Can scholarly publishers change the world? The role of the SDGs within the publishing industry

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Abstract. The United Nation's Sustainable Development Goals (SDGs) aim to eradicate poverty and inequality, protect the planet, and ensure health, justice, and prosperity for all, emphasizing inclusivity. Within the realm of scholarly publishing, the panel discussion *Can scholarly publishers change the world? The role of the SDGs within the publishing industry* held at Academic Publishing in Europe 2024, highlighted the business advantages of aligning with SDGs and made a plea to reshape the narrative beyond mere moral obligation as well as to galvanize stakeholders to take action and promote engagement, offering a clear direction. This paper expands on the panel discussion, which was moderated by Stephanie Dawson, CEO, ScienceOpen. Panellists were Agata Morka, Regional Director, Publishing Development, PLOS, Charlie Rapple, Chief Customer Officer and Co-founder, Kudos, Nikesh Gosalia, President Global Academic and Publisher Relations, Cactus Communications, and Ritu Dhand, Chief Scientific Officer, Springer Nature.

Keywords: SDGs, scholarly publishing, APE 2024, panel discussion, science communication

1. Introduction

The colourful wheel and tiles of the UN Sustainable Development Goals seem to be everywhere these days, reminding us of our global pact to make the world a better place. In 2015, the United Nations General Assembly created 17 ambitious goals, articulated and adopted as the Agenda 2030. Taken together they describe the future we strive for: "The Sustainable Development Goals are a call for action by all countries – poor, rich and middle-income – to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection"[1]. We are now at the halfway point to the goals and therefore at an

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appropriate moment to reflect on the question of whether the scholarly publishing industry, by embracing the UN SDGs, can change the world for the better.

Knowledge-sharing is key to achieving many of the goals. Scholarly publishers can, therefore, play a vital role by ensuring the dissemination of high-quality, relevant research, supporting evidence-based policymaking, promoting interdisciplinary collaboration, increasing accessibility to knowledge, and providing platforms for global dialogue and capacity building. Their role in maintaining the integrity and quality of scientific information is crucial for the sustainable development agenda.

But the danger exists that as an industry we will add some colourful SDG badges to our marketing materials and continue on with "business as usual". The goals can seem overwhelming, out of reach and the problems remote. To give a concrete example; in Germany the maternal mortality rate is 4 per 100.000 live births. In Nigeria it is 1047[2]. For the developed world, it can feel like a tragedy happening far away. The target for SDG 3 is a maternal mortality rate of 70, but the current global level of 223 maternal deaths per 100.000 live births has barely improved since 2016. Just at this halfway point when the UN SDG logos seem to be everywhere, progress on many goals is stagnating.

Furthermore, disparities between the developed and developing world can be staggering. The total capacity of Germany's current operational electric power generation is 248,265,000 kilowatts. In Rwanda that is 265,000 kilowatts. Germany emitted 726 million tons of CO_2 in 2020. Burundi emitted 715 thousand tons[3]. On the level of publishing outputs: Approximately 86% of publications in 2022 came from regions, countries, or economies with high-income and upper-middle-income economies[4]. Equity and inclusion are essential aspects in any discussion of the SDGs.

An extensive survey run by the SDG Publishers Compact Fellows in December 2023 (access a summary, and the results, here) found a high level of knowledge about and engagement with the UN SDGs. Publishers really want to *do* something to change the world. Scholarly publishers are convinced about the *What* and *Why*. But what about *How*? When asked what resources would be most useful to encourage further engagement, the largest number of respondents chose "More examples of what publishers can do to meaningfully support the SDGs" (Fig. 1). A panel discussion to kick off the conference Academic Publishing in Europe 2024 brought together a range of actors in the scholarly publishing community to provide just such examples.

