friendly travel alternatives to attendees. Level of agreement 96%
		8 ESGE and ESGENA recommend the use of less carbon-intensive modes of transport to reach the congress facility when in-person meetings are justified. Level of agreement 89%
	5.3 Selection of host city	9 ESGE and ESGENA recommend that conference sites be carefully selected to minimize emissions, giving preference to locations with robust public transport and climate-friendly travel options. Level of agreement 96%
		10 ESGE and ESGENA recommend prioritizing low-carbon cities as host locations for congresses, with optional use of tools such as the Gridded Global Model of City Footprints or the Carbon Disclosure Project ratings to support this assessment. Level of agreement 96%
		11 ESGE and ESGENA suggest considering decentralized satellite meetings in multiple selected locations as they can minimize travel-related emissions. Level of agreement 92%
	5.4 Selection of faculty	12 ESGE and ESGENA recommend adapting faculty selection to the conference location (e. g., giving preference to local experts or those able to travel by train). The carbon footprint of faculty attendance should be considered alongside scientific and educational merit. Level of agreement 87%
Venue and accommodation	6.1 Selection of venue	13 ESGE and ESGENA recommend favoring venues with established sustainability policies and certifications, ensuring that environmental criteria are part of the venue selection process. Level of agreement 96%
	6.2 Onsite actions	14 ESGE and ESGENA recommend the use of appropriate onsite recycling bins to help reduce the waste sent to landfills. Level of agreement 100%
		15 ESGE and ESGENA recommend that brochures or conference schedules should be provided in digital format or, if necessary, in products made from recycled, biodegradable, and sustainable materials. Level of agreement 93%

► **Table 1** (Continuation)

	Key domains	Statements
	6.3 Catering	16 ESGE and ESGENA recommend vegetarian event catering whenever possible to reduce environmental burden. Level of agreement 92%
		17 ESGE and ESGENA recommend favouring locally farmed, seasonal and fresh food, and using reusable dishes, cups, and cutlery. Level of agreement 96%
	6.4 Accommodation	18 ESGE and ESGENA recommend the prioritization of accommodation with certified sustainable policies. Level of agreement 86%
		19 ESGE and ESGENA recommend the selection of accommodations with good access to the conference venue (i. e., via public transportation or within walking distance). Level of agreement 96%
Benchmarking green performance	7.1 Should GI endoscopy conferences assess their environmental impact?	20 ESGE and ESGENA suggest considering that GI endoscopy congresses and courses assess their environmental impact. Level of agreement 100%
		21 ESGE and ESGENA recommend producing a sustainability report following each event, highlighting areas for improvement for the next edition. Level of agreement 96%
	7.2 Should GI endoscopy conferences offset their carbon footprint?	22 ESGE and ESGENA recommend that GI endoscopy congresses and courses implement direct emission reduction strategies or carbon-offsetting initiatives to minimize the environmental impact and promote sustainability. Level of agreement 96%
Recommendations for industry partners		23 ESGE and ESGENA recommend that industry partners supporting meetings adopt low-waste and low-carbon practices. Level of agreement 100%

ESGE, European Society of Gastrointestinal Endoscopy; ESGENA, European Society of Gastroenterology and Endoscopy Nurses and Associates; GI, gastrointestinal.



► **Fig. 1** Main sources of environmental impact associated with medical conferences: relative contributions.

can offset some of the sustainability gains achieved through local hosting [12].

Although data specific to GI meetings are lacking, existing evidence suggests that these conferences face environmental challenges similar to those encountered in other medical fields.

4. Sustainability in event conception and scientific program

4.1 Core principles

STATEMENT 1

ESGE and ESGENA recommend the establishment of a ‘Green Plan’ when starting to organize a GI endoscopy congress or course, taking the “5 Rs” (Reduce, Reuse, Recycle, Rethink, Research) into consideration.
Level of agreement 100%

STATEMENT 2

ESGE and ESGENA support the educational role of medical conferences on environmental sustainability.
Level of agreement 100%

Conferences should be an opportunity to set an example of sustainable practices, showing participants how small efforts can lead to significant changes [13, 14, 15].