2. Increasing the visibility of SDG research

Stephanie Dawson, CEO, ScienceOpen (scienceopen.com)

One of the success stories of the Sustainable Development Goals is the high level of public awareness. A global survey by the World Economic Forum found that 74% of those polled were aware to some degree

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[2]CIA.gov World Fact Book Maternal Mortality https://www.cia.gov/the-world-factbook/field/maternal-mortality-ratio/country-comparison/. Accessed 08 January 2024; World Bank Blog. Emi Suzuki, Charles Kouame, Samuel Mills. Progress in reducing maternal mortality has stagnated and we are not on track to achieve the SDG target: new UN report. February 22, 2023. https://blogs.worldbank.org/en/opendata/progress-reducing-maternal-mortality-has-stagnated-and-we-are-not-track-achieve-sdg-target. Accessed 25 June 2024.

[3]CIA.gov World Fact Book Carbon Dioxide Emissions https://www.cia.gov/the-world-factbook/field/carbon-dioxide-emissions/country-comparison/. Accessed 08 January 2024.

[4]National Science Board. Science & Engineering Indicators. Publications Output: U.S. Trends and International Comparisons. https://ncses.nsf.gov/pubs/nsb202333/publication-output-by-region-country-or-economy-and-by-scientific-field. Accessed 25 June 2024.
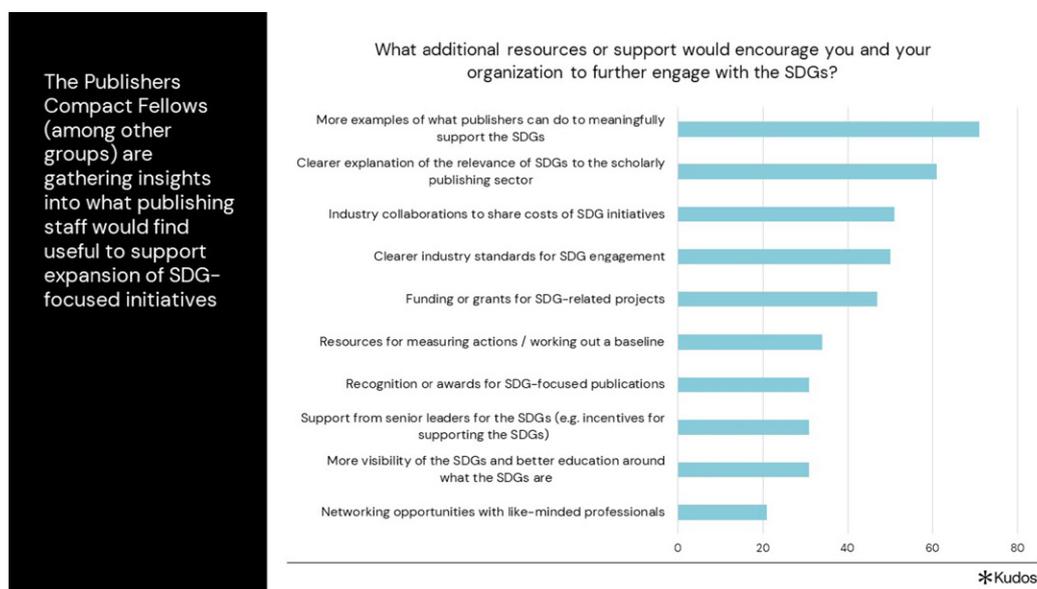
Fig. 1. When asked what resources would be most useful to encourage further engagement with the SDGs, the largest number of respondents chose "More examples of what publishers can do to meaningfully support the SDGs" in a survey run by the SDG Publishers Compact Fellows in December 2023.

about the SDGs, though there was a fair amount of variation between countries[5]. With large marketing departments and an essential role in the dissemination of knowledge, scholarly publishers are perfectly situated to promote both the goals themselves and the research being done that may help us to reach them. Publishers, both large and small, from around the globe have signed the SDG Publishers Compact and are committed to promote research that progresses the SDGs.

But there are still challenges. Despite the high level of awareness, we have made only slight progress on 50% of the targets and are standing still or falling behind on 30%[6]. There is the danger of people losing faith in the goals. Publishers play a role in shaping research agendas by prioritizing certain topics, launching new journals, and highlighting emerging areas of study. By focusing on research that aligns with the SDGs, they can drive scientific inquiry and innovation towards sustainable development goals.

2.1. Content hubs aggregate SDG-relevant content on collaborative platforms

Harnessing the power of collaboration, publishers can cultivate online platforms and networks that facilitate dialogue, knowledge exchange, and collective problem-solving. By curating dynamic spaces for stakeholders to engage with cutting-edge research, they can innovate and cultivate communities of practice dedicated to advancing the SDGs. A number of groups are using advanced artificial intelligence algorithms to identify research that can really create progress on the SDGs.

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[5]Alem Tedeneke. Global Survey Shows 74% Are Aware of the Sustainable Development Goals. World Economic Forum. 23 September 2023. https://www.weforum.org/press/2019/09/global-survey-shows-74-are-aware-of-the-sustainable-development-goals/. Accessed 25 June 2024.

[6]United Nations. The Sustainable Development Goals Report 2023. https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf.

ScienceOpen provides an infrastructure to aggregate and promote SDG-relevant content. Emerald Publishing have used the ScienceOpen to promote a series of SDG Collections on Fairer Society, Healthier Lives, Quality Education for All, Responsible Management and Sustainable Structures & Infrastructures. Other publishers include Hogrefe and EDP Sciences. University College London has also used the infrastructure to promote SDG research by their faculty, staff and students to raise awareness among the academic community.

Kudos has used its Knowledge Cooperative model to explain and promote relevant content from multiple publishers in the SDG Research Showcase. The Kudos team combines AI with editorial expertise to identify research articles that are closely relevant to the targets set by the UN. That is to say, the knowledge cooperative doesn't just compile broadly relevant content around themes such as health or poverty - it identifies studies that specifically address UN SDG indicators such as reducing maternal mortality ratios. Kudos then explains these articles in plain language, compiles them into Showcases, and promotes them with sophisticated audience targeting to ensure they reach policymakers, healthcare practitioners and managers, educators, community leaders and so on. Partners in this initiative include BMJ, Springer Nature, SAGE, the Royal Society of Chemistry and the American Society of Civil Engineering.

The curated platform RDiscovery uses UNSILO's machine-learning based semantic concept extraction for authors to identify the most relevant topics and papers for each of the SDGs and open them up for exploration. The platform further provides a weekly summary of SDG topics and progress that allow researchers to quickly scan through a collection of papers and determine their relevance. Cactus Communications is developing this technology further to support researchers, institutions, publishers and policymakers in recognizing SDG-relevant research.

Springer Nature has also released 17 SDG Content Hubs with the goal of connecting researchers addressing SDG challenges with policymakers and business practitioners. By enhancing the visibility of SDG publishing activities through the content hubs, they aim to connect the key communities needed to drive global progress.

The RELX SDG Resource Center is another example that aims to aid researchers and the public by giving them access to critical content that builds understanding about the SDGs. The resource center hosts multiple initiatives like annual events, podcasts, in-depth reports, SDG News Tracker (by LexisNexis Newsdesk) and key research published by Elsevier, all under one roof.

2.2. *New journals on SDG-relevant topics*

In recent years, many academic publishers have increasingly focused on issues related to sustainable development, aligning with global priorities of the SDGs. For example, PLOS has expanded their Open Access portfolio to include more focused journals like PLOS Climate and PLOS Global Public Health, which directly address environmental sustainability and global health challenges. Similarly, Springer Nature has launched several specialized journals such as Nature Food, Nature Sustainability, Nature Energy, and Nature Water. These journals aim to foster interdisciplinary research that drives innovation in food security, sustainable resource management, renewable energy, and water conservation, critical areas underpinning the SDGs.