ESGE and ESGENA recommend implementing a ‘Green Plan’ from the earliest stages of organizing a GI endoscopy congress or course. The structured approach of the ‘5 Rs’ – Reduce, Reuse, Recycle, Rethink, Research – provides a practical framework to decrease CO₂ emissions, waste generation, and resource consumption in line with healthcare sustainability goals. Recent analyses have shown that medical conferences contribute substantially to emissions related to travel [2, 16], promotional materials, and logistical operations, underscoring the need for more resource-efficient and circular strategies [17]. Integrating a Green Plan therefore promotes organizational practices that are consistent with European environmental commitments and with the principles of more sustainable endoscopy [13].

4.2 Dedicated sustainability sessions

STATEMENT 3

ESGE and ESGENA recommend dedicated green sessions during conferences to increase sustainability awareness and create common interest groups.
Level of agreement 92%

Literature still lacks solid studies focusing on the actual impact of dedicated green sessions at conferences, in terms of both environmental outcomes and participant satisfaction. What is clear, however, is that all major European gastroenterology conferences have allocated more space to green sessions than in the past. One of the most important outcomes is that scientists with a shared interest in this topic have been brought closer together, enabling the formation of working groups focused on environmental sustainability. Thanks to the creation of common interest working groups, the quality of research has improved, resulting in national and international position papers [1, 18, 19] and a growing body of literature on ‘green endoscopy’ aimed at promoting more sustainable practices, including research methodology [20].

4.3 Live endoscopy events and hands-on training

STATEMENT 4

ESGE and ESGENA recommend that sustainability awareness should be included during hands-on training courses and live endoscopy events.
Level of agreement 92%

In a recent survey conducted by the ESGE Green Endoscopy Working Group, lack of knowledge from staff was considered one of the main barriers to sustainable endoscopy [21]. By educating healthcare professionals, especially those in training, on

sustainable practices, the development and adoption of new technologies that are both effective and environmentally conscious should be encouraged. This could include the indication, discussion of noninvasive alternatives, combination of examinations, the choice of medical devices, greener sterilization techniques, and waste management strategies [22].

This is in line with a growing number of sustainability education programs around the world, which aim to integrate climate and health teaching into curricula to recognize, prevent, and treat the increasing burden of the climate crisis on public health, and to deliver sustainable healthcare solutions [23].

A greater understanding of sustainability could lead to practices that contribute not only to local healthcare improvements but also to global health goals, such as reducing carbon emissions [24].

STATEMENT 5

When practical hands-on training is included, ESGE and ESGENA recommend transitioning to non-live-animal training models except when a clear educational benefit has been demonstrated.
Level of agreement 83%

Modern nonanimal training models (mechanical simulators, ex vivo phantoms or virtual reality) have proven effective for teaching both basic and advanced techniques in GI endoscopy [25, 26, 27, 28, 29]. Evidence from biomedical research indicates that live animal experimentation is associated with significant resource use, pollution, energy consumption, waste generation, and impacts on biodiversity [30]. Given the additional ethical, logistical, and cost constraints – not to mention animal welfare – of live-animal training (which also requires special facilities, veterinary care, and regulatory oversight) [31], it appears both feasible and justified to prioritize non-animal or isolated ex vivo methods in endoscopy training.

5 Reducing transport-related emissions

5.1 Hybrid and online formats

STATEMENT 6

ESGE and ESGENA recommend that virtual and hybrid conference models should be encouraged.
Level of agreement 100%

One way to reduce the transport burden, that accounts for about 90% of the carbon emission impact [32], is by implementing virtual learning [2, 9, 10, 33, 34, 35, 36]. With 25% virtual attendees, the carbon footprint drops approximately 13%, although 87% could be reached with 75% virtual attendees [2]. Hybrid models, incorporating virtual participation alongside regional hubs, have achieved emissions reductions of

54%–71% [11]. Concurrent use of digital sobriety measures, such as optimizing streaming quality and minimizing non-essential data transmission, may lower the carbon footprint of virtual participation by as much as 80% [37].

5.2 Low-emission travel options

STATEMENT 7

ESGE and ESGENA recommend that conference organizers identify and promote climate-friendly travel alternatives to attendees.

Level of agreement 96%

STATEMENT 8

ESGE and ESGENA recommend the use of less carbon-intensive modes of transport to reach the congress facility when in-person meetings are justified.

Level of agreement 89%

Switching to train travel or providing remote participation options (hybrid or virtual formats) can reduce the carbon footprint of a conference by 78%–97% [38]. For those reasons, travel mode incentives (reduced fees, train ticket support, public transport access), carbon footprint calculators for participants, or hybrid conference formats are advisable.

5.3 Selection of host city

STATEMENT 9

ESGE and ESGENA recommend that conference sites be carefully selected to minimize emissions, giving preference to locations with robust public transportation and climate-friendly travel options.

Level of agreement 96%

STATEMENT 10

ESGE and ESGENA recommend prioritizing low-carbon cities as host locations for congresses, with optional use of tools such as the Gridded Global Model of City Footprints or the Carbon Disclosure Project ratings to support this assessment.

Level of agreement 96%

Choice of location determines delegate transport emissions, especially air travel as discussed above. Choosing a host city geographically optimal for total attendee travel can reduce emissions by nearly 20% [39]. Prioritizing centrally located and easily accessible venues can significantly reduce overall travel-related emissions, particularly when attendee origins are geographically clustered [11].

Beyond geography and urban planning, income levels are the most significant predictors of a city's carbon footprint [40]. The Carbon Disclosure Project, a nonprofit carbon overseer, provides insight into local waste and water management [41].

STATEMENT 11

ESGE and ESGENA suggest considering decentralized satellite meetings in multiple selected locations as they can minimize travel-related emissions.

Level of agreement 92%

The adoption of a hub-and-spoke framework can substantially reduce the need for long-haul travel by decentralizing attendance across regional hubs [11]. Satellite meeting formats – where a limited number of speakers travel long distances while most participants attend locally – can markedly reduce travel-related emissions. Available data suggest that decentralized satellite-style meetings may reduce overall emissions by up to 38% [39].

However, this model also presents relevant challenges. Decentralized meetings need complex organizational and technical coordination, including reliable audiovisual infrastructure, synchronization across time zones, and consistent educational quality across sites. In addition, local logistics, costs, and the carbon footprint associated with operating multiple venues must be carefully considered. Further experience and real-world evaluations are needed to determine the feasibility, scalability, and overall sustainability of satellite meeting formats in different settings.

5.4 Selection of faculty

STATEMENT 12

ESGE and ESGENA recommend adapting faculty selection to the conference location (e.g., giving preference to local experts or those able to travel by train). The carbon footprint of faculty attendance should be considered alongside scientific and educational merit.

Level of agreement 87%

Scientific and educational excellence (respecting equity and inclusivity), must remain the primary criteria for selecting external speakers [42,43]. However, these criteria must be balanced against the environmental cost of travel. Favoring local experts, prioritizing speakers who can travel by train, or offering virtual participation to distant faculty can significantly reduce the carbon footprint of conferences and signal a strong commitment to sustainable event organization [2, 14].

6 Venue and accommodation

6.1 Selection of venue

STATEMENT 13

ESGE and ESGENA recommend favoring venues with established sustainability policies and certifications, ensuring that environmental criteria are part of the venue selection process.

Level of agreement 96%

Selecting a conference venue with a recognized sustainability policy or certification can significantly reduce the environmental impact of medical meetings. Certified venues include, for instance, those endorsed through programs such as Green Key [44] or those complying with the international standard ISO 20121. Such venues also often promote sustainable procurement, encourage reuse of materials (e.g., signage, marketing stands), avoid single-use plastics, and support low-impact catering and resource-efficient catering practices.

6.2 Onsite actions

STATEMENT 14

ESGE and ESGENA recommend the use of appropriate onsite recycling bins to help reduce the waste sent to landfills.

Level of agreement 100%

The “5 Rs” for green endoscopy noted by ESGE suggest recycling in addition to rethink, reduce, reuse, and research [15,45,46]. Therefore, we recommend the introduction of an easily comprehensible waste segregation and recycling system. These measures can further reduce the CO₂ emissions caused by waste incineration and landfill [2,14]. In addition, it is also recommended that delegates receive training on waste separation [15].

STATEMENT 15

ESGE and ESGENA recommend that brochures or conference schedules should be provided in digital format or, if necessary, in products made from recycled, biodegradable, and sustainable materials.

Level of agreement 93%

Printed conference programs generate avoidable waste and rely on resource-intensive paper production, which is associated with deforestation, high water consumption, and CO₂ emissions. Life cycle assessments have shown that shifting from printed documents to digital formats can significantly reduce

greenhouse gas emissions and solid waste generation in scientific events [47]. Sustainable paper alternatives – recycled fibres or compostable materials – also have a markedly lower environmental impact compared with conventional paper.