Furthermore, the trend towards open access publishing has been instrumental in democratizing knowledge and fostering inclusivity in scientific discourse. Springer Nature's Discover series, including Discover Cities, Discover Oceans, Discover Energy, and Discover Sustainability, exemplifies this shift by offering a fully open access (OA) platform for researchers across the globe. By publishing Open

Access, these journals are dedicated to reaching a broader audience of policymakers, global scholars, and the public. Additionally, platforms like ScienceOpen have introduced journals such as the Journal of Disability Research published by the King Salman Center for Disability Research, which contributes to SDG goals like reducing inequalities. ScienceOpen also provides publishing solutions for local journals like the Nigerian Journal of Tropical Engineering or the Journal of Ecological Society from Pune, India. These initiatives reflect a growing commitment among publishers to long-term investments in topics that can move us closer to Sustainable Development Goals.

3. Hearing all the voices: Equity in scholarly communications

Agata Morka, Regional Director Publishing Development Europe, PLOS (plos.org)

The notion of equity, one of the crucial SDGs, and open access to knowledge come hand-in-hand. UNESCO's vision of Open Science has inclusiveness and equity at its core. In UNESCO's words: "Open science has the potential to accelerate the achievement of the Sustainable Development Goals by reducing or ending inequalities in access to science, technology, innovation and their applications [1]". Open Science and SDGs are not separate entities; one facilitates and better enables the achievement of the other. Equity is, however, a tricky concept. It is hard not to fall into the trap of simply overusing this trendy word or equating it with open access, without much consideration of what its definition or implications are. Having acknowledged these limitations, neither will this section aim at forging a definition of equity nor at grasping its potential implications for the future of scholarly communications. Rather, it will present chosen examples of projects dealing with equity, ranging from sustainable publishing models to multi-stakeholder working groups creating common frameworks, and publishers' associations developing recommendations aiming at increasing equity in publishing practices.

3.1. Equitable business practices

The paradoxical nature of the open access movement has been widely acknowledged. What started as a movement that was to make research open and accessible to all, ensuring equitable participation, might have just contributed to creating more inequalities. The open access publishing models, largely still relying on Article Processing Charges (APCs), have indeed opened access to readers, at the same time closing it for authors unable to pay the ever-rising fees [2]. Several publishers took active steps towards reviewing their business models to create approaches that would deliver on the Open Science promise [3].

At PLOS, we experiment with business models that aim to forge a truly inclusive publishing environment and remove financial barriers to authors and institutions. We do so by listening to the communities and developing models that address specific needs. And we do it through trial and error: launching pilot models like Community Action Publishing (CAP). With it, we tackled the question of selective journals. Selectivity does not have to mean that costs become huge, and it does not need to perpetuate exclusion. To show that selectivity is possible without high APCs and to move beyond a model that is built on 'articles'. This model aims to eliminate author APCs to make our most selective Open Access journals truly open to read and publish.

- The cost to publish is assessed based on the publication needs of both corresponding and contributing authors so the cost of publishing is distributed more equitably among representative institutions.

- Institutions commit to a yearly flat fee, ensuring their researchers receive access to unlimited publishing opportunities in PLOS Biology, PLOS Medicine, and PLOS Sustainability and Transformation.
- Revenue exceeding the community targets goes back to members at renewal. Our margins are capped, so the more institutions that join in this effort, the lower the costs for all.

Our Global Equity model similarly does not work based on 'per article' or 'per unit' payment to access a publishing service and reflects countries' financial situations by relating to the World Bank Criteria. This model is designed to empower institutions in every region worldwide to provide open access support for their authors by removing financial barriers.

- Tiered institutional pricing makes unlimited publication opportunities more affordable than individual APCs for institutions of all income levels.
- Pricing reflects each institution's regional economy, providing equitable opportunities to participate.

But, to enable the move towards a more equitable publishing landscape, we need libraries, consortia and funders to move with mission-driven publishers to a system of accountability that is not based on counting articles. We need constructive dialogue.

3.2. Let's work together

The multi-stakeholder dialogue is essential to forge equity as one of the core values of the scholarly communications realm. One way of facilitating these exchanges is the creation of working groups, the working group "Beyond article-based charges", established by cOAlition S, Jisc, and PLOS being one example.