6.3 Catering

STATEMENT 16

ESGE and ESGENA recommend vegetarian event catering whenever possible to reduce environmental burden.

Level of agreement 92%

STATEMENT 17

ESGE and ESGENA recommend favoring locally farmed, seasonal, and fresh food, and using reusable dishes, cups, and cutlery.

Level of agreement 96%

Catering represents a significant component of the carbon footprint of medical conferences, accounting for approximately 16%–30% of all nontravel CO₂ emissions, largely due to food production, transport, and consumption [15]. Animal-based products – particularly red meat and fish – are major contributors to these emissions [48]. Replacing standard menus with vegetarian options can reduce catering-related emissions by around 30%, while fully vegan menus may achieve reductions of up to 60% [49].

6.4 Accommodation

STATEMENT 18

ESGE and ESGENA recommend the prioritization of accommodation with certified sustainable policies.

Level of agreement 86%

According to current studies, hotel overnight stays of delegates, contribute to 4%–15% of CO₂ emissions from medical congresses [2,8,32,47,50]. The emissions are location-dependent (e.g. 7.2kgCO₂e per room-night in France, 17.6kgCO₂e per room-night in Spain, 36.2kgCO₂e per room-night in the US [32]), and depend on the sustainability policies of the hotels. In order to reduce hotel-related emissions, accommodations that implement sustainable measures should be selected [2, 14, 50]. Available eco-certificates specifically for hotels can provide guidance [50].

STATEMENT 19

ESGE and ESGENA recommend the selection of accommodations with good access to the conference venue (i. e., via public transport or within walking distance).
Level of agreement 96%

In addition to the selection of sustainable hotels, current studies recommend choosing hotels based on their distance to the conference venue. Preference should be given to hotels within walking distance or with good access to the venue via public transport [2, 15].

7 Benchmarking green performance

7.1 Should GI endoscopy conferences assess their environmental impact?

STATEMENT 20

ESGE and ESGENA suggest considering that GI endoscopy congresses and courses assess their environmental impact.
Level of agreement 100%

Our search did not reveal any published studies analyzing the benefits, costs, or harms of measuring the carbon footprint of scientific conferences. Nevertheless, the rationale for implementing such assessments is compelling. They facilitate informed decision-making, demonstrate accountability, and support a culture of sustainability. Integrating environmental impact assessments into conference planning can drive meaningful change [2, 14, 47]. Tracking metrics such as carbon emissions, energy consumption, and waste production offers clear benchmarks for sustainable improvement and for future editions.

Challenges include the lack of standardized methodologies, the need for dedicated resources, and potential organizational burdens – especially for international, multi-institutional events.

STATEMENT 21

ESGE and ESGENA recommend producing a sustainability report following each event, highlighting areas for improvement for the next edition.
Level of agreement 96%

Producing a post-event sustainability report is increasingly regarded as a best practice for scientific societies and conference organizers.

A formal report allows organizers to benchmark performance, identify strengths and gaps, and set measurable targets for subsequent editions. Such transparency builds credibility and accountability, demonstrating that the society not only aspires to sustainability in theory, but tracks its real-world footprint and commits to continuous improvement.

Empirical research confirms that significant gains in sustainability can be achieved when conferences adopt a holistic, data-driven approach [51].

Thus, requiring a dedicated sustainability report after each event would: (i) provide objective data and transparency; (ii) help track progress over time; (iii) inform and motivate future improvements (e.g. reducing CO₂ emissions, waste, energy, and social impact); and (iv) symbolically commit the society to embedding sustainability into its core mission.

7.2 Should GI endoscopy conferences offset their carbon footprint?

STATEMENT 22

ESGE and ESGENA recommend that GI endoscopy congresses and courses implement direct emission reduction strategies or carbon-offsetting initiatives to minimize the environmental impact and promote sustainability.
Level of agreement 96%

Carbon offsetting should be implemented alongside direct reduction strategies. By offsetting unavoidable emissions through verified carbon credits (e.g., Gold Standard [52]), conferences can neutralize these impacts once all feasible reductions – such as virtual participation, hybrid formats, and regional satellite sessions – have been implemented [1]. The European Green Deal aims for at least a 55% emissions reduction by 2030 and climate neutrality by 2050, embedding event-level sustainability into broader policy frameworks [53].