The group recognizes the challenges faced by all stakeholders – researchers, funders, institutions, and publishers – in navigating the current OA landscape. They aim to address the perverse incentives and administrative burdens associated with APCs and explore sustainable, inclusive alternatives. The goal is to move towards an equitable OA model that supports diverse research outputs and fosters Open Science practices. This initiative aligns with broader efforts to make OA more inclusive and equitable, reducing reliance on APCs and transformative agreements that benefit only a few large publishers.

The group, which includes librarians, funders, and publishers, aims to develop models that do not rely on APCs, recognizing their unfairness and limitations. Initial discussions revealed that merely identifying equitable models is insufficient, leading to the development of a framework to assess the equity of various business models. Inspired by SPARC's "How Open is it?", this "How equitable is it?" framework will use a set of questions to evaluate and benchmark business models based on equity criteria. This approach allows institutions, publishers, and funders to assess and promote equitable participation in research. The framework focuses on criteria such as eliminating financial barriers, ensuring fee transparency, and promoting open research practices. This model-agnostic framework empowers stakeholders to determine the equity of different OA arrangements effectively. The framework, as of June 2024 in its first draft form, after review, shall be released to the community later this year.

3.3. Equity recommended

The Open Access Scholarly Publishing Association (OASPA) presents yet another take on addressing the issue of equity. As they strive to hear all the voices of stakeholders from diverse geographical and economic contexts, they devoted 2023 to workshops and feedback sessions dedicated specifically to the

notion of equity in open access publishing. OASPA defines equity in OA as addressing both financial barriers to publishing and ensuring inclusive engagement models, advocating for the removal of author-facing fees to make OA accessible to all researchers. Their research highlighted that publication charges hinder many authors globally, suggesting that current pay-to-publish models only benefit a minority. OASPA aims to shift towards OA by default, where all content is freely accessible without author fees, though acknowledging this requires sustainable financial models. Based on their research they have now formulated a set of recommendations to increase equity in open access. OASPA is currently asking for the community's feedback on the first draft of this document.

Regardless of what concrete steps the scholarly communications community chooses to take to address the question of equity, it is vital to realize that this is not a one-person job. The success of the SDG blueprint relies on collaborative, cumulative commitment coming from all stakeholders in the scholarly communications sector: researchers, publishers, funders, librarians, policymakers and more. On a global scale, beyond our small academic publishing circle, it relies on global cumulative action, with all on board.

4. Translating research into practice

Charlie Rapple, Co-founder, Kudos (growkudos.com)

Part of the challenge of achieving the SDGs is that they require grassroots change. Sustainability can be encouraged via top-down government interventions, but only mass attitudinal and behavioural change will 'move the needle' for a lot of the goals. This means more people need to be aware of the goals, and to be persuaded to take action. This is something that we in the scholarly community are well placed to support. We have an important role to play in filling the knowledge gap, helping people around the world to understand the evidence that has shaped the goals, and the research that underpins recommended actions. This breaks down into three areas: cognitive accessibility, discoverability, and user experience.

4.1. Cognitive accessibility

Traditional scholarly communications, such as research articles, monographs, even textbooks, are not designed for influencing broad audiences. But they do provide the basis for telling persuasive stories around research: adding context (real-world examples of challenges being faced by communities or environments) and fleshing out the potential impact (how things could improve if the research was put into practice). Some examples include:

- Adding plain language summaries to research publications - explaining what the research is about and why it is important helps more people understand it; plain language summaries are also much more easily translated for speakers of other languages.
- Communicating research visually - many of those who are affected by the SDGs, or who need to act differently if the SDGs are to be achieved, do not have high levels of literacy. Infographics, videos, and other multimedia interpretations of research findings can help maximize the audience for research.
- Audience briefings - providing recommendations for different groups, such as policymakers, healthcare practitioners, educators and industry can help expedite change by more clearly setting out who needs to change, and how.

4.2. Discoverability

We can also broaden the discoverability of research, recognizing that most of the target audiences for the SDGs will not be familiar with scholarly publishers and content providers. This means curating collections of relevant, trustworthy content, and using techniques such as keyword-driven search engine marketing to ensure this content is signposted to users in search engines. For example, people don't search online for the specific phrasing of the SDGs, such as "maternal mortality ratio" - they search for "how many women die in childbirth". By using this kind of plain language in summarizing the research, and drawing together collections of relevant articles, we can direct Google and other search engines towards good quality content that answers these questions and provides recommendations for how to improve outcomes.

4.3. User experience

The final aspect of encouraging more people to understand and apply research findings is presenting information to them in a way that feels familiar and comfortable. Scholarly and scientific publication formats tend to be dry and dense. They are intimidating to people who do not have high levels of literacy. The astronomer Chris Lintott describes the "threshold fear" of people arriving on scholarly content pages and thinking "this isn't for me". So, as well as explaining research findings and recommendations for broader audiences, and signposting this content from search engines and social media, we need to present content in a more welcoming, engaging way. For example, incorporating more imagery; echoing the layout of popular websites like Instagram or Pinterest; using short titles; or incorporating author pictures and quotes.

4.4. Why this matters

The scholarly community has in large part been focused to date on the 'internal' approach, exploring its own sustainability and diversity. While this is important, it cannot be a barrier to pushing forward with the other roles we need to play here. We are never going to 'finish the job' of improving our internal performance, so we can't put off taking action in other areas. We need to make progress both inwardly (improving our own carbon footprint, or inclusivity) and outwardly (ensuring research is acted on by a much broader audience). This matters so much because research is key to bringing about the changes needed to achieve the Sustainable Development Goals. I've spent the last 10 years at Kudos helping to broaden the reach and impact of research publications – identifying those that are relevant to themes such as the SDGs, and that have the potential to influence change; explaining these in plain language, setting them in context, and drawing out the recommendations and potential impacts; clustering content around topical issues, and showcasing and promoting these clusters to relevant audiences. So, I know, first hand, that the research created and published by the scholarly and scientific community contains the answers needed to change the world. We are the gatekeepers to these answers. Opening our gates more widely means we can make much more of a difference, more quickly.

5. Navigating change: The crucial role of publishers in SDG thought leadership

Nikesh Gosalia, President - Global Academic & Publisher Relations, Cactus Communications, (cactusglobal.com)

Given the global challenges we face today, sustainability and the UN SDGs play a critical role in catalysing change. Despite concentrated global efforts, significant challenges persist across various domains; millions still live in extreme poverty and lack access to quality education and clean water, gender disparities persist, and climate change poses an existential threat. The need for accelerated action is evident across all fronts, but for this to happen, it is important to translate research into action.

With over 300 publishers committing to the SDG Publishers Compact, there's a growing recognition of the need to align operations and publications with the SDGs. Publishers, positioned at the intersection of academia, industry, and policy, possess a unique vantage point to drive meaningful change through innovative initiatives and strategic engagements. By integrating sustainability into core strategies, publishers not only set industry standards, but also amplify the impact of SDG-related research and content, both internally and externally.

Here's how publishers can wield thought leadership to reshape the discourse and accelerate progress towards the SDGs.

5.1. Promoting interdisciplinary research

Recognizing the interconnected nature of sustainable development challenges, publishers can champion interdisciplinary research initiatives that transcend traditional disciplinary boundaries. By curating subject-specific content hubs and creating research showcases with plain language summaries, publishers like Wiley are fostering collaboration and maximizing the reach and credibility of research.

5.2. Facilitating collaborative platforms

Harnessing the power of collaboration, publishers can cultivate online platforms and networks that facilitate dialogue, knowledge exchange, and collective problem-solving. By curating dynamic spaces for stakeholders to engage with cutting-edge research, they can innovate and cultivate communities of practice dedicated to advancing the SDGs.