On the other hand, offsets do not yield immediate benefits; many projects deliver avoided emissions only years later. Critics also caution about the risk of greenwashing and that over-reliance may distract from systemic solutions such as reduced flying or improved logistics. Furthermore, offsetting should never replace rigorous emissions reduction at source.

8 Recommendations for industry partners

STATEMENT 23

ESGE and ESGENA recommend that industry partners supporting meetings adopt low-waste and low-carbon practices.
Level of agreement 100%

By favoring low-carbon transport (e.g., train instead of flights) or virtual attendance for some of their staff, industry partners can drastically lower travel-related emissions. Moreover, promotional materials, giveaways ('goodies'), packaging, single-use plastics, and other waste linked to industry booths or sponsorship contribute significantly to the event's waste burden [15].

9 Conclusions

Medical conferences and educational courses are fundamental to progress in GI endoscopy, enabling innovation, training and international collaboration. However, the evidence reviewed in this Position Statement demonstrates that traditional conference models are associated with a substantial environmental burden, driven predominantly by travel-related emissions, but also by venue operations, catering, accommodation, and resource consumption. In the context of climate change and planetary health, improving the sustainability of professional education has become an ethical responsibility for scientific societies.

This ESGE–ESGENA Position Statement provides a pragmatic, evidence-informed framework to reduce the environmental impact of GI endoscopy congresses and courses while preserving their educational and scientific value. Key strategies include promoting virtual and hybrid formats, optimizing conference location and accessibility, encouraging low-carbon travel, adapting faculty selection, prioritizing sustainable venues and accommodation, reducing waste and printed materials, improving catering practices, and favoring nonanimal training models when educationally appropriate. Systematic assessment and transparent reporting of environmental impact are essential to support accountability and continuous improvement.

ESGE and ESGENA will engage to progressively implement these recommendations in their own congresses, courses, and endorsed events in the coming years. By embedding sustainability into event planning and fostering shared responsibility among organizers, faculty, industry partners, and participants, both societies aim to deliver high quality education while contributing to more sustainable healthcare and scientific practice.

Disclaimer

The legal disclaimer for ESGE guidelines as described in the 2020 Publications Policy Update [3] applies to this Position Statement.

Acknowledgement

The Working Group sincerely thanks Jennifer Haas and Françoise Heidenreich for their help in organization and follow-up for this Position Statement

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Conflict of Interest

L. Aabakken contributes annually to the Endoscopy Masters Forum associated with Olympus (2020–2026). E. Albéniz has consulting agreements with Creo Medical and AGS MedTech; he has received honoraria for lectures, teaching activities, or as travel grants from Olympus, Boston, Fujifilm, Norgine, Casen Recordati, and 3D Matrix. R. Baddeley has provided paid consultancy to Boston Scientific (April 2025). B. Barbieri is a volunteer member (no remuneration) of the Sustainability Task Force of the Associations and Conferences Forum (AC Forum). P. Bhat is a member of the Gastroenterology Society of Australasia Sustainability Network and does unpaid work preparing national guidelines and advocating for green endoscopy (2023, ongoing). J.A. Cunha Neves has provided consultancy to Boston Scientific (2025). L. Donnelly is Chair of the Nursing Section of the British Society of Gastroenterology; she is Consultant Editor for the journal *Gastrointestinal Nursing*. I.M. Gralnek has provided consultancy to the following: Olympus (2025–present), Medtronic (2024–present), GistMD (2026), ERGO GI (2025–present), Viatrix (2024–present), Magentiq Eye (2026), Motus GI (>10 years); he has also received research support from Medtronic, research funding from Motus GI, and has stock options in GistMD, Magentiq Eye, and Motus GI. E. Rodríguez de Santiago has had research support from AGS (2025); he has provided consultancy to Olympus (2017–present), Boston Scientific (2025), and Adacyte Therapeutics (2023); he has provided educational activities to Apollo Endosurgery (2022) and Olympus; he has received a research grant from 3D Matrix; and has received congress/speaker fees from 3D Matrix, Casen Recordati, Norgine, and Izasa. C. Römmele is a member of the German Society for Gastroenterology, Digestive and Metabolic Diseases (DGVS) (2014–present). M. Arvanitakis, M. Bretthauer, L. Elli, A. Facciorusso, C. Hassan, D. Henniger, K. Khalaf, M.A. Klose, V. Lorenzo Zúñiga, A. Meining, N. O'Morain, M. Pellisé, M.

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