5.3. Upholding sustainability reporting

Publishers have a responsibility to uphold transparency and accountability in their operations. Thought leadership in sustainability reporting involves not only disclosing environmental and social impact metrics but also showcasing best practices and setting benchmarks for continuous improvement within the industry.

5.4. Influencing policy

Recognizing the pivotal role of evidence-based policymaking in driving systemic change, publishers can leverage thought leadership to shape policy agendas and advocate for transformative policy interventions aligned with the SDGs. By amplifying research findings and engaging with policymakers, publishers can bridge the gap between knowledge generation and policy implementation.

5.5. Enhancing research communication

With the rising popularity of audio summaries, publishers can leverage platforms like Impact Science to deliver research findings in a conversational format maximizing accessibility and engagement.

In the pursuit of redefining success through the lens of sustainability and the SDGs, publishers hold immense potential as thought leaders. By embracing innovative strategies and engaging with diverse stakeholders, publishers can catalyse the transition from research insights to actionable solutions, paving the way for a more inclusive and sustainable future. Together, let us embark on this journey towards a more inclusive and sustainable future.

6. SDGs in action: Walking the talk at Springer Nature

Ritu Dhand, Chief Scientific Officer, Springer Nature (www.springernature.com)

Springer Nature is committed to accelerating solutions to the world's greatest challenges. It is a commitment shared by our 9,400+ colleagues around the world and informs many of our external outreach activities and is supported by our extensive publishing programme across research, professional, health and education.

Since 2015, we have published over 940,000 articles and chapters related to the SDGs that have been cited more than 13 million times and added 86 new series of education textbooks to support over 30 million learners. We have made this research more discoverable on our platforms by creating SDG content hubs, Research Communities to support networking, and launched several multidisciplinary SDG journals at different impact levels and with different publishing models to engage all relevant stakeholders. We appreciate that around any one SDG, there will be a diverse group of partners and collaborators, who each talk in distinct specialised languages and yet need to fully understand each other. Ensuring our research is accessible to these multidisciplinary communities takes additional time and effort, and we continue to explore different formats to aid effective communication.

6.1. Using the power of our brand to facilitate discussion, education and learning

We have used the power of our trusted brands to facilitate discussions between policymakers and scientists and engage the next generation of changemakers to sustain our planet.

We are now in our fifth year of working with the UN Sustainable Development Solutions Network (SDSN) to convene some of the greatest minds in a series of panel discussions during Earth Month about how science and research can support the advancement of the goals. In 2023, the theme was SDG7: delivering clean and affordable energy for all and we worked with experts to collate key policy recommendations in the form of a white paper along with webinars of the panel discussions.

This year also marked the halfway point to the deadline of achieving the goals, and we hosted Science Storytelling for the SDGs, with the UN SDSN and The Story Collider at the Science Summit at the UN General Assembly. To engage our readers, we also launched a focused collection from 44 journals across the Nature Portfolio, featuring articles showcasing effective interventions related to the goals at a local, regional and national level to track progress and amplify successes to date.

Similarly, our education division Macmillan Education has introduced SDG content into the educational curriculum. Advancing Futures is a programme designed to introduce the topics of global citizenship, sustainability, diversity, equity and inclusion into classrooms around the world. We have created resources to support teachers to share knowledge and inspire students by giving them the power to be change makers.

We regularly collate the views of our community and were excited to learn from a survey of over 2500 researchers that over half of them think the SDGs were very relevant to their research and 58% were familiar with our SDG initiatives. In 2023, we surveyed nearly 5,000 researchers to analyse their perception

of diversity, equity and inclusion, and were alarmed by the expressed high rate of discrimination, harassment or bullying in the research community. We were particularly concerned that under-represented groups, including early career researchers, were less likely to consider research to be diverse, equitable or inclusive. The research publishing landscape is more diverse than ever and we feel strongly that research publishing should be more inclusive. In particular, the decision-makers on what research is published should reflect the diversity of the field and our recent report on the diversity of our academic editorial workforce helps us establish a baseline for reporting progress in diversifying our editorial boards and sets the stage for ongoing improvement.

6.2. Striving to be a sustainable and ethical company

Springer Nature also strives to be a sustainable and ethical company that continuously addresses our operational, environmental and societal impacts. While we publish across all 17 SDGs, there is a subset where we believe Springer Nature has a more direct role to play and strive to make a powerful difference in these areas (SDG 4: Education, SDG 13: Climate Action, SDG 17: Partnerships for goals). In 2023, we expanded this group to include SDG 5: Gender Equality and SDG 10: Reduced Inequalities, to reflect our dedication to diversity, equity and inclusion and were delighted to recently report that women now make up 44% of our global leadership cohort - an increase of 5% from 2019.

We act on limiting the impact of our business on climate change, by creating a link between operational responsibility and the Sustainable Development Goals. Our Science Based Targets, to achieve Net Zero carbon emissions through our value chain, were validated in 2023 and a challenging set of targets are working towards addressing both direct emissions (at our offices, through our fleet), and indirect or supply chain emissions (e.g. business travel, and the impact of our physical product and the related logistics). We also use some carefully chosen forestry-based carbon offsets. We are delighted to have been acknowledged for our work: shortlisted for our SDG impact in the Reuters Responsible Business Awards and awarded a silver EcoVadis rating for our operational sustainability. Each year we publicly track and celebrate achievements in the Sustainable Business Report.

All these achievements are made possible through our amazing workforce of 9400+ employees working with our 100,000+ academic editors. All employees are encouraged to engage with the SDGs - in 2023, one in four of our 10,000 colleagues were actively involved in sustainability activity, including 450 in SDG working groups on projects to advance the goals through our content. In 2023, we held our third SDG Impact Festival for employees, to raise awareness of the goals and through the SDG Impact Awards recognise and reward our SDG Heroes for projects undertaken. In 2023, our annual SDG Impact Challenge saw more than 1000 colleagues engaged with taking more personal action relating to the goals and we were even more proud to win a bronze award in the 'best environmental or sustainable programme' category at the Corporate Engagement Awards 2023.

We have invested in two key positions to support this effort; the Director of SDG research, currently Nicola Jones, who coordinates activities in the research space, and the Director of Sustainability and Climate Action Officer who coordinates our efforts to be a sustainable business. Both put in a huge effort to educate, train and engage our colleagues across the business. It takes a village to support our achievements - giving colleagues time to engage and recognising and rewarding efforts is essential to continue to make gains. We hope you will be inspired to join us.

7. Conclusion

We wrap up this discussion of the *what*, *why*, and *how* of the Sustainable Development Goals by turning to the question of *when*. That is an easy one to answer – NOW. The UN Sustainable Development Goals express our global commitment to fostering prosperity while protecting the planet. Scholarly publishers, as key knowledge disseminators, have embraced the SDGs, developing shared projects like the SDG Publishers Compact and working together on the SDGs in industry organizations such as STMs SDGs Academic Publisher Forum, the International Publishers Association or the Association of Learned and Professional Society Publishers. Scholarly publishers can make a significant impact on the SDGs. As we reach the halfway mark to the 2030 deadline, however, it is important to assess which actions are making a difference and which are just cosmetic, and to focus on our real goal – making the world a better place.

Increasing the visibility of SDG research, ensuring equity, and enhancing accessibility are vital steps. Publishers can drive scientific inquiry towards sustainable development through strategic initiatives, innovative business models, and collaborative efforts. Simplifying complex research and optimizing discoverability can broaden the impact of scholarly work, making it more accessible and actionable for diverse audiences.

Publishers must also embody the principles they advocate by taking concrete steps to reduce their carbon footprints and support equity and diversity within their organizations. The time to act is now. António Guterres, Secretary-General of the United Nations, warned that without immediate action, the 2030 Agenda will become a missed opportunity. Scholarly publishers have the potential to change the world by embracing the SDGs, but this requires a collective, sustained commitment to innovation, equity, accessibility, and sustainability. The journey towards a more inclusive and sustainable future begins today.

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